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BAZAAR HIGHLIGHTS

Lenovo IdeaPad Y510p

Google Nexus 5

Sony Alpha 7R

Apple iPhone 5S

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Happy thanksgiving, dear natives

For sometime there's been a popular idea being bandied about which suggests people born on the right side of 1980 are more adept at understanding and developing technology. The idea was originally proposed in 2001 by educationist Mark Prensky in a paper titled Digital Natives, Digital Immigrants wherein he suggested young people are "native speakers" of the digital language of computers, videogames and the Internet. In contrast, those who were not born into the digital world but have, at some later point in their lives, become fascinated by and adopted many or most aspects of the new technology are, and always will be, Digital Immigrants. Since the idea has been proposed, almost every corporate presentation I've ever been coerced into attending has pushed forward this belief, while strictly segmenting their target audiences based on it.

While I agree to a certain extent that there's a divide, I'm not entirely sure about buying into the concept fully. I belong to the group Prensky would call natives or what other jargon enthusiasts would call millennials. Even in my short lifetime and within this restrictive grouping I've been labelled under, I see instances of discontinuity: interns (born in the 90s) not knowing what a dial tone is, not knowing how to ninja-call using Android's nine-key dialling feature, not knowing what a mixed tape is and so many other ways in which they seem "different". In fact this divide has led to some interesting products being launched of late such as Milktape – a USB cassette tape that is trying to revive the once cutting-edge romantic practice of making mixed tapes for significant others. It's also led to quite a few "Odes to Winamp" last month, but I digress.

The point is, do digital natives have an innate, otherworldly sense of anything computer or microchip-based? The assumption that someone below a certain age automatically attains a certain level of technological expertise just doesn't seem right. Sure, we've all seen videos of babies swishing and tapping their way around iPads (and felt the chills) but are all of those babies going to actually build such technologies? What people fail to realise is that the very set of protocols that the internet is built on was created by people who'd technically be labelled Digital Immigrants. Sure, I can't imagine Tim Berners-Lee going YOLO on Whatsapp, but I'm sure he'd be comfortable with "modern" technology and sure as hell he'd be able to build a Whatsapp if he wanted to.

No one is inherently fluent in "digital" in exactly the same way no one is inherently fluent with any language at birth. Let's not confuse comfort with proficiency here. In fact, if anything, I feel the current crop of digital natives severely lack imagination with all the constant bombardment of digital media around them all through their childhoods. This is why it was not just refreshing but exhilarating to meet 15 year olds like Angad and Karan, who are trying to fix this very problem through their easily accessible 3D-printers. Be sure to read more about them in the cover story – they are truly inspirational.

And it's not just these young'uns but digital immigrants such as IAS officer Rajesh Aggarwal and Myshkin Ingawale (PhD in Wikipedia) who are also trying to solve some of the most critical problems plaguing our country. And they're all doing it using technology. Mr. Aggarwal is spearheading a seachange in the way in which ordinary citizens interface with the government by revamping the country's e-governance infrastructure and Myshkin is trying to disrupt medicare in India by trying to make reliable diagnostics accessible and affordable for one and all.

All of this proves to a certain degree that simple access to something, in this case technology, doesn't necessarily translate to understanding. It's like saying someone who has grown up reading books will be able to write one someday. Possible, but not a certainty. So remember, whether you're a digital native or immigrant, imagination and a desire to build something is all you need to effect a change. If you have any ideas like the ones in our cover story this month, we'd like to hear from you. Here's wishing you season's greetings and a happy new year!



Siddharth Parwatay
Features Editor
siddharth.parwatay@thinkdigit.com

"No one is inherently fluent in "digital" in exactly the same way no one is inherently fluent with any language at birth."

Got feedback about this column? Drop me a line at:
siddharth.parwatay@thinkdigit.com

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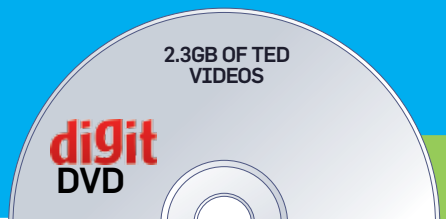
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Sr. Photographer **Jiten Gandhi**

Contributors
Writers **Mithun Mohandas, Ankit Mathur, Avinash Kothuri, Samir Alam, Ranak Gupta, Varad Choudhari**
Copy editing **Infancia Cardozo**

Production and Logistics
Sr GM - Operations **Shivshankar Hiremath**
Manager Operations **Rakesh Upadhyay**
Asst Production Manager **Vilas Mhatre**
Production Assistant **Brahmanand Nikalje**
Manager Logistics **Vijay Menon**
Asst Mgr Production & Logistics **M P Singh**
Executives **Mohd. Nadeem Ansari, Nilesh Shiravadekar**

Brand
Product Mgr **Arun Yadav**
Asst Product Mgr **Sourabha Shakya**
Mgr - Online **Shauvik Kumar**
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Circulation Sales
National Co-ordinator **Samir Mehta**
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Manager Circulation **Dharmendra Singh**
Executive **Vijay Mhatre**

Reader Services
Lead Associate **Itishree Mishra**
Executives **Pinky, Sudhir, Shabana, Pradeep**
+91-22-67899678 / help@thinkdigit.com

Cover Design: **Shigil Narayanan**

TO ADVERTISE

Email: **sales@thinkdigit.com**

Sales Director:
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For every Digit contest, there will be only one winner, unless specified otherwise.
In the event of a dispute, the Editor's decision shall be final.

PRODUCTS REVIEWED THIS MONTH

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- 42A3320/61 LED TV

Apple
- iPad Air
- iPhone 5C
- iPhone 5S

ASRock
- FM2A88X Extreme6+

Canon
- EOS 70D

CoolerMaster
- N600

Gigabyte
- GA-H81M-S1

Intex
- Soundbox Smash BT

Kingston
- HyperX 3K SSD

Kobo
- Glo

LG
- Nexus 5
- Optimus G Pro Lite

Norton
- 360 Antivirus

Roccat
- Kone Pure

Sennheiser
- CX-300 II

Sony
- Alpha 7R
- MDR-10RNC
- MDR-XB30EX 30
- VAIO Tap20

Tekfusion
- Ecoofers

Thermaltake
- BigWater 760 Pro
- Ttesports Meka G1

XOLO
- Play Tegra Note Tab

Zebronics
- Rattlesnake

Zotac
- 780 Amp! Edition
- 780 Ti Amp! Edition

Feature
Nokia
- Lumia 1020

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- GTX 780

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Feedback for the December 2013 issue of Digit



✉ I'm one of the regular readers of Digit and totally love it. I like it not just because of its content but because of the design too. It has a very simple design that lets a reader to enjoy the content and keeps the interest up. I'm messaging you now particularly to tell that comparatively your website design sucks, honestly. I'm not discouraging, but for something like Digit, you guys need to portray yourself really well and now internet is booming and people are turning more and more online. I'm afraid if you don't update your website design, your conversion ratio will fall and the irritating Ads and Pop-ups will flee the audience off the site. I love Digit and want it to get better and I don't see that happening with your website. Please re-design to stay up to date and bring a wonderful reader experience to the audience and I'm very sure you can still place your Ads and earn smartly.

-Vidyadhar Sharma (via Facebook)

Thanks for your valuable input. Rest assured we're aware of the issues and a redesign is in the works. Stay tuned, we will not disappoint..

- Siddharth

✉ With regards to the Encyclopedia Technica series, first of all I must say that your idea of a "must know" list instead of what we already know was amazing. When I started reading the booklet, I was expecting to see a paragraph on Mark Zuckerberg in 'M' but instead of that there was Marc Benioff. I was really surprised to know what an important person he is in the technological field (the surprising fact was that I didn't even knew his name). It was then that I read the first page Introduction and came to know of your "must know" list. One more thing, the person responsible for such a deep description of "Nerd' must be a big nerd himself (haha!).
Keep up the good work Team Digit.

-Tushar Singh

Thanks Tushar, we're glad you got to learn something new. That's been a common goal for everything we do at Digit and thankfully Encyclopedia Technica adheres to those ethos. Yes the person responsible for that entry is indeed a nerd.

- Siddharth

✉ Hi Sid!
Thank you and the rest of the team at Digit for giving me a lot of technical knowledge all through these years starting from 2006. If there is any way I can repay your debt please be free and frank and tell me how I can repay you. Now coming to the magazine what can I say, I guess there is no better way to end the year than with this.
The December issue was so informative. Thanks to NSA article on snooping and the second internet I got to know a lot since computer security is my field of interest. Article on snapdragon 805 was good too. A special thanks to Jayesh for letting me know that our tastes are similar. Windows 8.1 disappointed me as well and like him I too did not buy any gadgets this Diwali and will be waiting for year end or next year. Encyclopedia Technica was my favourite. Fast Track to iOS 7 dissapointed me. Again some snippets were repeated. The tablet GUI is simply yuck please change the interface. Way back in 2009 you guys gave a FastTrack on tech careers please publish a FastTrack on tech careers. Cheers Digit!

- Vulimiri Shashank

First of all, there's no need to repay any debt. The fact that you like (most of) what we do, is payment enough :-) We're working on creating a new UI. Also your suggestion has hit the mark and you'll be happy to see this month's FastTrack.

- Siddharth

✉ Hello there, I am one of your regular readers and have never missed an issue since July 2011. When I first read the mag and saw Robert's face I thought he was all mean and Django type of guy but turns out he's a good guy and now a father!
Okay without wasting any of your time, let me get to the point. I am from Nepal and the disadvantage here is that I can't subscribe to your magazine. I know a lot of people from here have written to you about this but you've never implemented it even though you reply 'we're looking into it'. Since the mag is famous in South Asia and the fact that you said your second fan base is here in Nepal, I think you should (truly) implement the subscription plan here.
Another point, when you guys come up with new contests in the mag, you say that only Indians are allowed for the contest when your mag is already multinational. And sometimes seeing "Only Indians can apply for the contest" make me feel like this mag was not meant for us! I've seen a couple readers asking you to provide posters which I hope you guys will do in the upcoming issues. Keep providing lots of tutorials and study materials in the DVDs as those are the ones that I look for along with many others rather than all trailers.

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LETTER OF THE MONTH

✉ Hey, people at the no.1 tech magazine in India, a big Hello to you. I am Akshay Prabhu, currently a 3rd year student of mechanical engineering in Canara Engg. College, Mangalore. I've been a reader of Digit since I was in class 7 or 8. It all started when my friend started giving me CDs with trial software and games. Digit was, is and will be my source of latest info whenever I was preparing for a quiz (tech or otherwise). It's always been my first preference whenever it came to the matters of tech. These days I buy the Magazine when I go to a nearby newsstand and only if any topics interests me. Here are few things that I would like you to look into:



- The news and updates that are on the website are not repeated on the magazine as featured articles as many who follow you online may not like it. But why not feature those articles as snippets at top or bottom of the pages.
- You need a mobile app for your website to access feeds etc. Many international websites do have it. Why don't you look into this soon?
- When you courier to rural places like my home town please do not choose Professional couriers as they are slower than EMS speed post and I get my magazines 5-6 days after the dispatch whereas couriers like DTDC deliver in just 2-3 days or even speed post.
- Need some more articles about online shopping, deals, the do(s) and don't(s) etc.
- Missing your older contests other than the devworx ones. Any plans of getting them back?

Missing Robert Smith from the past few months as it has become a habit of seeing him on the first page of the magazine. I know he is now a proud father and has taken off to spend time with his family. But it does make me feel something different. The first page is not the way it is used to be. Robert's style of expressing the facts of the whole magazine in one page is what I like the most. I will be waiting for him to come back. I just pre-book the collector's editions and the anniversary editions as they have too much content which takes more than a month to digest.

The DVDs, fastrack, etc., are quite good and I get most of my freeware from those DVDs. Fastracks though are quite simple and easy to understand may need sequels like the ones you had in October, November & December 2013 issues which is a big thumbs up to you! Just took two days to fully compile this letter and set it up in a nice order and it is worth it. Keep up the awesome work going on guys!

-Akshay Prabhu

Well your two day effort is much appreciated and for it you get a T-shirt from us. As for your suggestions they're all valid and coincidentally we're already working on some of them. I've asked the dispatch team to look into speed post as an option. Also, devworx contests are still on. You just need to subscribe to our newsletter to stay updated about them. P.S. We miss Robert too.

- Siddharth

You guys have increased the price of regular issues but paying 50 more than earlier and getting a 24 page dgt supplement is not fair. I think 2 FastTracks would be great. Till December 2011 I always wanted to buy your mag badly. I used to nag my dad to bring the mag. But after that, I've felt no excitement at all when you rolled out your issues (except the special ones). I am just like, "Oh Digit came? Whatever" and just buy it when I have nothing to do. Maybe it's cause the Fast Tracks got boring and the DVDs you provide didn't have any awesome stuff (except the special issues). So please make digit exciting again. Peace out.

- Akash Raj Dahal

OK, let's tackle your suggestions one by one. Firstly I know how frustrating it can be to know that you can't participate or subscribe. I used to feel the same when I used to read comics in my formative years – they used to all be US imports. However, now that I'm involved with operations of the magazine to some extent I can appreciate the hurdles posed by regulations and logistical factors. Hence the answer today too is still going to be "we're looking into it". But rest assured we're closer to a solution. As for trailers, for every reader who asks for serious study material there are few more who do appreciate our entertainment content. We have to try and keep everyone happy. In any case we'll definitely try to make Digit exciting again. .

- Siddharth

✉ Happy new year Team Digit. You guys made me who I am right now. I was a boring uncool 12 old fat boy when I first saw this awesome magazine and after that almost 6 years had passed and now I am a smart cool (and slim) geek who owns the best PC in town (I live in a small town). Being a geek is tough (especially in India!) But I think after you become a geek there is no way back. Inspired by me, everybody I know including my grandmother uses tablet or smartphone. Every PC hardware seller in town fears me. Nobody in my friend circle buys anything without asking me and a lots of troubleshooting phone calls keep me occupied all day. All thanks to you guys! Dgt is a breeze to read. As I am a motor-head, I was very happy when saw that you guys are reviewing cars and bikes. In DVDs the interactive SKOAR, wallpapers, game and movie trailers, TED talks, tutorials every thing is so amazing. You guys improved a lot. I think it will be better if you guys change thinkdigit website design (current one is outdated).

- Arkaprabha Dey

Thank you so much for your kind words. It really means a lot to all of us, and congratulations on the weight loss, it's tough to do and we know for certain we had nothing to do with that, it's all your doing. It seems geeks will really inherit the earth :)

- Robert



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Leo Impact in Media



CeBIT Mar. 2013 Germany

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Sushil Kumar, Olympic winner 2012 (silver), Gold in 2010, Moscow, representing the book *'The Secret of Hacking'*

Author's Brief Profile

Manish Kumar, *PHD Information Security—UK*
MS-ISS—Germany, CISSP, CHFI, ECSA, CEH, RHCE



Manish Kumar is a CISO, Security Researcher, author, speaker and a life-long entrepreneur. He is Co-Founder of Leo Impact and is known for creating creative ideas & found logical solutions. He was appeared on NDTV, CNN Money Online, etc. He has also been worked with the Various Army & Govt. Departments like MI, SI, CAB SEC. CERT, etc and various banks including American Express & SBI group.

Creative: pradeepkumardesigner@gmail.com

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It features dual-core processor and supports new gen CDMA technology
http://dgit.in/mmcanblaze



PS4's Indian Price
Rejoice(?) PlayStation lovers. Sony's latest gaming console has finally launched in India.
http://dgit.in/ps439999

Here's hoping for an eventful year ahead

With the onset of 2014, we have a lot coming up in the world of technology

Kinect co-creator now working on Microsoft's smartwatch

Kinect co-creator Alex Kipman, general manager of Xbox incubation projects, is heading the company's plans for wearable computers and customizing Windows to run on smaller screens.

Kipman has earlier worked on various projects for Microsoft including the Kinect sensor and the Windows Ultimate edition. According to rumors Microsoft is testing a smartwatch with a 1.5 inch display screen, a surface connector and a Google Glass like eye wear. Kipman is working on Kinect glasses that support Wi-Fi or 4G connectivity and augmented reality support.

Microsoft's head of devices, Julie Larson-Green, recently hinted at a wearable future for the company. "So sensors are going to become a big part of how you think about things," said Larson-Green at the UBS Global Technology Conference in November. "So some of the things we've been talking about — you see all these fitness devices that people wear on their wrists and they do some interesting things. What's the extension of that?"

Larson-Green hypothesized that future devices could read your heart rate and suggest exercise patterns or sense your location and notify you when a bus is running late. "Just as the mouse was an invention, touch was an invention, there will be the next new way to interact," said Larson-Green. "And that's why we've been focusing on natural user interface for a while, working on that."

However, Microsoft's wearable technology work is still in early stages. The company is still working on bringing the Kinect glasses from incubation stage to a real product. Microsoft is also working on making a single version of Windows that can be tailored for desktop, PC's, phones, tablets and Xbox One.



Alex Kipman, General manager of XBox Incubation Projects



The Boston Dynamics' BigDog

Google, which had launched its Google Glasses, a while back has rolled out a update recently which allows users to click images with just a wink of the eye. The Google glasses have also added support for Hangout and Video uploading to YouTube. It has also added some new security features that allows you to lock the screen for Google Glasses.

Google takes over military robot-maker Boston Dynamics

Google has confirmed completing acquisition of Boston Dynamics, a company that is known for developing superfast robots for the US Army. The latest acquisition is considered to be Google's major push into the field of robotics. Prior to Boston Dynamics, Google has taken over seven robotics firms in the last six months.

According to reports, Google's Andy Rubin is leading the company's secretive robotics division. So far, the price and size of the project haven't been revealed. Google's other robotics companies include Autofuss and Bot & Dolly, Schaft, Industrial Perception, Meka, Redwood Robotics, and Holomni.

In a statement posted on the Google Plus, Chief Executive Larry Page recently said: "I am excited about Andy Rubin's next project. His last big bet, Android, started off as a crazy idea that ended up putting a supercomputer in hundreds of millions of pockets. It is still very early days for this, but I can't wait to see the progress."

Boston Dynamics was founded in 1992 by Marc Raibert, an former professor at the Massachusetts Institute of Tech-

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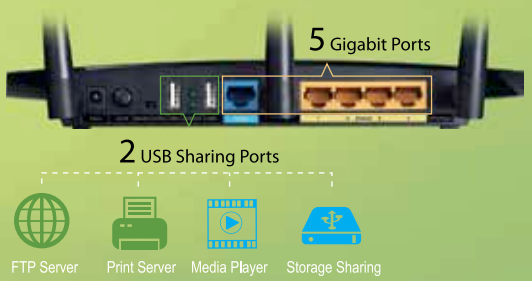
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Comic-Con Mumbai Cosplay
See what Comic-Con Mumbai had to offer us in the Cosplay acts of the weekend. Look at our slideshow for more **http://dgit.in/mfcc13ss**

Twitter Power
Twitter's working on a new feature that'll help you prevent embarrassments due to typo errors. http://dgit.in/twttrgod

nology. The company hasn't launched robots commercially, but works with US Army, Navy, Marine Corps and the Defense Department's Advanced Research Projects Agency.

Boston Dynamics has developed quite a few robots such as LS3, Atlas, Petman, Cheetah and BigDog. Videos of its walking robots have created a lot of excitement on the web. The BigDog robot is known for its impressive agility. It can climb hills, travels through snow, skitters precariously on ice. WildCat, a four-legged robot, shows off running a car park at high speed.

Google's new acquisition comes at a time when other Internet companies such as Amazon have also been exploring the field of robotics. Amazon recently created a lot of buzz with its plans to deliver packages via drones within a mere 30 minutes.

Defence ministry to launch 'Netra' Internet spy system

The Indian government will soon launch 'Netra', an internet spy system. The technology will be able to detect words like bomb, attack etc., on blogs, mails and will detect dubious voice content across messenger services like Google Talk and Skype.

'Netra' internet surveillance system has been developed by Centre for Artificial Intelligence & Robotics (CAIR), a lab under Defense Research & Development Organization (DRDO). According to reports , the Home Ministry is planning to approach DRDO to allocate more manpower to CAIR to formulate a strategy for tracking internet use.

The 'Netra' deployment strategy was recently discussed by an apex inter-ministerial group headed by DoT's member and was attended by top officials including the home ministry, DRDO, Intelligence Bureau and CRET-in. The board discussed how to track system vulnerabilities and promote effective IT security practices across the country.



The 'Indo-American Alert' offers rapid co-operation in cyber crime

A telecom department note states, "Intelligence Bureau and Cabinet Secretariat are currently testing 'Netra', which will be deployed by all national security agencies. The specifications of the 'Netra' system can be taken as frozen following tests by the Intelligence Bureau and Cabinet Secretariat, and can be considered for providing multiple user access to security agencies," it adds.

According to a recent note circulated by the Union Home Ministry, India is planning to ask US to share its technology to decipher messages over chat platforms like Whatsapp, Wechat, Skype, etc. The Indian government is also proposing an 'Indo-American Alert, Watch and Warn network' for rapid co-operation in cyber crimes between the two countries.

Apple's new Mac Pro available for order from today, starts at ₹2,29,900

Apple has confirmed that their new Mac Pro will be available to order from today. The machine was first shown off at the WWDC in June earlier this year leaving a number of fans mesmerized over its innovative design and specifications.



Apple's new Mac Pro sells at a minimum of ₹2,29,900

The latest generation of the Mac Pro has been totally redesigned by Apple and features an aluminium enclosure in the shape of a cylinder measuring 9.9-inches tall and is actually just one-eighth the size of its predecessor. It includes six Thunderbolt 2 ports, each with up to 20Gbps of bandwidth per device, and supports up to 36 high-performance peripherals, including 4K displays.

The Mac Pro is available in different specifications including one with a 3.7 GHz quad-core Intel Xeon E5 processor with Turbo Boost speeds up to 3.9 GHz, dual AMD FirePro D300 GPUs with 2GB of VRAM each, 12GB of memory, and 256GB of PCIe-based flash storage. There is another option that includes a 3.5 GHz 6-core Intel Xeon E5 processor with Turbo Boost speeds up to 3.9 GHz, dual AMD FirePro D500 GPUs with 3GB of VRAM each, 16GB of memory, and 256GB of PCIe-based flash storage.

Apple is also offering to-order options which include faster 8-core or 12-core Intel Xeon E5 processors, AMD FirePro D700 GPUs with 6GB of VRAM, up to 64GB of memory, and up to 1TB of PCIe-based flash storage.

The all-new Mac Pro will be available to order through select Apple Authorised Resellers in India starting at ₹2,29,900. Apple has yet to confirm as to when the product will actually start shipping to the customers.

According to reports, as part of a (RED) charity auction, a red Mac Pro was sold for $977,000 last month.

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18 **All about Twitter and FB**
This month (and pretty much like any other time), the web was ruled by these two behemoths

22 **App Watch**
We check out Spuul and compare two popular hand held racing games

The ever changing world of mobility

New phones, software updates and the latest news from the portable space



First untethered jailbreak arrives for iOS 7 users

iOS 7 users have a reason to rejoice , Evad3rs has just released the untethered EvasiOn iOS 7 – 7.0.4 jailbreak version for the latest iPhone, iPad and iPod touch devices.

The untethered jailbreak lets Mac and Windows users freely modify iOS 7 on the supported devices. As always, there are risks associated with unofficial OS tweaks. Saurik (Cydia creator) warns that he wasn't made aware of the jailbreak and that the Cydia build isn't official nor updated so users would be downloading it it at their own risk.

The evasion jailbreak includes a Chinese 'alternative' app store, which is full of cracked versions of real apps and games found in Apple's App Store. This store, named TaiG, is no longer installed by default on this particular jailbreak. You can head to the Evad3rs official website to get the update at http://evasiOn.com/ . Proceed with caution.

Windows Phone users get an extra 20GB on SkyDrive for one year

Good news for all Windows Phone users – Microsoft is giving away a free present by offering an extra 20GB of space on SkyDrive. According to reports, Microsoft has started sending out emails to registered WP users informing them about the free upgrade.

By default, customers get 7GB of cloud storage and with this offer they get 20GB on top of whatever they already have for one year. Microsoft is offering a similar 200GB data offer for Surface 2 and Surface Pro 2 owners for two years.

The offer can be claimed by 31st January 2014, however one needs a confirmation email from Microsoft and in case you haven't, you will have to wait. The notice should reach all registered Windows Phone pretty soon so keep checking your emails.

It seems to be a very smart move by Microsoft as the offer will not only attract more customers but it will ensure the engagement of some Windows Phone users for at least another year.

HTC introduces the Desire 400, its new 4.3-inch dual-SIM smartphone

HTC has quietly expanded its smartphone portfolio with the new Desire 400. The new HTC smartphone has been spotted on a couple of regional websites. However, the different websites have different versions of the specifications of the smartphone.

According to the listing on the Russian websites, the Desire 400 supports dual-SIM, sports a 4.3-inch display with 480 x 800 pixels resolution. It is powered by a 1.2GHz quad-core Snapdragon 400 processor along with 1GB of RAM.

The smartphone has an 8MP rear camera with LED flash, 1.6MP secondary camera and 4GB built-in storage along with microSD memory slot.

The Ukrainian HTC website listing, however, says the smartphone has a 5MP rear camera, VGA front camera and a dual-core processor.

Both versions come with Sense UI and Blinkfeed. The smartphone is powered by a 1,800 mAh battery, which is rated to deliver 12 hours of talktime on 3G. So far, there's



no information on pricing and global availability of the Desire 400 dual-SIM.

HTC has lately launched quite a few dual-SIM Desire smartphones – Desire 700 dual-SIM, Desire 601 dual-SIM and Desire 501 dual-SIM.

The HTC Desire 501 dual-SIM and new Desire 400 share similar display size. The Desire 501 dual-SIM sports a 4.3-inch (480 × 800 pixels) display, and features 1.15 GHz dual-core NovaThor U8520 processor and runs on Android 4.1 (Jelly Bean) with Sense UI.

SMS to be soon accepted as official documentary proof in govt dealings

People may soon be able to use SMSs as documentary proof with government departments. The government is launching a 'Mobile Seva' service with over 241 applications relating to health, Aadhaar, Education, RTI, and much more.

Launching the 'Mobile Seva' service, Department of Electronics and IT secretary J Satyanarayana said: "Like Railways, we have to bring in a system wherein by showing (transaction) SMS or, whatever be the case (like e-mail), the proof on mobile is accepted as valid document. To increase our reach we need to bring this kind of practice in mobile and e-governance."

India has over 90 crore mobile subscribers and with the launch of this app it will be easy for them to make transactions with various government departments. At present the digitally signed certificates are accepted as valid document and soon an SMS or a communication available on mobile phone will be accepted as valid proof. Joint Secretary at DEITY Rajendra Kumar stated that the department is ready with digital signature for mobile phones that the government can use in messages that are to be sent to the citizens applying for a service. "We will start allocating digital signature (Public Key Infrastructure) to all government department on board in first quarter of 2014. Government departments can send communication on mobile of citizen seeking service," Kumar said.

DEITY Additional Secretary Rajiv Gauba stated that about 830 departments from the Centre, state and local authorities have come on board, and the department is working on the third phase to further scale up the mobile governance platform and bring more services under its ambit.

"We have to go through inter-ministerial consultations to scale this m-governance store for launch of third phase. The third phase will have many more departments and capacity to add more services application on this store. Final shape of third phase can be known only after consultation process is complete," he said.

The app is available for Android and Java enabled phones for now. Kumar added that the department is aiming to bring all the applications to HTML5 standard which will make them compatible with all mobile platforms in the next six months.

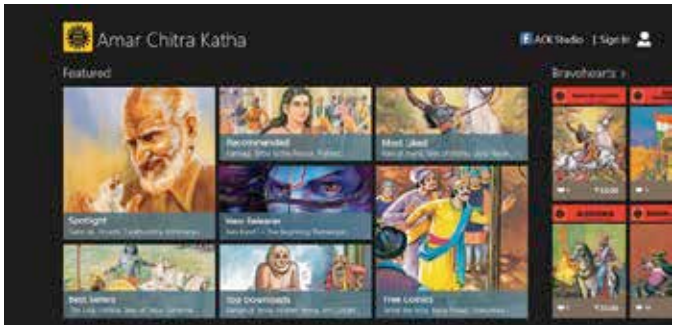
Apple may launch big screen iPhones and iPads for 2014

According to reports, Apple is prepping a 12.9 inch tablet expected to be launched in October 2014 aimed at North America's educational market. Reports have surfaced following reports from last month citing that Apple's Asia supply chain Quanta supplier has bagged a contract for mass production a larger sized iPad for late 2014. There are also rumours that Apple is assessing the possibility of ditching the 11 inch MacBook Air with a larger iPad.

Meanwhile, there are also rumours of a larger iPhone, reports have surfaced indicating that Apple is tweaking with a design which has a 4.9 inch display which could debut in 2014. Apple earlier increased the size of the iPhone screen back in 2012, when the iPhone 5 featured a 4 inch screen.

In the meantime, rumours of an iWatch have also surfaced, with Apple planning to release a 1.3 inch and a 1.7 inch display size of the watch for men and women.

As we are well aware of the fact that Apple generally avoids following trends, instead it sets new ones and comes up with new product categories. An iPad with a nearly 13 inch screen could thwart the current trend of smaller tablets and phablets dominating the global market place.



Amar Chitra Katha comics now on Windows 8 app

Amar Chitra Katha Pvt. Ltd. in association with Microsoft India officially introduced 'ACK COMICS', the first digital comic store app of Amar Chitra Katha, exclusively for the Windows 8 platform at Day 1 of Comic Con India, Mumbai, 2013. This app will let users to browse, purchase and download the titles from Amar Chitra Katha, instantly.

With the launch of ACK Comics app for the Windows 8 platform, the company is planning to have a direct connection and interaction with millions of comic book readers and graphic novel enthusiasts who are ready to dive into an ocean of Indian storytelling.

Speaking at the launch, Vineet Durani, Director of Windows Phone Business Group, Microsoft India, said:

"At Microsoft, we are constantly looking for ways to boost the apps offering and make it more relevant for the consumer. This is yet another step in that direction. Amar Chitra Katha comics are an Indian childhood staple and we are sure consumers will be delighted with the addition of this app to their tablets and notebooks."

Talking about ACK Comics app, it offers more than 200 Amar Chitra Katha's titles to its readers. Five comics including Shakuntala, Birbal the Wise, Tirupati, Tenzing Norgay and Anant Pai will be available free of cost for the first month. As comics are not available FREE to access, it gives readers an option to purchase titles directly within an application. However, readers will be getting three FREE titles, even after the first month. To download the Amar Chitra Katha App for Windows 8 go to http://dgit.in/ackathw



What's the Oppo N1?
Oppo N1 is a new phone which started making news waves recently. It's the first Google CTS-Certified CyanogenMod Phone.

No-Stain T-shirt
Aamir Patel a young entrepreneur created Silic which is a T-shirt that he claims is impossible to stain. Read more: **http://dgit.in/BooNoStain**

Facebook and Twitter rule the roost this month

Well it kind of figures if you think about it right?

New Like and Share buttons

Facebook has started rolling out its revamped Like and Share buttons to all of its users along with embedded posts with customisable pixel widths.

Facebook on its Developer Blog cites figures released by Shareaholic that shows average referral traffic to media sites had gone up by over 170 percent year over year, while referral traffic from the social network rose 47 percent in November alone with Facebook contributing to over one-sixth of average sites' referral traffic.

"In early tests over the past month after launching the new Like and Share buttons, we've seen more than a 5% lift in Likes and Share across the web. This is significant, given that both buttons are viewed over 22 billion times daily. Based on these results, we've rolled out the new design to everyone and extended it to the Follow and Like Box plugins as well," says Facebook in the post.

Facebook says embedded posts will automatically scale itself according to the width of the device on mobile web.

The social networking giant last month announced redesigning its iconic Share and Like buttons. It was first change to "Like" button since its launch in 2010. The new design does away with the "thumbs up" and includes F with the word "like" - f like. Facebook is also working to pair like and share buttons in a single embed.

Top trends on Twitter India in 2013

Twitter has announced an in-depth list of Trending topics in India this year mapping conversations of over 20 million Twitter users in India. Twitter released the data in topics categorised neatly in Events, News, Politics, Cricket, Bollywood and TV.

Sachin Tendulkar tweet (#ThankYouSachin), thanking his fans, topped the list this year with over 17000 RT's.

In Bollywood Shah Rukh Khan got the most tweets at #WeLoveSRK with his hit Chennai Express this year. In "News" and "Politics" sections #AfzalGuru and BJP's Prime Minister candidate #Modi were the most discussed people on the social networking site.

Indian Army joined Twitter this year and showed the Uttarakhand flood relief work in progress. This year celebrities like Sourav Ganguly, Saina Nehwal, Anil Kapoor and more joined Twitter.

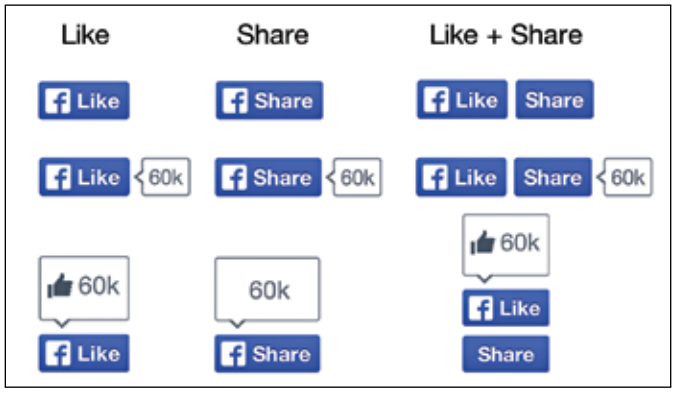
The social networking site saw Indian users discussing breaking news, ranging from international topics like unrest in Syria and Egypt, and Cyclone Phailin. Twitter also saw tweets in real time for popular TV programmers Bigg Boss and Koffee With Karan.

Facebook has also revealed its most discussed topics in India this year and BJP's prime minister candidate Narender Modi topped the list on FB. After Modi, Sachin Tendulkar followed by iPhone 5s and Raghuram Rajan were the most mentioned people on the social networking site. The report also revealed that the Taj Mahal in Agra and India Gate in New Delhi were the most discussed places to visit in India.

Events	News	Politics
1. #Conclave13	1. #AfzalGuru	1. Modi
2. #JLF	2. #Tejpal	2. Rahul Gandhi
3. Eid Mubarak	3. Syria	3. BJP
4. Budget2013	4. Asaram Bapu	4. Nitish Kumar
5. Happy Lohri	5. #MumbaiGangRape	5. #DelhiWantsAAP
6. Happy Women's Day	6. #ItalianMarines	6. Pawan Bansal
7. #RailBudget	7. #KashmirNow	7. Chintan Shivir
8. Diwali	8. #Saheb	8. #Saheb
9. Happy Ganesh Chaturthi	9. Budget2013	9. Pak PM
10. Happy Holi	10. Cyclone Phailin	10. #DMK

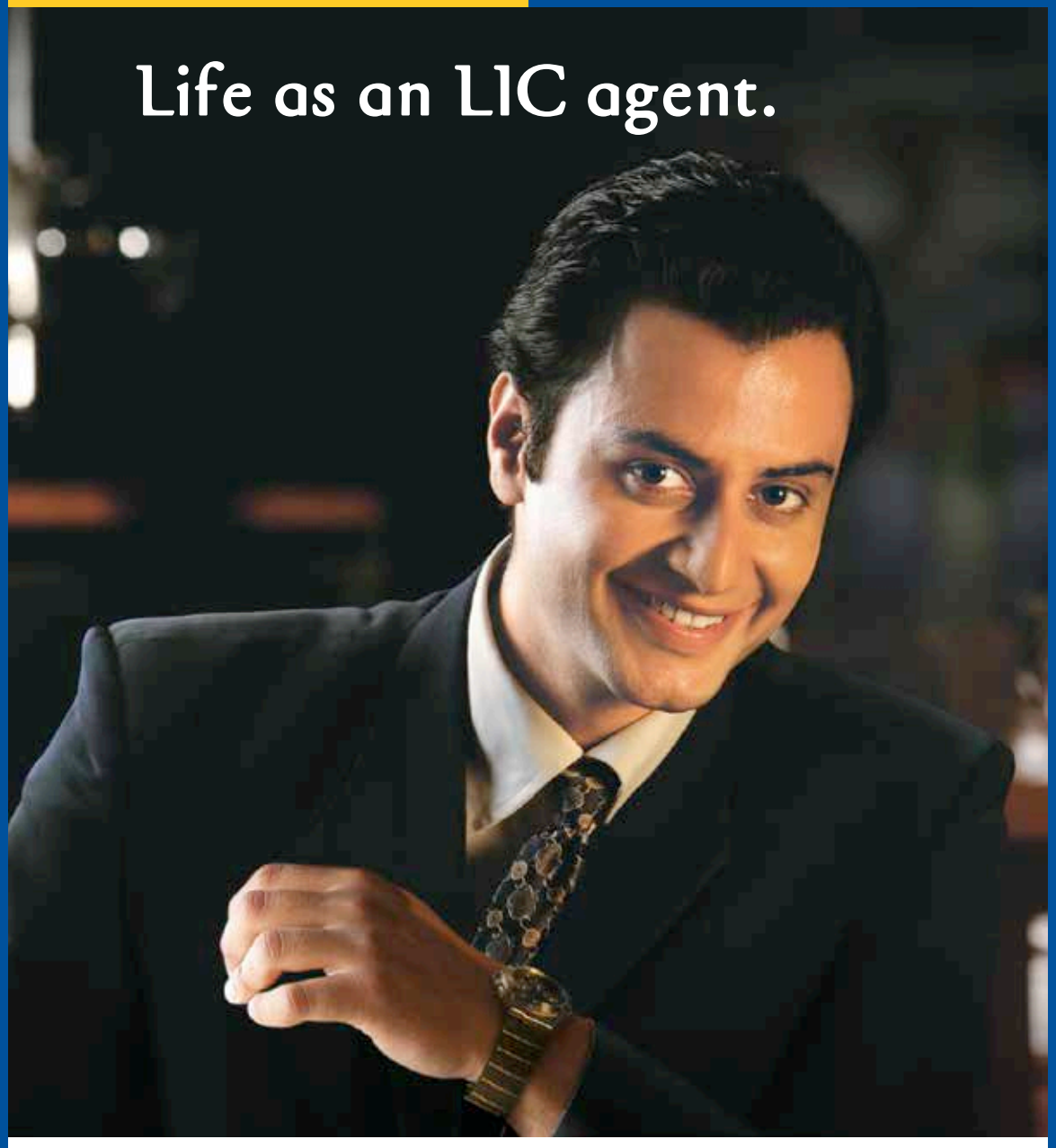
Cricket	Bollywood	TV
1. #ThankYouSachin	1. #WeLoveSRK	1. #BB7
2. #IndVSAus	2. #Ashkay2000Crore	2. #ThePerfectBachelor
3. IPL	3. Pran	3. #NachFinale
4. #RRVsSRH	4. #Special26	4. #DrashtiShouldWinJDJ6
5. Rahul Dravid	5. #ShreeTheMovie	5. #ZStudioEpicWeekend
6. Hodge	6. #ChennaiExpressWeekend	6. #WeLoveYouSalmanKhan
7. #CSKvsMI	7. #TYearOfSoty	7. #Jhulak
8. Dale Steyn	8. #BeRangreza	8. #BB6
9. #CSKvsRR	9. #BossKaBirthday	9. #AXNCrossinLines
10. Shikhar Dhawan	10. #GoGoaGone	10. #ETCbbizAwards

The most popular trending terms by category



The different styles and combos for the like button

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Insurance is the subject matter of solicitation.



Earth vs Aliens
Can football save the world against an alien threat? See what Samsung 11 has to say: **http://dgit.in/soccerarmy**



No PATA for you
With no takers for the aging technology anymore, Western Digital stops selling PATA drives.

And what about Facebook trends?

BJP's Prime Ministerial candidate Narendra Modi tops the Facebook popularity chart this year, according to a statement issued by the social networking site. Narendra Modi beats the likes of cricketing legend Sachin Tecndulkar, and India's Mars mission to become the most talked about person on Facebook in India this year.

According to a recent Facebook report, India has 1.19 billion monthly active users and 82 million MAUs in India for the quarter ending June 31, 2013. Narendra Modi was followed by Sachin Tecndulkar, iPhone 5s and Raghuram Rajan were the most mentioned people on Facebook this year.

The report highlights the most talked about conversations on the social networking site and offers a unique snapshot of India. People mention topics and milestones important to them, discuss breaking news, their favorite celebrities and much more.



iPhone 5S most talked about? Really?

The report added that Sukhdev Dabha at Murthal (Haryana) was the most talked about place to stay on Facebook followed by the Golden Temple in Amritsar. India Gate in Delhi and Taj Mahal in Agra were also among the top 10 placed mentioned on Facebook.

Twitter will soon let you edit your tweets

One of the key features missing on Twitter is the ability to edit your tweets. But, the micro-blogging website seems to have finally decided to include the option. A website called The Desk, citing sources privy to the details of the project, claims the feature has been on a top priority of Twitter for months, as the company is now looking to attract more media organisations and original content providers to the network.

According to The Desk, once a user has posted a tweet, an "edit" feature will appear for some time, allowing users to make "slight changes" to the contents. Changes include correcting spelling mistakes, removing a word or adding one or two words. Twitter is still working on the timeframe for the visibility of the "edit" button.

Twitter will provide the option to edit a tweet only once. The tweet will be shown in the feed soon after the edit is made. The edited tweet will also appear for those who have retweeted the tweet.

However, Twitter is not in haste to roll out the new feature and is considering all pros and cons before the launch. According to The Desk, Twitter wants to ensure the edit option is used judiciously, and wants to avoid cases such as a user posts a tweet, garners a large amount of retweets, and then changes the tweet to display any promotional content or ads.



These guys are driving away the youngsters from Facebook

Teens deserting Facebook due to Levi's effect

People over 30 are now Facebook's primary users as more and more teenagers are abandoning the site. It has been described as the Levi's effect by social media expert Michael McQueen.

Mr McQueen stated, ''Levi jeans were a cool, young brand - until parents started wearing them - and the same thing has happened with Facebook.'' He added that teenagers are now joining other social networking sites like Twitter, Instagram and Snapchat instead.

Till 2012 Facebook was the primary social networking site for teenagers, but this year Twitter has taken over the number one spot. Mcqueen added that the site has been overtaken by people 30 years and above as teenagers log off. He stated that people were logging on to reconnect with their school friends as well as people who live overseas.

''The older generation began signing up in 2010 and, originally, a lot of these users were parents who wanted to spy on their kids,'' he said. ''But now they are reconnecting with old school friends and people who live overseas and they have caught the Facebook bug.''

Facebook's CFO David Ebersman recently stated that the company "did see a decrease in daily users, specifically among younger teens." Approximately $18 billion were wiped of the company's market value due to the decrease in usage by teens. However Facebook's COO Sheryl Sandberg has refuted the statement adding that the site does not have a teen problem and continues to be useful to teenagers. Sandberg added that there is a lot of competition in the social networking sites but there is room for everyone to grow.

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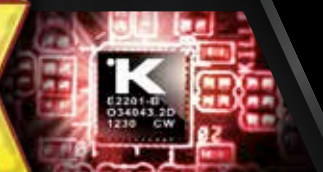
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Hello, 2014
Here are some things to lok out for in the upcoming year. Take a gander down this link: **http://dgit.in/lukou714**



Tetris Mooged
What'll happen if you listen to the Tetris theme over and over and over again on loop? Find out: **http://dgit.in/moogtet**

GT Racing 2 vs Real Racing 3

For long, Real Racing was THE racing game on the iPad, or the iPhone for that matter. But, iOS users now have another rather fun game that they can download.

Vishal Mathur
vishal.mathur@thinkdigit.com

For long, Real Racing was THE racing game on the iPad, or the iPhone for that matter. But iOS users now have another fun game that they can download. Very good graphics, excellent range of cars and a variety of events. On the face of it, the game looks very similar to Real Racing 3 in the way the events are packaged, but there are fine differences.

GT Racing 2: The Real Car Experience, is pretty much an apt name for a game that does motor racing simulation as well as this. Have all the fun, without having to deal with real world issues - that is one premise which makes or breaks a game. Unlike Gameloft's previous successful game title, Asphalt 8: Airborne, the GT Racing 2 title walks a different path. While Asphalt was all about crazy driving, trills and powerful graphics, very similar to the Real Racing game, from the outset.

With the latest iteration, Gameloft has ensured that the title takes the evolutionary next step - range of cars, tracks, interface and user involvement.

GT Racing 2 isn't anything like the street racers like Asphalt, and the essence is completely different. It is about more realistic physics, real world cars licensed and replicated in the game with as close to genuine dynamics as possible.

You don't really have too many options to play around with the settings of the car, except that you can upgrade components using the in-game cash. This is where the entire debate about the in-game purchases comes into the picture. Pay anything upwards for Rs 110, in various slabs, and you can buy the in-game cash that will quicken the progress. This is pretty similar to what Real Racing 3 allows you to do, with the freemium method allowing in-game purchases to enhance progress. While there is no harm in having a shortcut to get to the next level, but this does prove rather enticing for a lot of gamers, who then avoid the longer and more patient route, for the lure of quick results. In some ways, it is an improvement over the already excellent Real Racing 3. Cars are extremely detailed and realistic, and tracks as well as the landscape look rich with elements. While this wasn't always visible in Real Racing 3 in this detail, the different textures and colours of the track surface make GT Racing 2 a visual delight. And that is just one example of the brilliant graphics. Cars handling is pretty much at par in both games, which make both quite appealing to the casual gamer as well.



Real Racing 3



GT Racing 2

While Real Racing 3 disappointed in terms of car service and repair times, GT Racing 2 does the same for any upgrades you wish to install. This could be anywhere between 10 minutes to 2.5 hours. You can bypass that using the in-game currency, but if you happen to not have some in the bank, the wait is long and torturous. For anyone who doesn't wish to graduate through the levels to get to their favorite car, lets say the Nissan GT-R or the Bugatti Veyron, will have to pay big bucks to unlock the vehicle. If we look at the example of Veyron, for example, you need to be on level 2127 (marked with stars) to unlock it. Or, pay 5772 of the in-game money. For this, you will have to buy the 7500 package from the in-game store, which costs Rs 2,700.

While both games are excellent in terms of gameplay, the freemium basis does stretch the conventional progress times a tad more than would be ideal. Or you can just splash the cash. However, the bunch of licensed cars are extremely details, and the circuits look brilliant.

Spuul: The streaming app with an amazing library

If Bollywood flicks or regional movies interest you, this is the must have app on your tablet.

Vishal Mathur
vishal.mathur@thinkdigit.com

Not many apps can do what Spuul can do, but then again, this is not surprising considering the fact that video streaming apps are becoming rather popular. People want to watch a movie on their iPad when on the move or when tucked inside the blanket a cold and lazy winter day, but cannot be bothered to transfer one from their PC most of the time! This is where an app like Spuul can come in quite handy, as long as you are a fan of Bollywood movies.

Interface

The carousel switching between the latest and top movies is the biggest visual pull on the main screen. Below that are various sub-categories, with horizontal scrolling.

For each movie listed on the home screen, there is the accompanying thumbnail image. Without saying so much, the different sub-categories and the listings under each do give you a fairly good idea of the massive library of movies.

Tap on any movie thumbnail, and you go to the details page. A big image on the top of the page, followed by the storyline and the details of the movie, the option to watch the movie or watch the trailer and the ability to share this on social networks - Facebook and Twitter.

Library & Streaming

Quite a few of the streaming apps have flattered to deceive. Mostly because of the poor quality of video that ultimately makes it to your tablet or smartphone. There is no doubt that we have had some excellent performers in starsports.com and Tata Sky's Everywhere TV app, but equally, Dish Online and Ditto TV have disappointed. That was the root cause of the mistrust with which we approached this app. However, I feel happy to report that Spuul adds to the list with Star Sports and Everywhere TV, as one that offers quality streaming. We tested this on a 2Mbps broadband connection, an 8Mbps connection and also on 3G - which offers extremely varied speeds and connectivity strength as you move along. All through, the streaming experience was smooth. However, since this is streamed content, you cannot jump too far ahead in the timeline at any given point of time, with only the 8 Mbps plan offering a bigger headroom. On the iPad's Retina Display, every movie looked crisp and vivid, irrespective of the brightness level. But, the best part is the consistency of the content quality, across all movies and TV shows.

The library itself is quite wide, with a lot of the recent Bollywood flicks already available - the likes of D-Day and Once Upon A Time In Mumbai Dobaara available. There is an imposing list of movies, including some older ones as well.

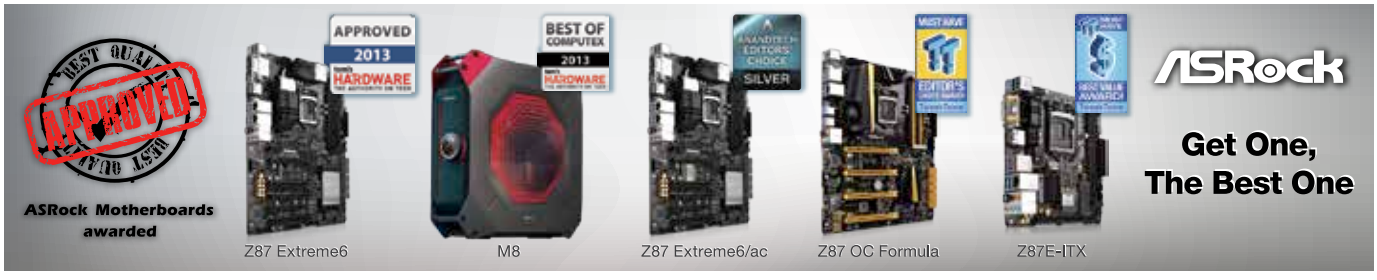
We keep mentioning Bollywood flicks, but Spuul also has a fairly good range of regional language movies, including Tamil, Telugu, Malayalam and Punjabi. Since I am not well versed with those languages, I can only talk about the numbers that I see. TV shows is something that still needs a lot of work - that library is not big enough, and at first glance, looks haphazardly put together. Clearly the focus is on movies.

Subscription

There are quite a few free to watch movies available on Spuul, to get you started. However, the real fun is with the premium subscription packages. One option asks you to pay Rs 270 per month, which allows access to all free and premium movies. The second package is the annual option for the same, costing Rs 2700 per year. However, these subscriptions do not include what Spuul calls as "Specials", and you may have to pay additionally for those later.

Download or Not?

If you are a huge fan of Bollywood movies, this is one app that you must have on your iPhone or iPad or any Android device. The free service lets you browse and watch a selection of movies, while the premium subscriptions remove in-app advertising and let you access the better movie collection. The library is massive for movies, but TV shows still need some improvement. Streaming quality on Wi-Fi and 3G is smooth, as long as you are getting good coverage. The redesigned UI is a lot smoother to use than before.





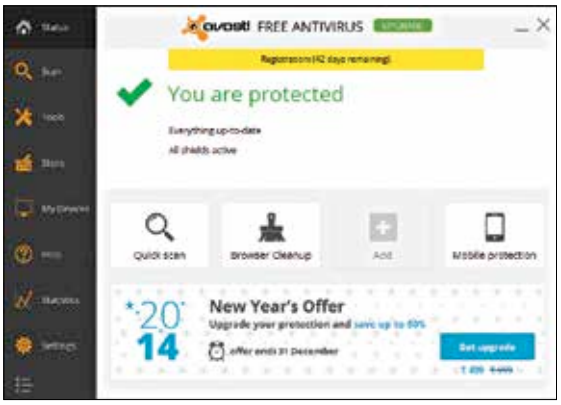
McAfee Data Centre Security
Global IT anti-virus software maker McAfee reports, firms housing critical systems with data centers will have to make security their top priority. **http://dgit.in/1idtntj**

Facebook for WP8
The revamped Facebook for Windows Phone 8 lets you pin a range of Facebook content to the home screen. **http://dgit.in/19cgKJR**

Top free Security Tools

If you're someone who is being paranoid over security concerns, this is for you.

Siddhant Sharma
readersletters@thinkdigit.com



In today's day and age, technology for most of us has become an indispensable or an inevitable part of our lives. The entire need to connect and communicate with others makes us humans an information hungry species and rightly so. We're forever in search of more and more information, amassing all that we can. The internet has been the like a guiding light or a major source for any and every kind of information that we need. While being extremely rewarding, the internet presents a lot of risks and threats along the way. The threats as most of us know range between the usual viruses, worms, trojans, spyware, adware, keyloggers and many other more complex ones. This is why it's imperative to use some security software tools to secure our digital lives. We've made a list of some security tools below that we think are the best for what they do and so are a must try.

Avast Free Antivirus 2014

A lot has been said about Avast within these very pages over the years and here we are at it again. This antivirus, this amazingly dependable antivirus suite is still the best free antivirus software out there. The reason we say this is because whenever we did an antivirus comparison test, Avast came out on top in one way or another. The antivirus has a very good detection rate and a ton of great features that are incorporated very well. Everything, right from the user interface to the scanning process is designed in such a way that it's very easy to navigate and even the biggest technologically challenged person can use it.

The main higlights of the updated version include a better cloud-based file reputation service along with options for automatic sandboxing of suspicious programs and remote assistance capabilities. Avast boasts of finely tuned real time shields like the file system shield, the web shield and the mail shield, each of which provide the user with status and configuration options. With a completely redesigned and streamlined interface in the 2014 edition, and millions of active users around the world. Avast is the best way to go and you won't have to look any further for a better free antivirus software suite. What more can anyone ask for when you receive these many features absolutely free.

Comodo Firewall

A firewall is from amongst the most important type of network based security system or service. It controls the incoming and outgoing network traffic by analyzing data packets based on a pre-determined rule set. Though the built-in firewall in windows works absolutely fine, there is still room for improvement. This is where Comodo comes in. Comodo is a free, multilayered firewall software that also works as an antivirus for protecting your system from viruses, trojans, worms and other threats. Comodo Firewall is made to be very unobtrosive and thus it's easy to use and configure. Download it and give it a whirl.

Tor

Tor is a free software tool that is used to enable online anonymity. Basically, the Tor software prevents somebody from watching over your Internet connection from learning what sites you visit, it prevents the sites you visit from knowing your physical location, and it also lets you access sites which are blocked.

Popularly known as the "anonymity network", Tor directs the internet traffic through a volunteer network consisting of thousands of relays that help in hiding the user's location from anyone doing traffic analysis. Using the Tor browser bundle makes it difficult for anyone to trace your activity on the internet through the path of online communication modes.

Tor is associated with a very famous security term called "onion routing" which effectively refers to the use of multiple nested layers of encryption in order to maintain anonymity. Many security focused operating systems like - Liberté Linux, Qubes and Tails use Tor. The bittorrent client Vuze for example supports Tor extensively.

As a whole, the Tor browser bundle is the face of Tor and it includes a modified version of Mozilla Firefox ESR browser.



Upcoming Apple Launch

The latest rumours suggest that Apple plans to launcha larger screen iPhone and a larger 12.9 inch iPad in 2014. **http://dgit.in/JafVrl**

One of the other useful features of Tor is the abiity to run it from removable media. Download Tor from here: dgit.in/TorBr

KeePass

It's well known that if you want your digital information to be safe online, you should use a different password for every service that you've subscribed to. But when you actually have many different passwords, for different accounts, it becomes very tedious to remember all of the passwords. KeePass provides an elegant solution. KeePass lets you store encrypted copies of all your passwords and all you need to do is to remember one master password for all of them.

KeePass comes with its own random password generator which means that you're not required to think and come up with random passwords on your own. Another very interesting security feature of KeePass has to be its Auto-Type feature that helps protect against keylogging. This feature automatically pastes the password required in the browser window by taking help of virtual keystrokes and the clipboard.

Spybot - Search and Destroy

The most common type of security threat that we see online these days are spyware, malware and adware. As the name suggests, Spybot - Search and Destroy is a free anti-spyware utility that helps you keep adware and spyware at bay. This is like a veteran software in which we trust since the old days. Featurewise, Spybot can be easily integrated with the windows security center for a quicker access or to streamline and keep all the security related apps together.

Spybot - Search and Destroy uses a very simple layout but it does the job pretty well. Download and install the software to experience it in all its unadulterated glory.

Tails

Yes, you read it right. This unusually named tool is actually a live operating system which also follows along the lines of the concept of anonymity. Tails is an acronym for "The Amnesic Incognito Live System". Using Tails, you can voyage the sea called internet anonymously while maintaing your privacy and circumventing censorship. The whole idea of using Tails is to browse like a boss and use any computer without leaving even a trace of usage on it.

Tails also features built-in encrypted email and chat with private messaging. The OS supports built-in file encryption as well. Using this file encryption feature, you can save your documents to a pen drive and they'll automatically be encrypted. It doesn't end here as this secure OS is preloaded with software like GIMP, OpenOffice, Audacity and more for editing purposes.

Tails uses the Tor browser by default making it that much more better when it comes to maintaining your anonymity online.

So, these were some of the best free security tools that you should install and use in your computer.

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Disappointed 2013
Check out the lowest points in gaming in the past year. Read the article on:
http://dgit.in/2013low

Legion of thieves
According to reports, China is trying to acquire US military's technology using legions of untrained people **http://dgit.in/Theives**

10 games every Android user must download

For you to be a self-respecting Android gamer, here are ten games that every user must download on their Android tablet or phone of choice.

Nikhil Pradhan
nikhil.pradhan@thinkdigit.com

The Google Play Store has hundreds of thousands of apps floating around and who's to say which one of them is actually worth wasting your precious bandwidth on?

Well, here are ten games (both paid and free) that every Android user must have on their phone/tablet. So, sit back, relax and queue all of these for download from the Play Store.

The Simpsons: Tapped Out

Who doesn't like this quirky family? But whether you're a fan of The Simpsons or not, Tapped Out is a game that you should play. It's kind of difficult to put this game in a pre-existing genre but suffice to say it could only exist on a touchscreen device. The goal of the game is to unlock tasks, characters, areas etc. by taking on objectives that you can complete simply by tapping on the screen. Now, that may sound a little too simplistic but give the game a try for about half an hour and you'll see how addictive it is.

Price: Free, Size: 32 MB



Into the Dead

There is a glut of zombie games on the Play Store and we won't blame you if you're just sick and tired of it all. However in the midst of all the average zombie games out there, Into the Dead stands tall as a stylish and unique amalgamation of



the zombie and endless running genres. The game looks really good and is quite simple to play, requiring you to merely swipe to avoid zombies. However, replayability and light strategy is also thrown into the mix with the introduction of challenges and weapons that can be unlocked.

Price: Free, Size: 30 MB

Plants vs. Zombies 2

The sequel to one of the most popular games of all time, Plants vs. Zombies 2 takes all that was addictive about its predecessor and takes it up a notch. With plenty of new stages, new zombies and new plants to obliterate them, PvZ 2 will definitely take up a lot of your time.

Price: Free, Size: 214MB

Angry Birds Star Wars II

When news of the first Angry Birds Star Wars game hit the internet, many were intrigued but many also scoffed at it calling it an obvious marketing gimmick. Now that the sequel is racing up the charts on the Play Store, it has certainly floored many with the combination of charm and challenging gameplay. For the first time you can also play as the Evil Pigs (represented as the Dark Side) and use gravity, the Force, Lightsabers and physics to bring down your foes.

Price: Free, Size: 47MB



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Meka G1 reviewed
Head over to the link below to read our full in-depth review of the Ttesports Meka G1 illuminated. **http://dgit.in/TtMekaG1**

Wicr 2
This app takes self-destructing SMS to a whole new level with its extensive yet fun usability features.



Real Racing 3

Real Racing 3 got plenty of hate when it first launched on account of its dependence on a huge quantity of in-app purchases and downloadable content. However, most of that vitriol has died down now that it's clear that even if you don't want to spend a Rupee, the game will still give you a lot of gameplay. Check our full review in the App Watch section

Price: Free, Size: 12MB (another 1.2GB after initial download)

Riptide GP2

Riptide GP2 is one of the best looking games that you can play on your Android device. It is also highly addictive and includes a vast array of gameplay modes (both online and offline). Apart from mere hydro-jet races, you can also perform stunts and earn points based on them. Since the game is very graphics intensive, be wary if you own an older Android device or one with less powerful hardware.

Price: Rs. 199, Size: 47 MB

Grand Theft Auto: Vice City

Do I really need to tell you why you should download Vice City? Yes? Okay then. Vice City is only one of the best games ever released for the PC and consoles and even though its graphics may look outdated on monitors and TVs, it perfectly suits mobile and tablet screens. Even though its successor, GTA San Andreas is also on mobiles now, we will always have a soft corner for Vice City mainly because of its kick-ass 80's soundtrack. Remember Flash FM? That used to be our personal favourite.

Price: Rs. 270, Size: 1.4 GB





Subway Surfers

Subway Surfers is, you could say, a 'spiritual successor' to Temple Run and although we prefer the latter (and its sequel), the former's amazing popularity means that it is something you should have on your phone even if it's only meant for your daughter or nephew or younger sibling. Subway Surfers is much easier than Temple Run and is also more hectic on account of the power-ups that you can collect and use while running. The game is also very liberal with its use of colours and will be enjoyed by the young 'uns.

Price: Free, Size: 29 MB



Temple Run 2

The progenitor of all endless running games gets even better through its sequel. Temple Run 2 is better looking, has stages with more variety, multiple playable characters and more number of obstacles and ways to get around, under and over them. If you're exhausted by the number of endless running games on the Play Store, delete all of them and just keep this one around. After all, it is the best of the lot.

Price: Free, Size: 41 MB

Dead Trigger 2

Dead Trigger 2 has become the Crysis of mobile games. It's the best game to show off the power of your new Android mobile/tablet and has gameplay that can immediately be recognized even by someone who has never played a mobile game. For the uninitiated, Dead Trigger 2 is a first-person shooter in which you play a survivor of a zombie apocalypse. You have to undertake missions to help out your fellow survivors and also to earn cash to upgrade your weapons and buy new ones. Since the game is so graphically intensive, you may not see the best performance if your Android device is old or underpowered.

Price: Free

Size: Varies according to device

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32 **Steam OS revealed**
Digit builds its own Steam machine and tells you how you can do it too. Don't miss our detailed installation guide.

38 **iPhone 5S vs. Lumia 1020**
If you've wondered which phone has a better camera, this is the definitive camera quality showdown.

Attacknids

Made by a company called Combat Creatures, Attacknids is an apt name for a six-legged, fully remote controlled battle-worthy robot gift for uninterrupted terrorizing fun this new year. There are different type of attacknids to choose from. The predator class of robot toy can fire 12 discs (for missiles) up to a range of 10 metres to either impale fellow humans around you or take out other attacknids, while one other class can fire sniper darts. All attacknids have a 360 degree rotatable head and can be remote controlled up to several feet. These attacknids run on six AA batteries, and as said above quite a good idea as robots to gift or purchase them for yourself. *Price: US $54.99 (each)*



Drool-worthy robots to boost your IQ



Romo

This is a dormant robot dock which comes to life once you plug in your smartphone into it. From a startup based in Las Vegas, Romo is quite an uncanny robot to have around. It's primarily a tank-like base to hook your phone into, and together the Romo robot can do many things. It can detect faces, smile when it recognizes familiar faces, move around the house on its own, and do other cool things through its programmable interface settings. It's controlled over Wi-Fi and supports telepresence, meaning you can control Romo remotely. It can capture video as well. Isn't it cool? Nice little device to have around the house, and definitely a good playful robot to interact with, one that emotes. *Price: US $149.99*

Sphero 2.0

This appears to be less of a robot and more like a baseball. It's a smart ball, and its smartness can be attributed to its robot DNA. Sphero (from Orbotix) is a ball that can be controlled through iOS and Android apps running on supported devices, allowing you to drive it around with finesse and control, and essentially play games in the real world for a change. Drive it around in mud, dirt, water or any other solid surface. But that's not all. Sphero can also be used as a wireless controller for compatible games on iOS and Android devices – like pointing a gun or changing directions through a ball-shaped D pad in your hand. The Sphero robotic ball can also light up, pulse or throb randomly or to the tune of a song that you're listening. Oh and did we mention that you can have a lot of fun with this thing? Just buy it already. *Price: US $129.99*



Are we slaves to our tech?
Who are the masters? Are we just puppets? This feature will make your head spin and not in a good way.



Mac Pro immagery
See the Mac Pro from every angle before you invest your money into it. Here's a good slide show by TechCrunch: **http://dgit.in/mcprpics**

Hexbugs

If you thought the LEGO Mindstorms is too expensive, this one will go a little easy on your pocket. Hexbugs are micro robotic creatures of various shapes and kind. Some of them are remote controlled, while others react to their surroundings and act accordingly. The Hexbug for instance reacts to loud noises and scurries away, while the Crab avoids light through a photodetector and sits in dark corners. The Larva can veer away from obstacles on its own, while the Ant can move faster than others until it bumps into an object and reverses direction on its own. These are just a few, as there are other ingenious robot bugs to check out as well. You can buy each robot hexbug in isolation, but there's a family of hexbugs (including six robots) is available as a special bundle. *Price: US $70*





RC UDI Quadcopter with camera

Admit it: flying drones are awesome, right? If you want to have some fun in your backyard or apartment building's terrace, or wow (or scare!) people in a public park, consider the UDI Quadcopter as a worthy flying robot to buy. Mind you, this is just a basic quadcopter but it comes with a six-axis gyro with posture control, attached camera for shooting videos and taking aerial photos, and a range of 30 metres. You can transfer photos and videos from this remote eye in the sky through a USB port. If you're still unconvinced, check this POV video of UDI Quadcopter in action. Flying robot FTW! If you have slightly deeper pockets, check out the DJI Phantom Aerial UAV Drone Quadcopter which is meant for use with GoPros. *Price: US $150*

LEGO Mindstorms EV3

Seriously, anyone who doesn't like to play with LEGO kits should be sent back to a childhood correctional facility, because LEGO kits are simply awesome. The LEGO Mindstorms EV3 is even more cool and awesome than regular LEGO kits. The Mindstorms EV3 comes with hundreds of LEGO bricks, besides USP items like rotors, sensors – one of which is an infrared sensor for optics or eyes, and remote controls. You can make a Giant Robot replica, motorized scorpion or a serpent, apart from tiny robotic critters – all possible through a programmable EV3 brick which has an ARM 9 chip, sporting 64MB of RAM and 16MB of flash storage for programs. This new LEGO Mindstorms EV3 kit also supports iOS devices, allowing you to use your iPhone or iPad as a controller. This is the ultimate robot gift you could buy for yourself, given its versatility and value. *Price: US $350*





Speedlink Virtuis Keyboard
Watch the exclusive unboxing of the Speedlink Virtuis Keyboard – a German hardware brand **http://dgit.in/slnkvrt**

Snapchat: New Features
Snapchat adds new features ahead of the holiday season, adds smart filters, Replay and more. Read about it on **http://dgit.in/sciosnew**

SteamOS
A detailed look

Valve's very own linux fork for the upcoming Steam console has been released to the general public and we take a good look at the inner workings of the operating system.

Mithun Mohandas
readersletters@thinkdigit.com



Steam is pretty big in itself. It's the most popular game distribution platform and has close to 6.3 million concurrent users at peak hours but the overall accounts on steam far outnumber all other platforms combined. The client works on Windows, Mac and Linux. However, the games supported in Mac and Linux aren't that many but with the standardisation that steam brings to the picture we'll be seeing the change happening soon and hopefully AAA titles will start making Linux ports as well.

What is SteamOS?

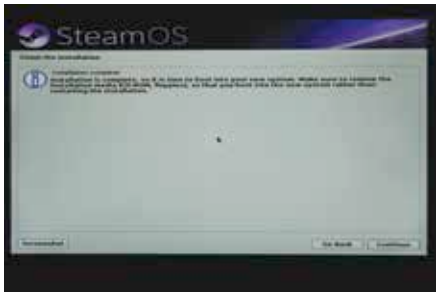
So with all the hullabaloo around the introduction of the eighth generation consoles by Microsoft, Sony and Nintendo there was a little announcement by Valve in September this year. The first was about SteamOS then came the one about Steam Machines and finally about the Steam Controller. The three are obviously linked together and here's how.

The Steam Machine is Valve's answer to consoles except for the fact that anyone can make a Steam Machine. You don't have to go out of your way and buy a console all you need to worry is about getting the configuration high enough for playing whatever game you want to.

SteamOS is simply the operating system which is designed to run on Steam Machines. It is a Linux fork so pretty much every device under the sun will be supported without the need for fussing over driver issues. However, the only place where there is a slight drawback is that the drivers for Graphics cards have been a persistent issue as far as Linux is concerned. But Valve has been working with NVIDIA to get that sorted at currently only NVIDIA cards are said to run the games but since it is Linux we're talking about we don't need to worry since third party drivers exist.



Choose the automated install



Once installation is complete, let it reboot

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HTC Desire 400
The HTC Desire 400 is a dual-SIM smartphone with 4.3-inch display. Read more about its features: **http://dgit.in/htcd400**



Xolo Q3000
A new Xolo 5.7-inch phablet, dubbed Q3000, has been spotted on online marketplace flipkart.com **http://dgit.in/xoq3000**

The Steam Controller is one that has been built for Steam Machines. Normal controllers will still continue to work but these are what Valve hopes will be used by game developers and offers a little extra compared to other consoles.

Make your own Steam Machine

The simplicity of making a Steam Machine is the pivotal argument. Since these are basically assembled computers you don't need to worry about sending the Steam Machine to Valve for warranty claims. Not to mention most products that come together to form a personal computer carry anything from three to ten years whereas all generation eight consoles only come with one year warranties with paid extended warranty programmes. So every major city and every little town with a computer shop sells the components needed for your Steam Machine.

Valve has shared what it believes should be the ideal configuration for the Steam Machine, however, the base requirement for installing SteamOS is much lower. Some 300 prototypes of the Steam Machine have been shipped out with the following configuration:

- GPU: NVidia Titan / GTX780 / GTX760 / GTX660
- CPU: Intel i7-4770 / i5-4570 / i3-3xxx
- RAM: 16GB DDR3-1600
- Storage: 1TB/8GB Hybrid SSHD
- Power Supply: 450W 80Plus Gold



All your other OS will get wiped clean, so use a new hard drive



This is what the inside of a Steam Machine prototype looks like

This is where some of you will have had their eyeballs pop out of their sockets. This configuration can cost over ₹1,25,000/- (GPU: ₹75,000 + CPU: ₹23,000 + RAM: ₹8,000 + SSHD: ₹6,000 + MOBO: ₹8,250 + SMPS: ₹5,000). But this configuration is more powerful than any console out there and should be more than sufficient for roughly five years. And if graphics are scaled down to what consoles usually depict, bump the time period (that the device can play games at 1080p) to over a decade.

A recent teardown by iFixit has revealed the configuration of one of the prototypes and by the looks of it, we can replicate the same configuration using parts from the Digit Test Centre.

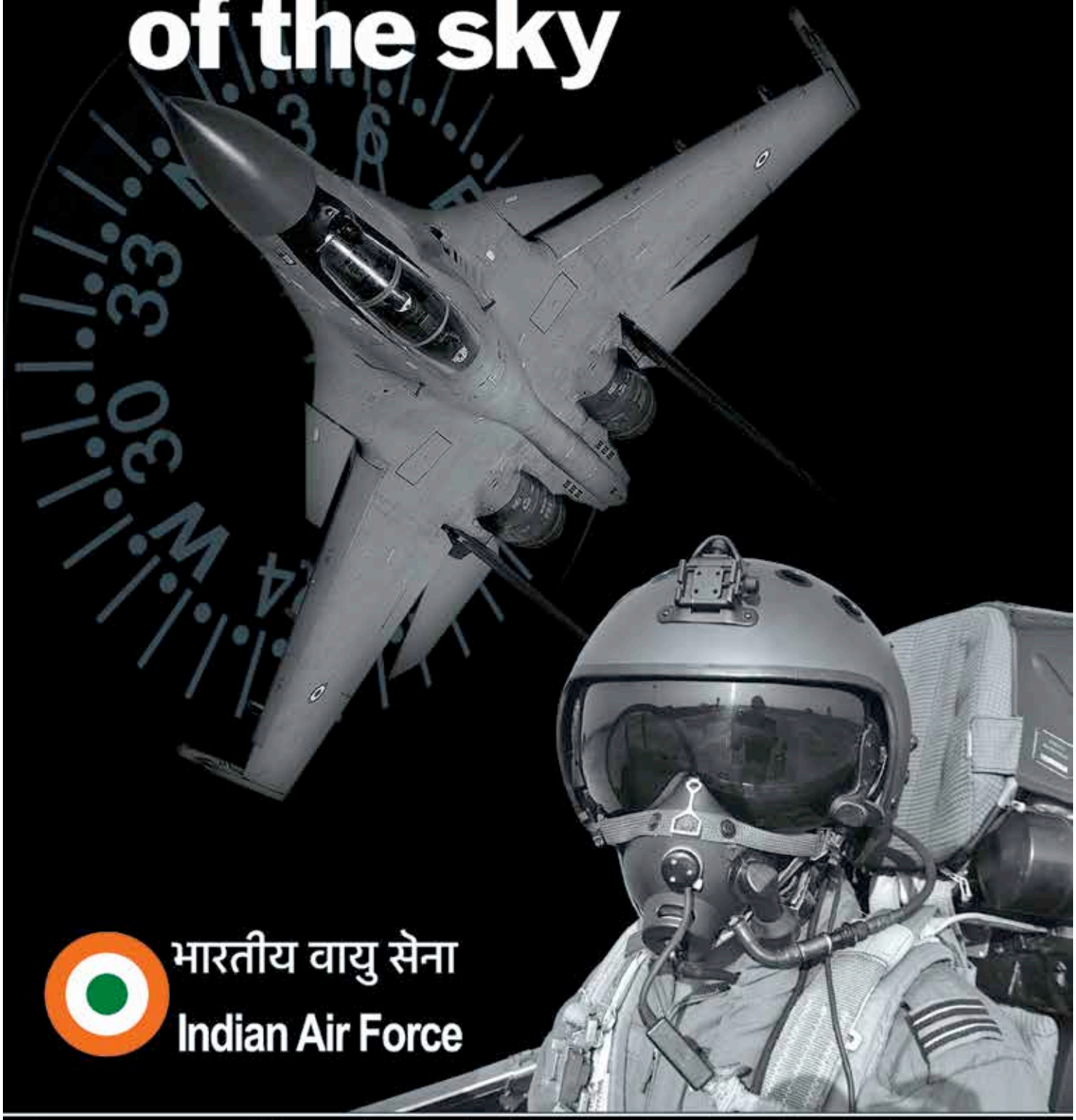
The components we used include an Intel Core i5 - 4570 processor seated on an ASRock Z87E-ITX motherboard with 8GB of Crucial Ballistix RAM clocked at 1600MHz. The graphics card is a ZOTAC GTX 780 and for storage it has a Seagate 1TB SSHD which has 8GB of MLC NAND which acts as a cache. The power supply happens to be a Silverstone SFX 450W 80 Plus Gold power supply. The components make for a high end PC configuration capable of playing games at maximum settings for a long time to come. The entire machine quite compact since the graphics card uses a riser card to extend the PCI express slot sideways onto which the graphics card is placed. So we went about scouring for components and managed to find a few that matched the configuration exactly. We found way better components than what's there in the Steam Machine but for the sake of making a similar configuration we stuck to what was most similar to Valve's console.

We finally settled on putting the following together

- Intel Core i7 - 4770K
- ASRock Z87 Extreme4
- Kingston HyperX 8GB @ 1600MHz
- Seagate 500GB SSHD
- NVIDIA GTX 780 Stock card
- Corsair RM650 SMPS
- Stock Intel cooler

The PCIe x16 riser is optional and only needed if you are going to use a cabinet with a similar form factor also till we get further information about the controller and how it works, we'll have to stick to the keyboard and mouse though the Xbox Wired controller can be easily used with a Steam Machine.

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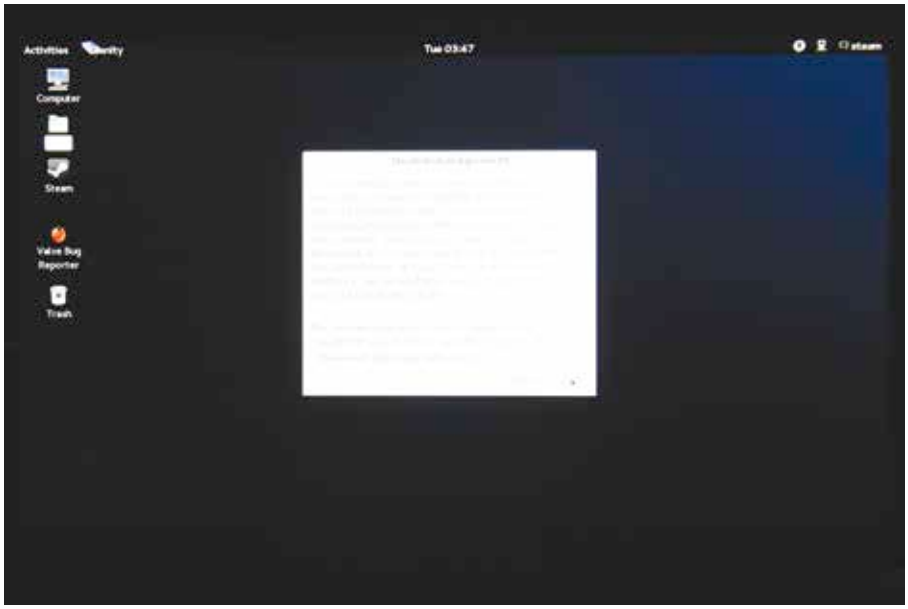


Nokia Asha Releases
New Nokia Asha phones range between ₹4,499 and ₹6,799, and are targeted at the entry-level segment. **http://dgit.in/nash5**

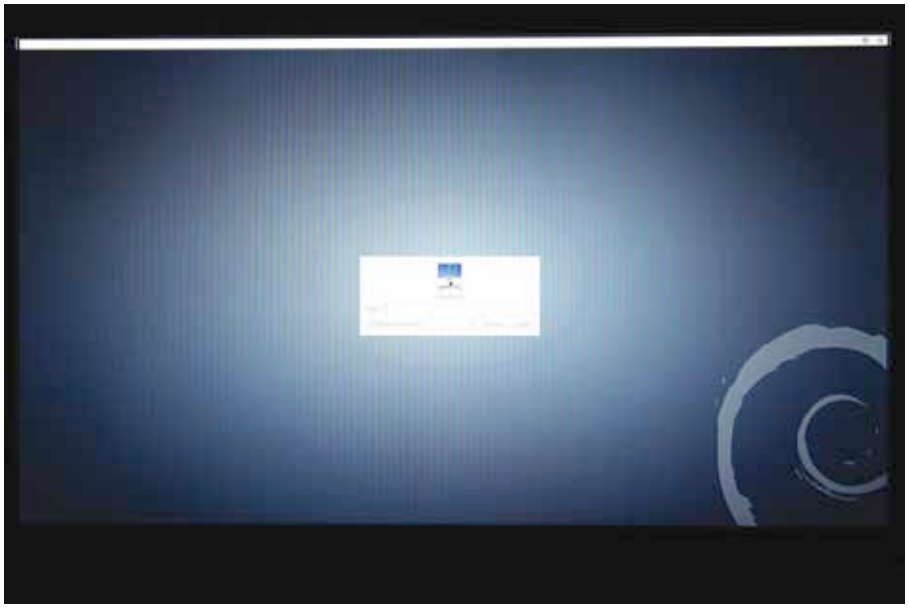
Elbow grease time!

1. Grab a flash drive and download the Clonezilla disk image (http://repo.steam-powered.com/download/) for SteamOS if you are using a 1TB hard drive. Otherwise get the installer files which is roughly a GB in size.
2. Format the flash drive to a FAT32 filesystem and then copy the contents of the SYSRESTORE archive onto the flash drive and then boot off it during reboot.
3. It is advisable to select the boot option that has UEFI mentioned in it.
4. If you downloaded the Clonezilla image then you'll be asked to restore the image once you boot off the flash drive. Do so and you should be done in about 15 minutes.
5. If you downloaded the installer then you can install SteamOS on any sized hard drive. We've tested it on a 120GB SSD without any problems.
6. Like the previous installation method, copy all files onto a FAT32 formatted flash drive and boot off it.
7. Select automated install if you aren't comfortable with a Linux setup or you can choose the advanced settings to make any adjustments.
8. Currently you are not provided with the option to tweak the partitions so all your data on the hard drive will be lost if you install SteamOS on it using either method.
9. The installation is fairly simple and only takes 3-4 steps after which the computer reboots.
10. Once done you will be shown the GRUB bootloader to choose your OS which will be SteamOS since everything else will be wiped clean.
11. Login using the credentials (id: steam, password: steam) and then you'll see the Steam Icon on the desktop, run it and accept the EULA and let it download and update the client.
12. Log off and login again. This time use the following credentials.(ID: desktop, Password: desktop)
13. Open a terminal window by clicking on Applications in the top left corner and then select terminal.]
14. Type in the following without the quotes, "~/post_logon.sh".
15. If the terminal throws some error message at you then repeat type "sudo" followed by a space and then retype "~/post_logon.sh" and press enter.
16. The script performs a little housekeeping and fixes some of the settings. Once done it will reboot and ask your permission to create a recovery partition. Acknowledge the request by pressing "y" and then reboot into your SteamOS installation and login to your Steam Account.
17. You are done with the installation and you now are a proud owner of a Steam Box. Currently, only NVIDIA graphics cards are supported completely though any card should work fine in a Linux environment.

Steps 5 through 17 are needed only for the installer. The Clonezilla image does all this for you so that you don't have to go through the hassle of fiddling with the settings of what we'd guess to be an environment alien to the majority of PC users, but Digit readers are a different bunch.



The EULA comes first before proceeding ahead



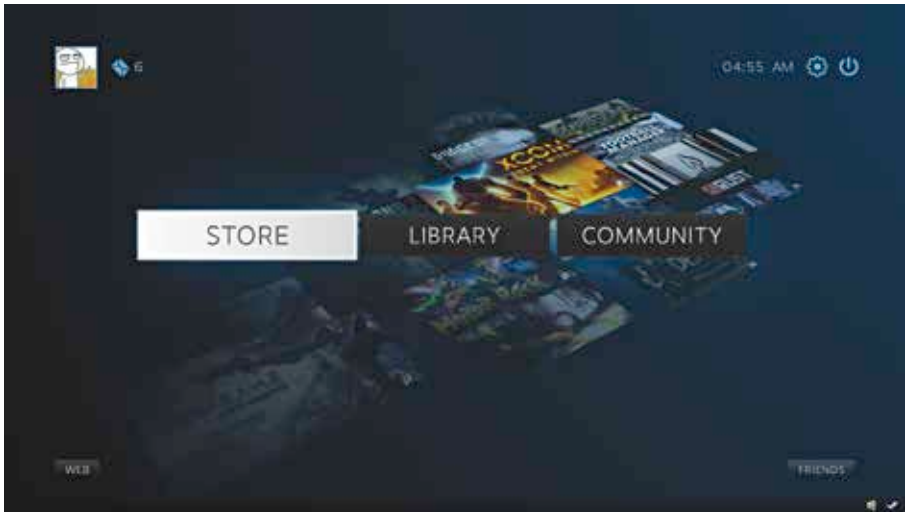
Login to the "steam" account first and later into the "desktop" account



The basic set of applications that come with the SteamOS distribution



After letting the Steam client update for the first time you need to log off and run the script



The final interface is nothing but the Big Picture Mode

SteamOS - A repackaged deal

The OS is basically the Steam client installed on a Linux distribution. More specifically, the distro is Wheezy based on Debian. It's lightweight and Debian is one of the most stable Linux distros out there. The account on which you'll be primarily login to has been configured to open into "Big Picture Mode" by default. Only logging into the "Desktop" account will allow you to fiddle around with the Linux distro underneath it all.

The requirements needed to run the operating system itself is fairly lean. The high end configuration is only to make AAA titles look as good as on the PC. The bare requirements are as follows:

- Processor: Intel or AMD 64-bit capable processor
- Memory: 4GB or more RAM
- Hard Drive: 500GB or larger disk
- Video Card: NVIDIA graphics card (AMD and Intel graphics support coming soon!)
- Additional: UEFI boot support
- USB port for installation

You can easily install SteamOS on a low-end configuration as well. The catch is that high end games will be a pain to enjoy but majority of the games under the Steam Linux section are casual so it wouldn't matter when it comes down to getting a decent frame rate. You can enjoy all the casual games till the AAA titles make it to Linux.

SteamOS is a refreshing change and is bound to bring some drastic change to the gaming ecosystem which has been more of a windows platform exclusive phenomenon. Already Valve has ported Dota and TF2 to Linux and hopefully in the future ..cough..Half Life 3...cough.. as well will make an appearance on Linux.

And if you are comfortable with fiddling around in Linux then by all means modify and make your own distro. Be sure to let us know, who knows, we might even cover your distro if it is better than the current beta. Take a look at the SteamOS slideshow in which we look at the installation process in further detail online at http://dgit.in/SteamOSfl.



Moto G 4.4.2
The Moto G is receiving Android 4.4.2 update, just weeks after it was launched. The update is available OTA. **http://dgit.in/motog442**



Acer Iconia W4
Acer Iconia W4 Windows 8.1 tablet launched in India, starting at Rs. 24,999. **http://dgit.in/JNTER0**

IPHONE 5S vs. NOKIA LUMIA 1020:

The Definitive Camera Showdown

The iPhone 5S or the Lumia 1020? Which is the superior camera? You think specifications are all that matter? Well, we're putting it all to the test!

Swapnil Mathur
swapnil.mathur@thinkdigit.com

The iPhone has been a game changer ever since it was introduced and even though the pace has considerably slowed down since, it is still the most sought after mobile phones in the market. One of the areas that it really made an impact was imaging. Up until the introduction of the iPhone, photography was the domain of actual cameras, but since its inception, the iPhone has become the defacto camera of choice for many across the world. Then Nokia changed the game again with the PureView 808, and then again with the Lumia 920 and no with the Lumia 1020.

The Lumia 1020 is a 41 megapixel shooter, courtesy of a much larger sensor complimented by Zeiss optics with optical image stabilization.

The iPhone 5s has none of that. It has an 8 megapixel sensor with a slight increase in sensor area. It has a fast f/2.2 aperture lens, which the Lumia 1020 does as well. So which of the two is better? We set out to determine just that.

Note: All iPhone 5S images are placed on the left while the ones on the right were shot on the Lumia 1020. Stock camera apps were used on both the phones and shot on auto, unless where mentioned.



Like: The iPhone's accurate white balance. The 1020's Bokeh!

The left image (iPhone 5s) is clearly a much better balanced image than on the right, which was shot by the Lumia 1020. We used the full resolution file from the 1020, which was downsampled to 8 megapixels before making the 100% crop, which you see on the top right corner. In terms of sharpness, both the cameras seem to be on top of their game, although the 38MP file from the Lumia 1020 does harbour far more detail. The larger sensor also lends to a more pleasing bokeh, but the white balance seems to be completely off.





Like: The Lumia 1020 is SHARP! The iPhone has better contrast

Once again, the lower contrast levels of the Lumia 1020 are present, but the centre crop shows that the Zeiss optics are totally dominating the iPhone's lens. The crop shows that the Lumia 1020 renders a much sharper image, something to be quite mindful of.





Shooting in low light, good with both cameras!

This is oil on canvas and as you can see from both the shots, the 100% crops are rather devoid of the canvas texture. However, what is evident is that the Lumia 1020 shot has lesser noise, while the one from the iPhone 5S shows a little bit of grain. We explore more low capabilities in a few moments.

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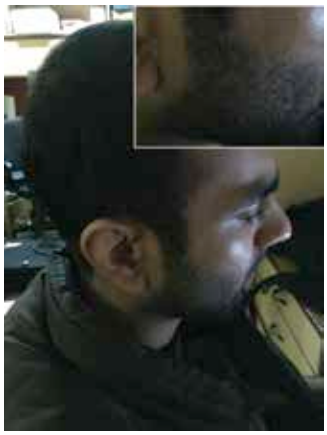
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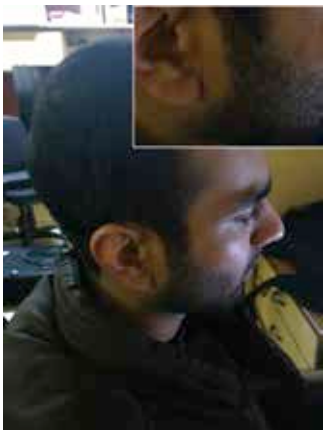
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Like: Iphone's level of detail even in tough conditions. Lumia 1020's overall sharpness and dynamic range

One of our colleagues being lit mostly by the light from his laptop. The iPhone shot seems to be more colder (and accurate) in white balance than the Lumia 1020 shot. It also seems to have retained more detail in the blacks, as you can see in the bottom edge of the 100% crops. The facial hair is still discernible in the left shot, but not so in the Lumia 1020 shot.





Like: The detail from both cameras!

Going all out, we went out! Bad puns aside, a lot of us shoot outdoors under the harsh light, so to that end, we see that while the iPhone 5S shot has a slightly warmer tone, it has a richer saturation that the Lumia 1020 (and more contrast too). The 100% crops on the top right corner are of the tree leaves and from what we can tell, its rather impressive that both these cameras are able to clearly capture this fine level of detail.





Like: The Lumia 1020's accuracy of exposure. The iPhone's sharpness.

This shot was shot under shadows, but during the day. Both the phones were set to focus and meter according to the orange flower that stands the tallest. As visible here, the Lumia 1020 did a much better job of nailing the exposure and white balance as we start to see some detail get lost due to over saturation on the iPhone shot. Also notice the bokeh, where the leaves in the pot of the Lumia shot are blurred, while the ones from the iphone shot are not. The larger sensor shines here and in a few other places that we'll talk of later.





The iPhone shot is brighter, but the Lumia 1020's is overall more pleasing

Clearly, we love shooting flowers, since there seem to be so many of so many kind all over the city! We found a little patch by the road just around sunset and took this photo. It would seem that in order to compensate for the light and colour, the iPhone warms up the image, while the Lumia 1020 retains its cooler tones. We, quite frankly love both the shots, the Lumia's for its soft out of focus bits and the iPhone's for its crisp colours.





When the light ges difficult, the iPhone tends to take on warmer tones, unlike the Nokia Lumia 1020

The reds, pinks and the greens are so well complimented by the Lumia's ability to maintain the correct white balance even in the not-so-ideal lighting conditions.

The iPhone, on the other hand, has seem to have done a better job at metering the correct exposure. Something we have seen consistently in at least 90% of our shooting time with the phone.

So here, too, the choice depends on your own personal usage of the phone's camera, not to mention your own taste in colour. Some people may just prefer a warmer tone of the iPhone over the cold bluish tone of the Lumia.



Twitter Trends 2013
Twitter announces trending topics in India-Bollywood, Cricket and Disaster top the list in 2013. **http://dgit.in/twttrnds**

Vodafone Music
Vodafone takes on music streaming services and apps with its new Vodafone Music. **http://dgit.in/vodmzk**





Shooting in pitch dark, the iPhone 5S does a better job at AF

Shot in absolute dark, a signboard in one of the residential colonies. While taking this photo, we had a very interesting revelation. The AF on the iPhone actually managed to lock onto the text on the sign (that's where we told it to focus) despite thje fact that the screen showed nothing. The Lumia 1020's screen was also blank due to the darkness, but it needed the AF assist lamp in order to lock focus (it just didn't focus without it!). As for the image, the Lumia 1020 shot its image at 1/3 seconds at ISO 4000 while the iPhone's was at 1/15 seconds at ISO 2500. Despite that stark difference in ISO levels, the Lumia 1020's image seems to have lesser noise than the iPhone's, but that isn't to say the iPhone's image is bad. If it wasn't for the overtly strong orange tone, the iPhone would have been the winner here.





Like: iPhone managed a crisp shot despite not having OIS. The Lumia 1020 on the other hand...

Another low-light shot illuminated by a small CFL lamp 20 feet away. Both the cameras were instructed to focus on the nose. The iPhone's image is not only well-exposed (actually just slightly over, but that is ok) while the Lumia 1020's image is underexposed. Worse yet, it seems like the optical image stabilization was of no help as the camera shake is evident on the shot on the right.





Like: The Lumia 1020's ability to retain blacks, the iPhone 5S's optics that curtail halo and flare

This shot was taken to determine how the two cameras would handle strong sources of light placed just outside the frame. The bookshelf (yes, that's what it is) was lit by a very bright 23 Watt CFL lamp just 15 inches above it. As you can see, the iPhone totally kills the blacks in an attempt to bring out detail, while the Lumia 1020 retains the smooth blacks on the drape. However, the Lumia 1020's optics are susceptible to the halo effect (and even flare in some condition), but the iPhone 5S seems to be somewhat impervious to such artefact.





A Flower arrangement shot at a wedding, being lit by those ugly purple-red-blue kind of LED lamps. Again we see in the crop that the Lumia 1020 has lesser noise than the iPhone, but we also see that the iPhone shot is just slightly brighter than the Lumia's. The Nokia device seems to have a sharper image though,





Like: BACON

Yes. Bacon. Everyone loves it. Both shots are simply amazing, because they have bacon as the subject. Bacon, Bacon, Bacon. Actually this test is kind of redundant, because seriously, is it even possible to photograph bacon wrong? Look at it! The texture, the colour, the beauty in every curve – every little detail of this scrumptious delight highlights its incomparable beauty and makes even the most staunch dieter's mouth water in anticipation of what comes next.

Excuse me. We skipped breakfast. We'll be right back.





The Lumia 1020's bigger sensor shows off its superior dynamic range

The best show of the Lumia 1020's large sensor's capabilities. As you can see the shot for yourself, you will notice that the shadow areas have far more detail. That is due to the fact that the larger sensor on the Lumia is able to capture far more dynamic range than what the iPhone 5S is capable of. Does this make the iPhone 5S a bad camera? Well, do you think the image on the left is bad, because we sure don't think so!

Conclusion

After using the iPhone 5S and the Lumia 1020 side by side for a lengthy period of time, we have come to the conclusion that both cameras phones have their strong suites and weak points.

The iPhone's optics seem to be better than that of the Nokia 1020 in most conditions, with better visibly and corner sharpness. It would also seem that the white balance on the iPhone is great under harsh sunlight, but tends to be a little off when the light goes down. The Lumia captures great detail for a camera phone and stands quite undefeated in that arena, but the camera is as slow as a tortoise and so very frustrating to use!

Both the iPhone and the Lumia 1020 spit out excellent images. So we can safely conclude that the 'better' phone is more of a personal opinion than anything else.

However, what remains clear is that the iPhone 5S will nail the shot at least 95% of the time.

The Lumia 1020's camera requires tweaking and a lot of patience and any burst capabilities are out of the question. Also, do you really NEED 38 Megapixel images when you easily make do with 8 Megapixel ones?

Bottomline: Choose your camera phone according to how you use the camera on your phone





Sony's latest offerings
Sony now rolls out Android 4.3 update to its relatively old devices. Find out which ones. **http://dgit.in/sonyxpe**

Gionee E7s tested
Here are the benchmark scores and photos of the Gionee ELife E7 and the ELife E7 Mini

Technology addiction: Puppets to our own creation?

Are we slaves to our own technology? Sometimes it's difficult to tell who's master who's the slave. Read on for a meta report on the way things are going currently.



Samir Alam
readerletters@thinkdigit.com

Humanity has never had it this easy. The internet has an answer for every question. Smartphones help us navigate so we are never really lost. Even the leisurely decisions like discovering the best of books, music, art, education, careers and life partners can be found with just a few clicks or taps of a screen. And with wearable technology like Google Glass and Oculus Rift, we can be constantly connected to all that information - sedately immersed in the assured comfort that we can know anything, anytime, anywhere.

Wait. Just one second. Did you feel that? I think a phone just buzzed. Or wait. Maybe it was yours. Better check - just to be safe. Sound familiar? Don't panic.

The phantom phone phenomenon is more common than you think – according to Pew research more than 66 percent of cell phone users compulsively check their devices for missed calls, alerts, messages even when it's not ringing or buzzing. Users are also consuming four times as much information as fifty years ago, checking their phones on average 37 times per hour, consuming 12 hours of media and viewing over 40 websites per day.

So, are we really in control of all that information or are we just puppets being strung along by the digital powers that be? OK, maybe we should panic.

Frankenstein lives!

Nearly twenty years ago, the internet was a niche tool designed for cutting-edge academia in select nations, that went on to become a medium for people across the globe to wonder "sometimes i wished i was white so i can understand doctor who" (seriously, Google it).

And even though the effects of other technologies have been studied, as in the case of electricity, radio or television - never before has any technology found such an intimate relationship with users in such a short period of time. The internet, smartphones and tablets have gone on to become the most popular technologies faster than any other in history, achieving in less than 5 years what took electricity nearly 40.

This remarkable shift has had many benefits to humanity. From entertainment to health-care there is no aspect of modern society untouched by the vast expanse of services provided by internet technology. And companies like Facebook and Google have become the hegemons of facts, information and even personal taste - a Frankenstein like Chimera of our own making, evidence of our own indifference to how we are used on the web by corporations.

Scientists have already begun to research changes in the way people think and behave when exposed to the bombardment of emails, tweets, social

media messages, online advertising and other online stimulants. The ability for the mind to focus diminishes with longer exposure making us a slave to the dopamine (pleasurable neurotransmitter) excitement received every time we see an alert seeking our attention. In essence making us addicted. Are we the masters or the puppets?

And as Google registers our location via our phone or profile information it presents results it considers relevant to us. That makes our life more convenient. When we're looking to shop online, websites like Amazon process our past buying behaviour and present us with options suited to our tastes. That makes our decisions faster. At every step technology steps in to save us time and energy. And we love it.

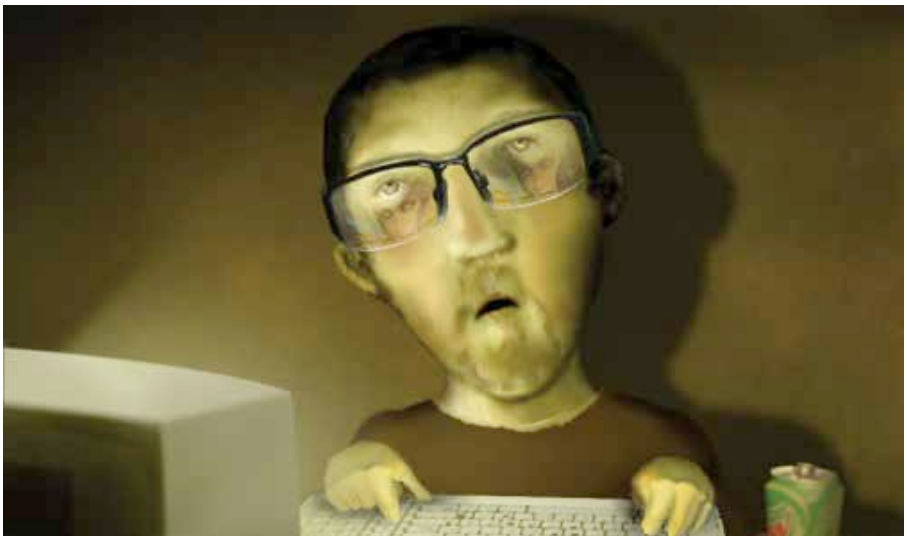
The cycle of rationalisation is complete. We're not addicted, we just need it.

Puppets to our own system

The world as we know it is now wired to work with us on the grid. Technology in all its forms is leveraged in visible and invisible ways to make life easier, faster, more productive and far more appealing online. Even if it is at the cost of safety and privacy.

Case in point: a network failure can collapse an entire power grid for millions of people (Northeast Blackout of 2003 in the United States), a software glitch can get people killed (South African robotic cannon accident of 2007) and social media websites can track and leak personal data (Facebook "shadow profile" leak of 2012) but aren't these just occasional accidents in an otherwise upward trajectory of progress? Maybe.

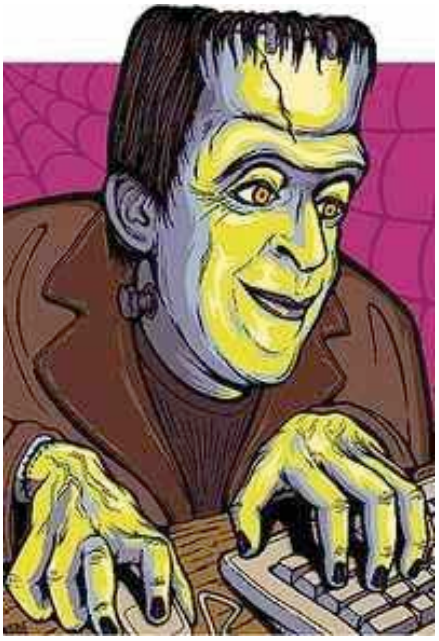
The advent of electricity was followed by a generation filled with the intellectual battle between Edison and Tesla, which eventually gave birth to modern power. And even the computer age saw its detractors, who doubted if there was even a market for personal computers, We shifted technology from an intellectual exercise with commercial benefits into a purely commercial one – with the belief that consumers would pick that which served the highest utility. Perhaps naively forgetting that adage that holds true above all else on the internet – an individual is smart and intelligent, but people are dumb as a sack of doorknobs.



Humans? Nah! Not a chance. We are nothing but a blob of flesh in suspended animation.

Understanding our own monster

As has been true in history, a handful of people have often times created the most tectonic of shifts in human history, while the rest have benefited off it without realising the significance of the discoveries. How many of us can clearly explain how fire functions? Or explain the basic theory of electricity? Or even the difference between a UNIX kernel and a Microsoft's hybrid kernel?



These fundamental cornerstones of our day to day existence still escape simple understanding among the general public. And it is the taste and preferences of the general public that technology companies rely on to lead technological innovation! Carl Sagan once said, "We live in a society exquisitely dependent on science and technology, in which hardly anyone knows anything about science and technology." This statement has never been truer.

In addition to this ignorance we are overwhelmed with the avalanche of information that is out there. Companies like Google tell us that they are working to make our online existence easier by organising and curating all this information using algorithms. These algorithms as we know run on computational mathematics applied to a vast number of data points in real time to connect us with the right content. In other words, doing our thinking for us.

Filter bubble: Escaping the gilded cage

Most users don't even consider the vast amounts of information hidden from them as they navigate the web using Google. Attempting other search engines (try DuckDuckGo) can give us a shocking and uncomfortable insight regarding the



Most Stolen Camera
Any guessing which DSLR camera is stolen the most, worldwide? Take a guess, then go read he article:
http://dgit.in/1bfQ5bV



Nokia Lumia 1520
Check out the Digit slideshow of the Nokia Lumia 1520 online if you intend to buy it.

extent to which we are denied different parts of the web.

Even browsing through our Facebook news feed is a controlled experience. By observing, tracking and storing our click-preferences over a period of time, Facebook algorithms would only present information that it thinks we would like – an edited fragment that would give us the illusion that the world we're a part of is exactly attuned to our views. This phenomenon of living in a bubble (read: *The Filter Bubble: What the Internet Is Hiding From You* by *Eli Pariser*) is no different than zoo animals who become so acclimated to captivity that the wild becomes a threat to survival.

Stop to smell the unintended consequences

Growth has a cost and it is called "unintended consequences". We know that. But none of these setbacks have hampered the drive to move forward. They have only served us lessons on how to



do so with greater care and caution – but only if we remember our past.

Just as this story was being written Google bought an advanced robotics company (Boston Dynamics) which has military contracts. Other companies like Intel are already exploring quantum and molecular processors that have the ability to break Moore's law in half. And in August the University of Washington discovered a way for a non-invasive human-to-human brain interface which



"Connectivity issues in the grave. Can I please update my FB status from here real quick?"

allowed one researcher to transmit brain signals via the internet to control the hand motions of another researcher.

Try not to be distracted by the slick user interface, the easy user experience and the immediate gratification that the system is designed to provide – in many cases by sheer force of personality (Steve Jobs circa 2007). Think and look at how the convergence of disparate technologies – in computers, robotics, biotechnology, medical sciences and even agriculture are headed towards the potential for immense fallout of unintended consequences. Combine that with the already widespread ability of algorithms made to do our thinking for us and we're left with a perplexing thought – is all this going to better humanity?

But who decides what's better anyway? Is it intrinsically better to live in sanitized environments? To rely on automation for our basic needs? To live unusually long lives thanks to technological advancements? It may seem obvious that the answer to all these questions is YES, but consider for one moment that the future can take many forms; the near egalitarian harmony of 24th century Starfleet or the ancient cruel hegemony of Battlestar Galactica. Only our level of engagement decides which one it will be.

Our own way forward

To substitute consciousness, chaos and choice with the safety of algorithmic determinism are surely the decisions of a coward and a fool. The capacity for humans to learn from an iterative evolution of thought is unparalleled by any technology. In terms of sheer energy efficiency the human brain consumes only 20 watts per hour as compared to IBM Watson that consumes 350,000 watts. So far, we're still winning.

But more than that, even in its highest possible form (A.I's like Watson, Chinook, Quackle) technology can't evolve a separate ethics, morals and cultural norms. It is rigid and takes its cue from its "maker". And even though 95 percent of humans believe in a "maker" (see: god) of their own, they're free to disobey and rebel – would we be willing to extend the same ability to our silicon counterparts?

Unlikely. Since the unthinkable result of doing so is that all the data, analytics, intuitive programming, geo-location information, behaviour predictions and personal data attributes might end up in the hands of a future Skynet or worse an elite group of humans. There is no way to really know for sure. But there are surely some signs.

The human imagination can foresee its own flaws through its art and culture, and for technology, science fiction has always been an honest expression of our fears. The one thing it has taught us is that a unilateral dependency on technology that dismisses the core of humanity is fraught with failure.

As is evident from the arguments so far – the discussion over how deeply tied we are to technologies isn't filled with as many answers as it is questions – but that is the freedom we enjoy in the absence of machine control. And we can only discover answers, if we explore the world around us and not be slave to our digital avatars.

worldview

OUR PICK OF THE BEST TECH ARTICLES FROM AROUND THE GLOBE

(MUST READS)

WEARABLE: THE NEXT WAVE

Is going to seem stranger than fiction. Entrepreneurs are planning to wearable computers into basic accessories, like fingernails, eyelashes and makeup. Largely prototypes, let's hope these devices debut in the market soon enough.

http://dgit.in/codableglitter



MEET THE AVEGANT GLYPH

Part Google Glass, part Oculus Rift and part Beats by Dre, it's a virtual reality headset made for the mainstream. An abomination, you say? Well maybe not. Take a look and decide for yourself.

http://dgit.in/wwglyph

7 BOOKS BILL GATES THINKS YOU SHOULD READ

Bill Gates, as busy as he is, still finds time to not just read book but review them too. He often puts up reviews on his site and this year he's come up with a list of his favorites from 2013. Each of the books on the list taught him something new he says.

http://dgit.in/billreads

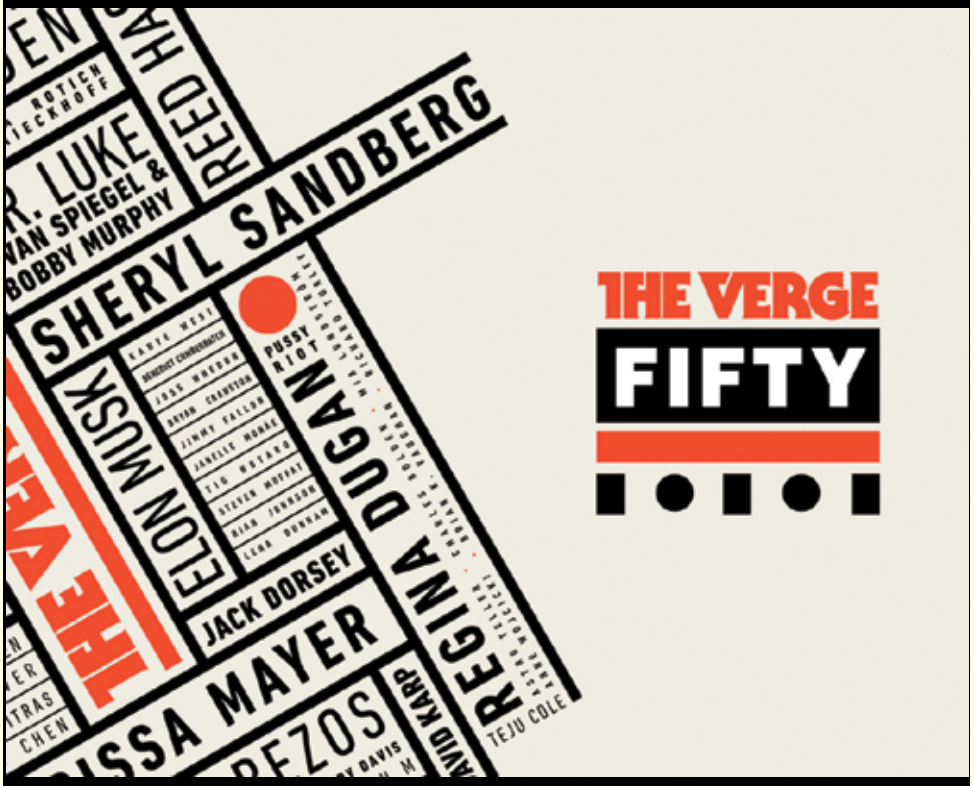
50 APPS TO INCREASE PRODUCTIVITY

Get the most out of yourself and your time with these productivity and efficiency apps for mobile devices, desktop computers, and the Web. If there's a task to be done, rest assured there's a piece of software aiming to help you do it faster, cheaper, quicker in this list.

http://dgit.in/50prod

[Verge Corner]

THE VERGE 50



This list covers the tumultuous year that's gone by through the eyes of the people who made it all happen. Meet the dreamers, the informers, the noisemakers, the entertainers, the world changers, the old guard, and the next wave that make up the Verge 50. http://dgit.in/wwvrg50



Cubli: Not so square

Cubes aren't usually the go-to shape when creating an object that's meant to move around, but researchers in Switzerland have created one that can do just that – along with a handful of other surprising talents. Alien tech? What do you think?

http://dgit.in/wwcubli



Rise of the machines

Verge goes inside the secret robot lab that's shaking up science. Understand why Transcriptic is turning lab work over to the machines (and shudder in fear?). These are the first steps towards industrializing science. The possibilities are limitless.

http://dgit.in/sccibots



How to steal Bitcoins in three steps

Covering everything from copying the keys to getting away with it, this Verge feature gives us a glimpse into the dark world of bitcoins. Make hay while the sun is shining or more like make dollars while the digital market is still liquid.

http://dgit.in/wwchor

SHORTS

CAN LOVE CONQUER ALL?

The film Her, which should be out in theaters by the time you read this, tells a love story between a man and an operating system. Can a human actually fall in love with a computer? It may seem far-fetched, but researchers say it's plausible.
http://dgit.in/louOS

SECRET NAZI WEAPONS



Underwater missiles that could have hit New York, jet-powered bombers that were nearly impossible to intercept, sub-orbital bombers, vertical launch rocket fighters, or infrared visors are just a few of many in this definitive collection of incredible Nazi weapons.
http://dgit.in/ww2nazi

BOO HOO! 2013'S BIGGEST TECH FAILS

While we bring you the 13 biggest tech fails of all time in our Escape Section, PCMag has compiled a list of this year's worst. From SimCity to Adobe, here are some of the most memorable face palm moments from the year that saw one too many goof-ups.
http://dgit.in/wwfacepalm

COULD WI-FI BE SILENTLY KILLING YOU?

An experiment by a handful of high school students in Denmark has sparked some serious international interest in the scientific community. They placed six trays of garden cress seeds next to Wi-Fi routers and few in a routerless room. The results were devastating:
http://dgit.in/dethwavz

Nokia Lumia 1020 as a camera: Love and hate

We've been using the Nokia Lumia 1020 for over a month now and after getting so intimately familiar with it, here are 5 reasons why you should love the phone's imaging capabilities, along with 5 that would make you want to pull your hair out - By Swapnil Mathur

Over the last month, we've found quite a few things to like about the phone and some that we just didn't enjoy. Here they are, for anyone looking to buy the phone, or if you're someone who's looking to get into bar fights about why the phone is (or isn't) terrible.

Love: Giant sensor with OIS

Let's face it, the 41MP sensor and the optical stabilization have set the Nokia Lumia 1020 apart from every other camera phone in the market, at least in terms of pure specs. The level of detail captured by the sensor is astounding and the f/2.2 lens coupled with optical stabilization really help augment photos shot in low light. The OIS is especially helpful when shooting videos in moving vehicles.

Hate: The need for space

Every time we shot a full resolution image, we ended up committing roughly 25MB of space to it. Now if you're a photographer who loves documenting everything, you'll be running out of space really quick as the Nokia Lumia 1020 has a cap of 32GB on storage. There is no possibility of expanding storage as there is no MicroSD slot either.

Love: Built like a tank

The Lumia 1020 is a full polycarbonate body built with real precision. It is impressively slim and light, along with sporting Corning's Gorilla Glass2. It slides into pretty much any pocket. Snug fit.

Hate: Slow (yawn)

The camera, which is the star of the show, is incredibly slow. When you press the physical shutter button to wake the camera up, it's going to be at least two seconds before the camera is ready to fire the shutter. That's two seconds too late, and this is regardless of what app you are using. Then once it has take the first shot, it must write the contents to memory, during which time, the camera becomes unusable.



Love: The camera grip

No camera is ever complete with a grip that makes it easy to use. Nokia felt that to be true and thus created a case that doubles up as a camera grip with a proper shutter button, that triples up as extra battery.

Hate: Oh no, you got fat!

The camera grip for the Lumia 1020 is bulky and if you snap this puppy on, you're going to have to dedicate an entire pocket just to the phone. Not just that, but the phone also gains some serious weight.

Love: No apps needed!

We loved the fact that in order to leverage the full potential of the camera in the Lumia 1020, all we had to do was use the built in Nokia Camera app. No need for any third party camera apps of any kind. The default app puts every single control right at the shooter's fingertips and if you want to go all auto on it, you can do that too!

Hate: The battery

The battery feels like the weakest link in the Lumia 1020's build. A built in 2000 mAh battery is clearly not enough and even with the additional juice provided by the grip, the phone barely lasted us a day.

Love: Insta what?

Everyone keeps complaining about how there is no "Instagram" on Windows Phone. Although this changed recently with the Instagram client finally making its debut, the truth is, there have been several really amazing Instagram Clients available on WP8 for ages. 6Tag and Instance offer more features than the actual Instagram client.

Hate: Costs a kidney

The real pincher comes when you realize that the Lumia 1020 is running on the same hardware as the Lumia 920 (except the 2GB RAM). Nokia could have put a better processor in the Lumia 1020 to make the camera performance faster, somewhat justifying the enormous price tag, but this happens to not be the case.

WHY SHOULD GEEKS BE SOCIALLY AWKWARD?

Especially when we've got science on our side. Here are 6 science-based conversation hacks that you can put to use from word go. Each of these six tips is based on hard research and in some cases by Nobel Prize-winning psychologists such as Daniel Kahneman. Making people like you is easy.
http://dgit.in/geekplaya

THE MOORE'S LAW OF URBAN GROWTH

A mysterious and obscure mathematical principle called Zipf's law has predicted the size of mega-cities all over.The law which was initially built around linguistics states that the city with the largest population in any country is generally twice as large as the next-biggest.
http://dgit.in/citieslaw

THERE'S SOMETHING BIGGER THAN FACEBOOK



Analysts in the Bay Area often come up with projections that are simply too good to be true. Take the case of Uber, for example, an app that connects passengers with drivers of vehicles for hire, analysts say will be a $100 billion company in five years.
http://dgit.in/1fS6NTP

WHAT THE HELL IS WRONG WITH NINTENDO?

Nintendo the iconic makers of Mario seems to be in a hell of a lot of trouble. After their initial success with Wii and motion gaming there seem to be murky waters ahead. On the contrary Sony and Microsoft each sold more game consoles than Nintendo did in nine months. What the hell is happening?
http://dgit.in/nintendoh

Mirrorless cams are creeping upon the DSLR territory

Everytime someone says that a DSLR is the only way to get the best image quality, somewhere, a kitten dies. Stop with the misinformed lies people! Read on

- By Swapnil Mathur

The DSLR's status as the "supreme ruler" of all things photography has been around since the beginning of the art form, and even today, that notion sticks. Here, we are going to break down every little aspect that has allowed the DSLR to stand apart and how that stance is now being challenged (or being bettered) by the mirrorless camera



A shot from the Sony A7R with the original on the left and a 100% crop on the right

The IQ factor

The DSLR has always had sensors bigger than any and all point and shoot cameras (even this has changed in the recent past, thanks to Fujifilm X100S, Ricoh GR and even the Nikon Coolpix A). We now have mirrorless cameras that rock the same APS-C sensors as DSRLs. Therefore 'scientifically' speaking, any APS-C sensor with matching number of megapixels (to balance out the pixel pitch) should yield about the same dynamic range and colour depth.

In our extensive use of pretty much every mirrorless camera available in the market, we've seen that cameras such as the X-Pro1 and the NEX-6 easily delivered images that matches, and in many cases, bettered what we've seen from Canon and Nikon's entry level DSLRs.

Low light proficiency

The DSLRs were always known to be the best way to shoot conditions that offered low and challenging lighting. This is why concert photographers invest in expensive equipment (as they rightly should), because the small sensors in point and shoot cameras just cannot handle the high ISO requirements of shooting in low light.

But, we've shot several concerts, in dimly lit conditions with very little light, including Sunburn Noida 2013 with mirrorless cameras and even point and shoot cameras, without really missing the DSLR.

The lens absence myth

The one problem everyone seems to think exists with the mirrorless segment is the lack of lenses. Fact is that Canon and Nikon do have a lens lineup that is unrivaled by any system, but the question is, how many of them do you own or plan to own?

Every mirrorless system has its own set of lenses that set it apart. Fujifilm has its extensive set of fast aperture primes which is now being supplemented by various zoom lenses and ultra wide lenses. Sony's built itself a suite of primes and zooms, but lacks a fast aperture prime. Olympus and Panasonic, between them, have every single focal length imaginable covered, along with even a 70-200mm f/2.8 lens with optical stabilization.

Size and convenience

That one time when we walked around with the Olympus OM-D E-M1 along with the 12-40 f/2.8 (24-70mm) and a Fujifilm X-Pro1 with a 23mm f/1.4 attached to it. We got back home, put the gear down, and got right down to our daily chores. Had we been toting DSLRs, there's a very good chance we'd have collapsed after the shoot. The reason for that is not just the weight of the DSLRs, but also the weight that is associated with good quality glass.

Invading the last bastion

The one thing that DSLRs had going for them was, well, the full frame territory. We'd often heard DSLR users say "yea so what if mirrorless cameras are APS-C? They can't match full frame performance." Well naysayers, now they can. Sony just introduced the Sony Alpha 7 and the Alpha 7R, the world's first mirrorless full frame cameras. And with that the final DSLR fortress has been officially breached.

To know the flipside go to: http://dgit.in/dslrsbgone

CRASHCOURSE

Six awesome courses in one awesome channel. Where else will you get to hear the entire subject of Biology compared to



a 50 Cent song? Specifically that it's "all about sex and not dying". Be sure to check out their playlist for courses on Chemistry, US History, Literature, Ecology, Biology and world History.
http://dgit.in/wwccourse

(QR Code)

For a list of all the links from this section, head over to http://dgit.in/WWjan2014
Or point your phone to the QR code above

(PRODUCT LAUNCHES)

LG G FLEX



A vertically curved display that can withstand upto 88 pounds of pressure and a back that heals itself when scratched. Besides these gimmicks it does have some decent specs too. A Quadcore processor clocked at 2.26 GHz and a 13 MP camera.
Pricing: About $1000

BLU LIFE PURE



The Pure has a 5-inch, 1080p screen and packs in a 13 megapixel camera. The storage is limited to 32 GB and it runs on a 1.5GHz quad-core MediaTek chip with 2GB of RAM. There's no LTE (sacrilegious?!) and it ships with Android 4.2.
Price: $349

RADICAL R1



A phone made of grade 5 solid titanium deserves a second look. And because the phone comes with Android 4.1.2, it isn't just ornamental. Besides, it packs in a 4.5-inch qHD screen, dual SIM support, an 8MP rear camera, 36GB internal storage.
Price: $1,800.

WORDJUMBLE

ABSOLUTE TIMEPASS

E	B	A	A	M	P	J	L	C	G	V	N	X	T	K	A	G	G	H	N	M	X	G	C	V
X	Q	L	D	H	E	M	D	I	O	T	E	N	A	L	P	M	F	Q	K	S	R	A	N	B
X	U	R	A	S	L	U	P	L	R	I	A	P	V	F	S	M	R	K	Q	G	X	L	V	I
G	B	Y	V	N	Q	Y	T	Z	B	T	I	R	A	L	O	S	A	R	T	X	E	A	N	R
U	M	F	I	A	A	T	U	D	I	C	H	A	E	T	P	X	W	K	H	C	J	X	V	P
B	S	B	Y	V	I	T	N	M	T	E	M	O	C	S	F	O	D	W	Y	S	A	Y	X	F
A	F	T	W	O	Q	I	P	T	W	N	W	O	R	M	H	O	L	E	Q	Y	L	H	Z	F
L	T	M	A	N	W	W	T	Z	D	I	N	T	E	R	S	T	E	L	L	A	R	T	Q	T
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E	F	J	U	J	I	R	J	V	E	A	Z	Y	D	L	X	G	Q	J	S	F	J	T	J	G
K	L	L	J	N	H	Q	E	B	R	F	R	E	N	R	A	H	Y	S	A	B	K	C	D	Y
N	C	W	O	H	F	H	N	X	O	K	E	J	A	M	F	N	A	Z	V	I	P	D	U	J
V	L	A	I	L	Q	Y	M	B	I	Y	C	F	Z	U	E	K	E	L	D	D	U	D	P	T
A	K	Z	V	T	E	W	Q	K	D	C	O	V	A	Q	Z	B	Q	T	R	S	W	Z	T	B

There are 20 astronomical phenomenons and objects hidden in the word grid above. Find them all.

Top 3 YouTube Picks

Make sure your boss doesn't catch you goofing off with one of these videos playing on your screen



The life of Gollum
Duration: 3 min 34 seconds
Gollum tells his heartbreaking tale in verse and pictures. This is not to be missed, especially if you're a Tolkien nerd.
http://dgit.in/wgollum



Chuck Norris split
Duration: 1 min 10 seconds
Chuck Norris out-splits Jean-Claude Van Damme in this epic Christmas split. And it's not fake at all.
http://dgit.in/wwchuck



Jaguar vs. Chicken
Duration: 0 min 37 seconds
Mercedes came out with a brilliant commercial a while ago; this is Jaguar's rebuttal. Search for the original.
http://dgit.in/jagchick



Interview with Binay Tiwari, Director, Global Marketing and Product, Vserv.mobi

Package management on Linux

>>Learn the easy way to package your software into .deb and .rpm like a boss > by Ankit Mathur

Traditionally, Linux being an open source platform, users have been restricted to developers and software enthusiasts who prefer to compile packages from source. But as more and more normal users continue to adopt this platform as an alternative to Windows, package managers have emerged as a new breed which have become all the more important to differentiate how each platform manages and keeps track of where individual files and packages are installed on a Linux system.

Package management in Linux is usually present as an all in one solution to managing and updating everything related to your applications, and unlike Windows, Linux package repositories contain almost every software package that you might ever need. This not only provides a one stop solution for updating all the installed software, but also tracks and manages dependencies that each package might have. Dependency resolution is one beast that can be very difficult to tackle if done manually. Modern package managers however, make this a breeze. Today, Linux software repositories resemble more like an app store for mobile platforms, where you just give the command to install something and it gets done without you having to worry about any installation wizard. All thanks to the package manager under Linux, which knows exactly which files and configurations belong to a particular package.

It is not very difficult to get up and running with creating packages on Linux. Among others, there are two widely popular package management systems that we will be discussing i.e. Debian based and Red Hat/Fedora based.

Debian based packaging

Debian packages are used in Debian based Linux distros, where a binary software package is available in the form of a .deb file. This file contains within itself all the metadata related to the package.

The dpkg utility is the main package management program which performs all the primary functions of installing removing and providing information about the .deb files. Mainly one can interact with deb packages using this command as follows: -

- Installing a deb package:
  ```
  dpkg -i debfilename
  ```
- Removing an installed package:
  ```
  dpkg -r packagename
  ```



- List of installed packages:
  ```
  dpkg -l
  ```
- Query whether a package is installed or not:
  ```
  dpkg -l 'packagename'
  ```
- Determine the package name to which a given file belongs to:
  ```
  dpkg -S /path/to/file
  ```
- Show metadata about a package:
  ```
  dpkg -s packagename
  ```

Apt or Advanced Packaging Tool is designed to work on top of the dpkg tool and further simplifies the task of package management by performing higher level functions like sourcing of deb files from their repositories and managing the relations between multiple packages. Apt is more like a collection of tools where the apt-get utility being the most important one, works with package names, unlike dpkg which works with deb file names. When a package is needed to be installed, it automatically resolves all the required dependencies if they are available in its list of online package repositories. One can use the following commands to interact with apt: -

- Install and update software on the system:
  ```
  apt-get install packagename
  ```
- Remove software:
  ```
  apt-get remove packagename
  ```
- Update package list:
  ```
  apt-get update
  ```
- Upgrade the system:
  ```
  apt-get upgrade
  ```
- Search for a package:
  ```
  apt-cache search packagename
  ```

Packaging software for the Debian based systems

One of the most important things that you need to learn is to package and publish the code to make it available for the end users. Lets try and do this in a step by step manner as part of our simple tutorial.

Before you begin with creating packages, make sure that the following packages are installed on your system to enable you to use the utilities related to creating a deb package: -

- build-essential
- devscripts
- debhelper
- lintian

In order to understand the concept of creating packages, we need to learn that creating a package is mainly a three step process: -

- *Procuring the source tarball :* The source tarball is the compressed tar file of the source code of the application to be packaged, eg. packagename.tar.gz
- *Creating the Source package :* This step involves adding Debian specific packaging files and any modifications that you want to make to the package. This is done under a special directory named 'debian'.
- *Building the package:* Once the source package is ready, it can be built to create a binary package which can then be finally installed on the system.

In the first step, the source tarball needs to be renamed speciafically according to the accepted standards, mainly the fact that it needs to in lowercase characters and in the format like: -

```
mv packagename-1.0.0.tar,gz packagename_1.0.0.orig.tar.gz
```

We can now unpack the source tarball and create the debian subdirectory under the source tree. Inside this directory following files are necessary to be provided: -

- *changelog :* This file summrizes the list of changes in this particular version of the package as compared to the previous version or mention that it is an initial release in case it is being packaged for the first time. This file can be easily created using the dch command as follows: -

```
dch -create -v 1.0.0 --package packagename
```



Dpkg showing metadata about a package in Ubuntu

This will create a changelog file with a format as follows: -

```
vlc (2.0.8) UNRELEASED; urgency=low
  * Initial release. (Closes: #XXXXXX)

 -- Ankit Mathur <ankit@ankit-laptop>  Sun, 15 Dec 2013 19:10:31 +0530
```

- *compat :* This file specifies the compatibility level of the application for debhelper, which contains a single digit number like 9 or 8 as its contents.
- *control :* This file provides information about the source and binary package, mainly details about the maintainer, priority, section, dependencies, description etc. A sample control file looks as follows: -

```
Source: helloworld
Section: unknown
Priority: extra
Maintainer: Ankit Mathur <ankit@unknown>
Build-Depends: debhelper (>= 8.0.0)
Standards-Version: 3.9.4
Homepage: <insert the upstream URL, if relevant>
#Vcs-Git: git://git.debian.org/collab-maint/helloworld.git
#Vcs-Browser: http://git.debian.org/?p=collab-maint/helloworld.git;a=summary
Package: helloworld
Architecture: any
Depends: ${shlibs:Depends}, ${misc:Depends}
Description: <insert up to 60 chars description>
<insert long description, indented with spaces>
```

- *copyright :* This file keeps track of legal and copyright information.
- *rules :* This file acts as the makefile and consists of rules each of which specifies a target and how it is executed. This target specifies the various build targets which can be overriden when executed in the debhelper sequence.The most basic file looks like this: -

```
#!/usr/bin/make -f
# -*- makefile -*-
# Sample debian/rules that uses debhelper.
# This file was originally written by Joey Hess and Craig Small.
# As a special exception, when this file is copied by dh-make into a
# dh-make output file, you may use that output file without restriction.
# This special exception was added by Craig Small in version 0.37 of dh-make.


# Uncomment this to turn on verbose mode.
#export DH_VERBOSE=1


%:
        dh $@
```

- *source/format :* This file contains the version information about the format of the source package, for eg. 3.0 (quilt) in this case.

There are a couple of other files that might be needded for completing the package and most of this process involves writing rules and ensuring that build process works correctly as expected, but once all that is done, the package can be built as follows: -

```
debuild
```

Once you are done building the package, you should be able to check it for errors with the help of Lintian, which checks for common packaging errors/warnings and reports any policy violations if present. The above tutorials is obviously not the most comprehensive way to learn packaging in Linux, rather it serves to provide you with a skeletal introduction to get you started in more detail.

Red Hat/Fedora based packaging

The other popular package management system is the Red Hat package Manager which is used in most of the Red Hat based systems. Obviously, Red Hat is much more popular among enterprise users and organizations because of its enterprise support availability as opposed to Debian, which is mostly used by independent developers and is community supported.

RPM packages are provided in the form of rpm files and has the following comparable functions: -

- Installing a deb package:
  ```
  rpm -i packagename.rpm
  ```
- Removing an installed package:
  ```
  rpm -e packagename
  ```
- List of installed packages:
  ```
  rpm -qa
  ```
- Query whether a package is installed or not:
  ```
  rpm -qa|grep packagename
  ```
- Determine the package name to which a given file belongs to:
  ```
  rpm -qf /path/to/file
  ```
- Show metadata about a package:
  ```
  rpm -ql packagename
  ```

As you might have guessed rpm command is used to deal with low level rpm files, however yum can be used to deal with higher level functions like dependency resolution etc. as follows: -

- Install and update software on the system:
  ```
  yum install packagename
  yum update packagename
  ```
- Remove software:
  ```
  yum erase packagename
  ```
- Update package list:
  ```
  yum check-update
  ```
- Upgrade the system:
  ```
  yum update
  ```
- Search for a package:
  ```
  yum list packagename
  ```

Packaging software for the red hat based systems

Similar to debian packaging, you will need the following packages to start building rpm files: -

```
yum install @development-tools
yum install fedora-packager
```

Now, to start building the package, you will need to create a directory structure according to the defined guidelines under the software's subdirectory. These are mainly the following directories: -

- SPECS : This is where the specification files are stored.
- SOURCES : The source directory where the sources tarballs and patches are supposed to be kept.
- BUILD : Source packages unpacked and compiled here.
- BUILDROOT : Files are installed under this directory.
- RPMS : Binary rpms are created under this directory.
- SRPMS : Source rpms are created here.

So basically all you need to do is create a .spec file under the SPECS directory and place the tarball into SOURCES directory, then you can run the rpmbuild command from the SPECS directory as follows: -

```
rpmbuild -ba filename.spec
```

Obviously, the spec file here is the most important file that provides most of the packaging information, and an empty file with an example of its contents would look as follows: -

```
Name:
Version:
Release:     1%{?dist}
Summary:
Group:
License:
URL:
Source0:
BuildRoot:   %{_tmppath}/%{name}-%{version}-
%{release}-root-%(%{__id_u} -n)
BuildRequires:
Requires:
%description
%prep
%setup -q
%build
%configure
make %{?_smp_mflags}
%install
rm -rf %{buildroot}
make install DESTDIR=%{buildroot}
%clean
rm -rf %{buildroot}
%files
%defattr(-,root,root,-)
%doc
%changelog
```

As you can see, this file provides all the information pertaining to each stage in the rpmbuild process. Once the binary rpm is ready, you can check the rpm for errors with the rpmlint utility as follows: -

```
rpmlint filename.spec ../RPMS/packagename.rpm ../
SRPMS/packagename.rpm
```

Creating binary packages for the software is only part of the process. Usually, maintaining your packages is part of a much larger, continuous process. While some people prefer to use Debian based systems and others use Red Hat based ones, the developer who is publishing software for Linux has to ensure that all their bases are covered.

There are a lot of other package management systems used (often interchangeably) in other distributions like zypp in openSUSE, urpmi in Mandriva/Mageia, pacman in Arch, etc. Targeting for all of these is obviously not possible, but once you have packages available for the above two and your software is accepted into the repositories of these popular Linux distributions, it can get you a lot of visibility and eventually it may automatically be adopted by other users and maintainers working in these lesser used platforms.

Apart from creating packages for your own application, you can also choose to adopt some orphaned packages that have been put up for adoption as they might need a maintainer. This will give you a lot of technical know-how and open a window into how open source development works. >



>> "Integrating SDKs is easy" >>

>>Binay has over 10 years of experience in the Internet & Mobile ecosystem, across Product Management, Marketing, Sales Strategy and Business Development

Vserv.mobi recently announced the launch of AppWrapper.org, a platform for Android developers that aims to automate the integration of multiple software development kits (SDKs). The tool is designed to integrate services such as ad monetization, analytics, bug tracking and in-app purchases, allowing app developers to shorten their development time. We caught up with Binay Tiwari, Director, Global Marketing and Product, Vserv.mobi to understand the model and their plans for the platform.

Tell us a bit about AppWrapper, and specifically how independent mobile app developers can take advantage of it?

Vserv is a mobile advertising exchange, which means that we have worked with developers and publishers to partner with them on their apps and sites. As users come and use these apps and sites there's an opportunity to show them ads and the developer has a chance to earn from those ads. That's exactly what Vserv has enabled – monetization of apps and sites using advertising – and on the other side we have partnered with advertisers who want to reach these consumers. Now placing these ads on apps requires an SDK, right? Developers need to take the SDK from that ad network and integrate that into their app and that's how ads start showing up. Appwrapper started off as a way for Vserv's advertising SDK to get enabled or the app in one click without any coding by the developer himself. So a developer would be able to choose an app, run our tool from Appwrapper and get another version of the app that now had ads enabled on it at the launch and exit of the application.

Soon we said that this an amazing technology; why not extend it to entire ecosystem and to all our partners across the ecosystem. And that's why we now enable multiple SDK's across various categories using the appwrapper. Bugtracking was one of the first services that we put out. Monetization such as our ads, or Google Play in-app purchases is another one, being able to request the user to rate their app in the third service through another partner as well, which we called 'user engagement'. Already they had the biggest names in the space – in Analytics we have Google Analytics, Flurry and Apsalar, for bug-tracking we have Bugsense and Crittercism, etc.

When choosing which SDKs to include is Vserv's advertising SDK mandatory or can that be skipped?

Absolutely! It is not mandatory at all that somebody uses Vserv's advertising SDKs or any of Vserv's SDK and all. He can go and choose any of the services that are available. There are of course some rules for example if you end up choosing one analytics SDK that conflicts with another, then you'll have to take that out and have to choose one or the other, but there is nothing from a business policy standpoint that says Vserv needs to be included. There are no limitations on that front whatsoever. And also just coming to the simplicities that might use this. Think of it as simple as using Winzip.

If the advertising SDK is not mandatory, then what's in it for Vserv?

Great question! Essentially our whole approach with appwrapper in this new, shape and form is to put this out as an independent global platform, where a developer can come use it freely. That's also why we choose the .org domain. The vision that we have for this tool is to eventually become a marketplace of sorts, where on one side you have the developers who are going to come and try using this platform because it simplified the whole integration process for them as well as helped them find some new services that they might not have already known about; on the other side you have the service providers who are creating these developer services, tools and so on and giving out the SDK's to developers. When we integrate those into the appwrapper they get two things again, one is discoverability because lot of them are new and niche so as they come this platform developers will be able to discover them, and the second is super simplified onboarding process, right? Over time, we want to simplify many things, based on the partnership sites we develop. >

To read the entire interview head over to: http://dgit.in/appwrap

*coding matters



Valve releases Debian-based SteamOS

>>It's still in beta, mind you, but when has that bothered a true Linux geek, eh? The GRUB bootloader gives away the fact that SteamOS is based off Wheezy (Debian). Click below to know more:

http://dgit.in/1kusGvp



Future of careers: Don't learn to code

>>Read this author's rather insightful (and controversial) views on how learning to code alone isn't enough to have a great career in the future. There are other things you need to focus on:

http://dgit.in/1cPG1HA

ANDROID 4.4 KITKAT

Google silently announced Android 4.4 – the latest iteration of the Android operating system with new features and performance enhancements. Baked with an elegant looking UI and a classy interface, it takes the look and feel of Android to a whole new level.

With so many new features, performance tweaks and cosmetic changes, Android 4.4 is a significant update with plenty of changes. Some changes worth noticing are Google Now integration, QuickOffice integration, bigger icons, new launcher and compatibility with old devices. Unlike previous iterations, KitKat takes up less memory, making it compatible with old and entry-level phones with 512MB RAM.

Here are some tips to help you maximise your Android 4.4 experience.



Android 4.4 KitKat 01

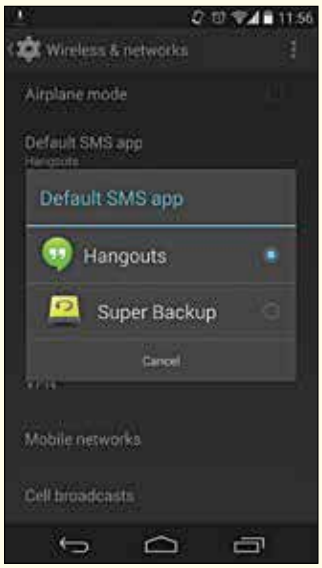
Eclipse IDE 03

Bit Torrent 05

Tips & Tricks has its own page numbers, and does not follow the rest of the magazine's page numbers. This is done to ensure that you can cut out and save T&T in a separate folder for later reference.

Remove SMS integration with Hangouts

In Android 4.4, Google has integrated the SMS app with the Google Hangouts app. This is one of KitKat's neater features as it enhances the traditional SMS app. Though we like it, some of you may not and would prefer a separate SMS application. While the following step will remove the SMS integration with Google Hangouts, there's no separate SMS app provided, so you'll need to download a third-party app from Google Play.



By default, your SMS app is integrated with Google Hangouts

Then navigate to `Settings > Wireless and Networks > More > Default SMS app` and choose the downloaded app that you wish to use.

Use 'OK Google' voice command

If you're not familiar with this feature, it lets you access the built-in voice assistant functionality, Google Now from your Android's home screen, without even touching the phone. All you have to do is say "OK Google" to get started.

At the time of writing, Google only offers the 'Google Now' functionality to U.S. residents. While it doesn't have international support for now, you can get this text-to-speech feature with a simple trick.

Go to `Settings > Languages and input > Voice search > Change language to English (U.S.)`

Add 'OK Google' search on Nexus 4

If you're a Nexus 4 user you can get Nexus 5's exclusive Google Now wakeup method on your phone. To get this feature, all you need is Google Launcher from Nexus 5 on your Nexus 4. Download the launcher APK file from http://dgit.in/1gA47Np, install it, then activate it from `Settings > Home > Launcher > Select Google Experience Launcher`. The launcher comes bundled with the 'OK Google' functionality. To activate it change Google Search's language to English (US). To do it, long press the home screen, then go to `Settings > Voice > Set language to 'English (U.S.)'`. You'll also need to set English (U.S.) language for offline speech recognition. Do this by long pressing the home screen, go to `Settings > Voice > Offline speech recognition > Set English (U.S.) as default`. From the home screen say 'OK Google' and Google Now will appear on your Nexus 4 device.

Turn on hidden developer options

Google has removed the Developer options menu from settings since the Android 4.2 Jelly Bean update. This was a welcome step, since it wasn't considered very useful for non-developers earlier. If, however, you plan to install third-party custom ROMs or kernels, or do anything that will require developer access and USB debugging, you may want to retrieve the setting.

The option hasn't been removed completely, and is present as a hidden element. In order to make it visible, go to `Settings > System > About phone > Tap 'Build number' seven (7x) times`

A pop-up will appear saying 'You are now a developer!' Then, go back to Settings and you'll see a Developer options menu category under the System section.

Try the ART environment

Android 4.4 comes with an optional ART environment that replaces the default Dalvik environment. From the first iteration of Android, Dalvik is the default runtime environment.

ART stands for 'Android Run Time', which was introduced as an experiment by Google in Android 4.4. This runtime environment will make your phone faster and increase its battery life.

How, you ask? Well, Dalvik uses the 'Just-in-time' (JIT) process, which transforms source code into an executable program for all Android apps every single time they're started, hence consuming pro-



The ART environment saves battery life

cessor power as well as battery power. ART, on the other hand, uses the 'Ahead-of-time' (AOT) process, which keeps all apps compiled and ready to be run before they're launched, thus consuming less processor and battery power, and enabling quicker and smoother launches.

You can activate the ART environment from `Settings > Developer options > Select runtime > Use ART`

While it is recommended that you stick to Dalvik, it won't hurt to give this new runtime environment a spin.

See performance and usage stats of all processes

KitKat shows you what's going on behind the scenes through the interface of your device. This includes performance and usage statistics of all the background, foreground and cached processes.

To see it, go to `Settings > System > Developer options > Process Stats`

Here you can set custom duration for the stats, show or hide background, foreground and cached processes and select stats type.

Get cozy with T9 dialing

T9 dialing or dial-pad autocomplete is a very handy feature that lets you type numbers representing the alphabetical characters of your contact names in the dialer. You don't have to scroll down the entire list of contacts or add them to quick dialer anymore; this feature can act as a quick dial option for any contact.

To try it, tap the dialer icon located at the bottom of your screen, then type the numbers representing the alphabetical characters of your contacts' names.

Use the integrated Quickoffice

The Quickoffice app – Microsoft Office's styled suite that lets you easily handle your office tasks – comes pre-installed with Android 4.4. This means that you don't have to download any third-party app or pay.

You can easily edit or create documents, spreadsheets or presentations, view PDF files and save them on the cloud-based Google Drive storage service. This feature will serve you best for creating documents and doing light editing on the go.



T9 dialing gives you quick access to contacts

Use the advanced file picker

Google introduced an advanced file picker in Android 4.4 that makes file picking easy and comprehensive. Since it's integrated with Google Drive and other third-party cloud services, you can pick files from there. In addition to this, the advanced file picker lets you pick files from internal storage and the external SD card as well.

You'll need to turn on the advanced features as it's not turned on by default. To do this, go to `Settings > Storage > Audio > More (three dots) > Settings > Display advanced devices`

Once this is enabled, your internal storage and SD card (if you have one) will appear in the menu. Now, you can select any file located on the internal storage or SD card.

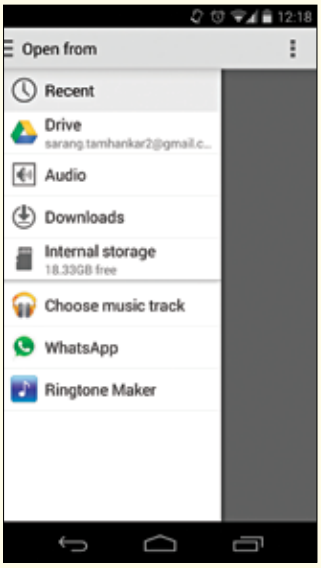
The immersive mode

Android devices no longer use the physical capacitive buttons; instead, these buttons appear as soft keys on the screen. The buttons may irk you with their presence on the screen while watching movies or reading a book.

To get rid of this, Google introduced the Immersive mode to hide these soft keys while you're watching a video or reading a book. Just launch a movie player or book reader and then tap the screen to hide the soft keys.

Zooming in with one finger in Gmail, Maps and Chrome

Android 4.4 lets you go beyond pinch-to-zoom in Google apps. You can now zoom within the apps using one finger, which comes handy in situations where you have only one hand free to hold your phone.



Some of the sources from which you can pick files

To do this, open either Gmail, Maps or Chrome, then double tap, hold and drag your finger. We tried it and it works like a charm. Alongside, the pinch-to-zoom feature also works.

Save battery with new GPS modes

Any instance of data fetching from the GPS chip turns out to be quite battery consuming.

To avoid this, we can simply turn off the GPS, but this isn't convenient. With Android 4.4, you get a convenient feature that lets you choose from between different modes such as High accuracy, Battery saving and Device only.

The Battery saving mode will use Wi-Fi and mobile networks to estimate location, and this in turn will save battery without sacrificing the GPS capabilities.

To select a mode, go to `Settings > Location > Mode > Battery Saving`

Do high speed scrubbing from the lock screen

The lock screen is integrated with music controls, which includes Play/Pause and Skip buttons. In addition to this,

there's a neat trick that will let you jump back or forth within a song from the lock screen.

To be able to do this, long press the 'Pause' button on the lock screen and a scrubber will replace the music title. Slide it and jump to any part in the song without the need to unlock the phone.



Control your music from a locked screen

Add, rearrange and delete home screens

In Android 4.4, the home screen area is kept minimal with only a single home screen by default. When you unlock the phone, it might appear as if there are two home screens, judging by the two dots that appear at the bottom.

The left most screen houses Google Now while the other one is the primary home screen. However, you can add more home screens if you want. To do this, tap and hold any icon on the home screen and drag it to the right of existing screens, which will bring up another screen. As you go further to the right, more home screens are added.

There's no option to select and delete a home screen. However, if you want to delete a home screen, move all the icons present on that screen onto the previous screen. Once there are no icons left, the screen is automatically deleted.



Home screens can be added, rearranged and deleted in Android 4.4

To rearrange the home screen, long press and hold the home screen until a menu that shows your home screens appear. Select a home screen by long pressing on it and then move it sideways rearranging as you please.

ECLIPSE IDE

Eclipse IDE (integrated development environment) is an extremely powerful environment for code development. It's a feature-laden software service that aims to provide helpful tools to build and execute code. Though primarily for Java developers, the IDE can be configured to allow other programming languages as well. If any of your friends are serious coders, chances are that they use the Eclipse IDE for their programming needs. Eclipse started off as an IBM project and later caught the Open Source bug. Eclipse Project is now funded by large companies such as Oracle, SAP and Google. The IDE is remarkably useful and has a spate of user friendly features. In this section, we introduce you to some neat tips on how to make better use of Eclipse. The tricks covered will enable you to actually go beyond using Eclipse as a text editor, and use it for its actual purpose of creation – as an interactive development environment.

Enable Python support

Python is quite a popular language in the programming world, and Eclipse IDE can be easily configured to provide support tools for Python. You need to install PyDev, the Python IDE for Eclipse by dragging the Pydev install icon from http://dgit.in/1bMYxCS to a running Eclipse window screen.

Once Pydev is installed, the Eclipse IDE is fully configured for Python programming. It has the usual IDE features such as code completion and debugging along with Jython and Django support, a feature that Python coders can really do with.

The Eclipse IDE has able support for other languages such as SCALA and Xtend. The following support can be added using easily available plug-ins.

Analyse your code

Plug-ins are like value addition to any basic software tool. Eclipse IDE has some amazing plug-in options available. One of the coolest plug-ins available is Google's (no surprise there) CodePro Analytix. This is a really powerful plug-in, and it comes with a host of options to improve and analyse code. Some of its awesome features include similar code analysis and metrics provision. CodePro Analytix can be installed from: http://dgit.in/1kRrcZo

Another great plug-in for code analysing is Checkstyle. The code checks for deviations from standard and code constructs for performance or maintenance bugs. The update site for the following plug-in is at: http://dgit.in/IT2jR9

Set user defined code templates

For developers who use Eclipse as a primary developing environment, setting certain code templates can be really helpful in increasing coding speed and maintaining consistency across the code.

To add a user defined template go to `Windows > Preferences > Java > Editor > Templates`. Press 'New' to create a new template and enter the details, description and pattern. Click on 'Ok' to save the template. For example, let's say we want to create a template for system exit if a flag is set. We can do this by entering 'sf' as name and 'exit if flag is set' in the description. In the pattern section type something like



Google CodePro analytix logo

```
if (flag == 1)
    exit ();
```

To access this snippet, simply type 'sf' in the Eclipse editor and press [Ctrl] + [Space]. You can access a predefined code template by the same way as defined above.

Change the default text file encoding

Text files are encoded differently for different platforms and OSes, a feature that can really mess up projects at times. By default, Eclipse is set to encode files depending on the particular



Text encoding is simply a piece of cake

OS that's running it. This setting can be changed by setting the file encoding option to UTF-8. This type of encoding is largely platform independent and people can work on the same file using different OSes without text file encoding fiddling with special characters etc. Change the setting by going to `Preferences > General > Workspace`. Click on the other radio button and choose 'UTF-8'.

Find variables

Finding an instance of a variable is extremely useful while coding. There's a neat way of doing the above in the Eclipse IDE. Simply right-click the variable and go to `references > Workspace`. Doing this will display instances of the variable even from other Java classes. There's also a way to find where the particular variable is declared first. Simply right-click the variable and press [F3].

Format only edited lines

Though Eclipse has a great code formatter, it might be problematic when a user is dealing with multiple versions of the same file. This problem can be dealt with by allowing Eclipse to only format edited lines on the 'save' option. Enabling this option allows the user to format code and also retain the option of seeing what exactly was changed in the code later on. To do the above, simply go to `Preferences > Java > Editor > Save Actions` and click on the 'format edited lines' radio button.

Newer version

In case your version of Eclipse has become outdated and you want to update to a newer build of Eclipse IDE you can easily do so without corrupting the current installation. To do this, download the archive of the Eclipse version you want to update to. In your current installation go to `File > Import > From Existing Installation` and add the path of the downloaded archive. Doing this will update the Eclipse build as desired and manage installed plug-ins as well. On restarting Eclipse, the changes will have been seamlessly integrated.

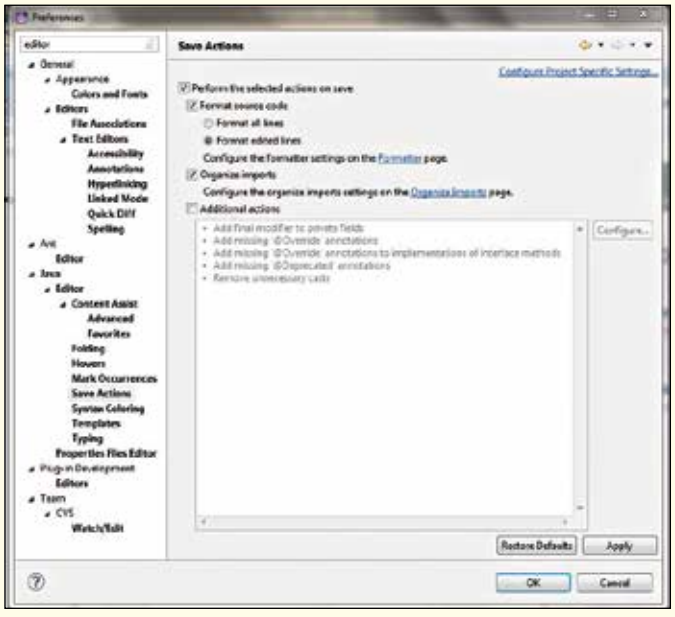
Speed up performance

Performance is an important parameter for an IDE and lack of speed can be a dampener for code development. There are quite a few ways of speeding up Eclipse performance. Below are a couple of quick and easy fixes for the same.

It's always a good idea to know which plug-in does what and disable the useless ones. Go to Preferences and type 'startup' in the search field and review the list of applications under 'Startup and Shutdown'. Disabling unnecessary plug-ins can really aid the IDE's performance.

Another small thing you can do is limit the number of editors that the IDE uses during general usage. Each editor consumes memory and hogs computing power for tasks such as data validation. Go to `Preferences > Editors` and enter a small value in the 'number of editors' option box.

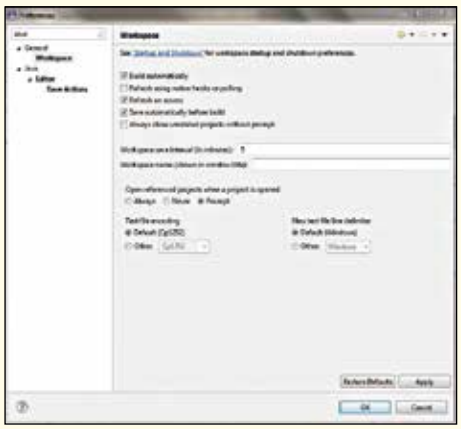
The above mentioned tips can be easily implemented and will improve the IDE's performance by a decent margin. Other options like getting a Solid State Drive and playing around with memory directives in the .eni file also vastly improve IDE speed and responsiveness.



Format edited lines like never before

Automatically save before build

A very common action seen in most programmers, amateur or expert, is the compulsive need to hit the 'save' action button time and again. Enable the 'Save automatically before build' option by going to `Preferences > General > Workspace`



Save before build. Always.

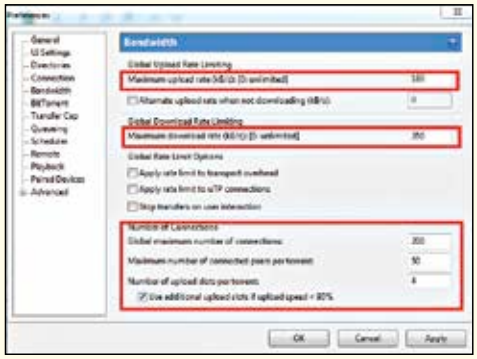
Enable Step filtering for debugging

This small change can make quite the difference for a programmer. Using Step filters, you can sieve out all the unnecessary steps you don't want to see during program debugging. Now while this looks like an insignificant tip, it might help you to stay focused on the actual useful bit of the code since you don't need to pay heed to internal actions of the software IDE which don't concern you. Enable the 'Use step filters' option by going to `Preferences > Java > Debug > Step Filtering`

BIT TORRENT

Unless you've been living in a cave, you must have heard of torrents. Many of you may have also used them, considering the ease by which we can

get the different files we need – legally and illegally (the latter, which you know we condemn). The protocol that actually enables people to share files with each other, using torrent files, is BitTorrent. Founded by Bram Cohen, BitTorrent is a network used to distribute large amounts of data over the internet. Peer to peer (P2P) file sharing through the BitTorrent network is responsible for about 3.35% of worldwide bandwidth. More than one-third of the internet traffic, and around 2.5 million people use BitTorrent monthly. BitTorrent clients such as µTorrent and Vuze make it very simple to download the required data using a torrent file. But if you want to elevate your BitTorrent experience, or just want to show off to your friends read on further for some really cool tips and tricks for BitTorrent.



Change bandwidth settings to improve speed

Most of the tips given here will be using µTorrent as the client. µTorrent is the client we recommend for your BitTorrenting needs. Light, efficient and loaded with features, this client is a must-have.

Faster torrents

One problem everyone wants to tackle is the speed of their torrent downloads. Here's how to ensure faster downloads.

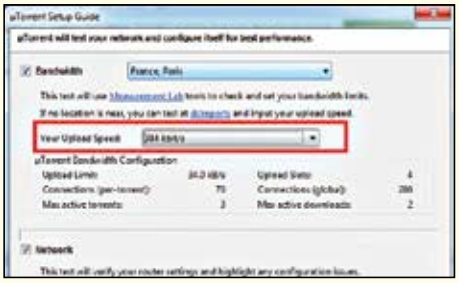
Use good torrents

This may be an obvious tip, but always download healthy torrent files with a good seed to leech ratio. Though, how good a torrent is depends on a lot more than just the number of seeds and peers (availability, average swarm speed etc.). Never pick out torrents with extremely higher number of leeches (peers) than seeds. Arranging the torrents by seeders (from high to low) will usually provide the best clue to what might be a successful torrent.

Change bandwidth settings

This is the basic and usually crucial tip for beginners to speed up their torrent downloads once they've found a healthy torrent. A properly configured client is perhaps the most important factor in deciding your download speed. An appropriate upload speed is very important since if it's set too low, peers might drop you or limit the data they send to you, and if set too high, it will take up too much of your bandwidth. So we suggest setting the 'Maximum upload rate' to around 80% of your max upload speed in KB/s (Speed testing sites such as http://www.speedtest.net usually give speeds in Kb/s. Remember, 1 Byte = 8 bits), and set the 'Maximum download rate' to about 95% of your maximum download speed according to the test. In µTorrent, go to `Options > Preferences > Bandwidth > Change the settings`.

While there isn't really a magic number involved for the number of connections, this is quite tricky. A high setting will involve usage of too much bandwidth for pinging peers, and a setting too low will result in less number of connections. So we suggest you increase or decrease the numbers depending on your internet speed. A good yardstick would be as follows. For a 1MB/s connection, these settings should work well:



The µTorrent setup guide

- **Global maximum number of connections:** 250
- **Maximum number of connected peers per torrent:** 100
- **Number of upload slots per torrent:** 10

Decrease the speeds and the other numbers, and keep experimenting till you find what works for you. Just make sure that the maximum number of connected peers per torrent doesn't exceed the global maximum number of connections.

Although we used µTorrent as an example here, these settings can be applied universally to all BitTorrent clients. µTorrent also has its own speedtest and setup guide. Just go to `options > setup guide` and run tests. You can also change it manually in the setup guide by selecting the approximate upload speed in the dropdown given.

Add more trackers

This is a tip that works mighty well with public torrents. To increase the speed, just try adding more trackers. To do this, just get the Hash of the current torrent file (look under the info tab of your torrent), google it and download the same torrent file from a different website. When trying to add the torrent, a pop-up will appear that the torrent is already in the list – just select yes, and Voila! The number of peers will increase, and more importantly, so will the number of seeds. Wait about 4-5 minutes before the increase in speeds actually kicks in. Particularly useful for those annoying times when your torrent gets stuck between 95-99%.



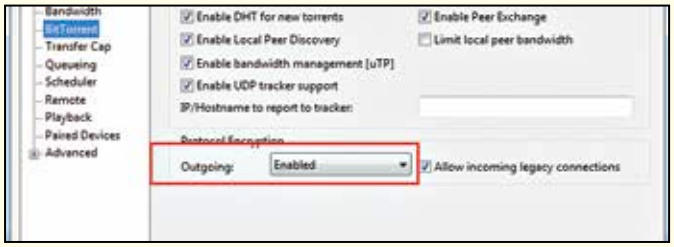
Add more trackers

Encrypt your connection

Since BitTorrent accounts for a lot of internet traffic, usually many ISPs tend to throttle the speed upon detecting BitTorrent traffic, and while Seedboxes seem to be a good option to avoid this, they're relatively expensive. So a cheaper, easier method, though less effective, is encryption. Encrypting your outgoing connection will disguise your BitTorrent traffic. To do this, go to `Options > Preferences > BitTorrent > select 'Enabled' under Protocol Encryption`.

Download torrents using your browser

We almost automatically relate downloading through torrents with BitTorrent clients. Most of us tend to use our browsers only to find the torrent file in question, and then download it through a client. But, there are



Encrypting your outgoing connection will disguise your BitTorrent traffic

several places where installing or running another app is out of the question, and you need to handle things through your browser. So, downloading data off torrent files through your browser seems like a really good alternative. Here are a couple of ways you can do this:

- **Via a website:** A really good, reliable site that's pretty simple and to the point can be found at http://www.bitlet.org. Just paste the address of the .torrent file and click 'Download Torrent'. This will start the virtual machine that will then let you download the file in a directory of your choice. Best part? It also has an in-browser BitTorrent tool that lets you stream music directly from a torrent. With another tool to stream videos in development, this site is pretty cool.
- **Via add-ons:** There are also a variety of add-ons that let you do a similar task. FoxTorrent and BitTorrent Surf are probably the two most popular of these. Find BitTorrent Surf (for Chrome) at: http://dgit.in/1bSvPgk and FoxTorrent (For Firefox) at: http://dgit.in/19f4gUs

Find latest torrents with RSS feeds

Isn't it a pain to search for a new torrent of your favourite TV show or artist every time one is released? Thankfully, there's a way by which we can get frequent updates about the latest torrents, or even automatically download them thanks to RSS feeds. Most of the BitTorrent sites have RSS feeds of their listings. All you need to do is enter your favourite TV show or artist into the torrent search engine (let's say Torrentz.in) following which you'll see a small RSS icon in the search results. Just click on the icon, and you'll have the URL of the RSS feed. A really good site for RSS feeds of all your favourite TV shows is http://www.ezrss.it

Updates on Gmail

Of course, you can copy-paste the URL and use your favourite RSS readers to get updates on the latest torrents. But we can actually also use Gmail for the same, which will allow us to have all our torrents archived in one place. Just go to http://www.rssfwd.com and enter the URL of your search feed and your email address. All new torrents will now be forwarded to your Gmail account.

Automate downloads

You can automate downloads using your BitTorrent client and RSS feeds. With µTorrent, click 'Feeds' on the left-hand side bar, then click on the green 'Add RSS Feed' button and copy-paste the URL. This will give you regular feeds about the latest torrent. To rename the feed as per your convenience, in the bar right- click on `Feed > Edit Feed > Custom Alias` and change the name. Now, to automate the downloads, again go to `Edit Feed > select 'Automatically download all items published in feed'`. Then press [Ctrl] + [R] or go to `Options > RSS Downloader` and enter a filter (usually the name of a TV show such as 'Homeland' should do). And there you have it! As soon as a new episode of your favourite TV show comes in, it automatically gets downloaded. We also recommend checking out the tutorial by µTorrent for using RSS feeds at http://dgit.in/19f4Am2 which gives you a lot more options.

Remote control your downloads

Being away from your home computer shouldn't mean having to stop your BitTorrent activity. µTorrent has its own built-in feature called Remote that lets you access µTorrent from anywhere on the internet. The setup isn't very complicated either – all you need to do is set up an account, and if your home computer is up and running, you can access it from anywhere using remote.utorrent.com from anywhere and you'll be able to access µTorrent on your home computer. The best part is that even though µTorrent Remote is only for Windows, you can access it for both, Android and Windows via an app or from a browser on any platform. Find the Android app at: http://dgit.in/IYaBqU and the Windows app at: http://dgit.in/JLm51J

Share files with BitTorrent

File sharing, or in particular, accessing a particular folder of a computer from different devices is an absolute necessity. BitTorrent lets you do this with ease and in style with a software called BitTorrent Sync that uses the BitTorrent protocol to share files between different devices. All you need to do is install BitTorrent Sync, and then add the folder that you want shared. Just click on the 'Add sync' folder. And for every folder that you add, you have an access key or a 'secret' that you generate. Now all you need to do is install BitTorrent Sync on all the devices that you want to share your files with, and use the 'secret' key to automatically update your folder with the source folder. Sharing files with family & friends, backing up data, and many other tasks are all easily automated, making BitTorrent Sync simply awesome.



BitTorrent Sync lets you share between different devices

the authentication code you provide through your client. Just go to `Options > Preferences > Remote > check 'Enable µTorrent remote access'`. Enter desired computer name and password, and then click 'apply'. Wait for a while and the status should say 'accessible'. Once it's accessible, just go to https://

Googling up!

Learning to live without Google on a Windows Phone 8. Yes, it's possible.

Prakrit Dhondiyal
readersletters@thinkdigit.com

As it was made clear recently, Windows' support for Google and its apps has reached a bare minimum. Unfortunately, not an essential minimum, which means we get to write a workshop on how to survive this harsh reality for all you people who own Windows phones and have joined the majority of the masses when it comes to Google reliance. Here goes:

Let's get past the 'People'

Based on a post on WP8 forums (http://dgit.in/Wintrum) it would appear that if you decide to reset your phone, or for any



Export contacts for Outlook from Gmail

reason delete your Google sync account, that's the end of it. It will synchronize your emails, but your Google contacts and calendar will cease to exist. So step numero Uno: Don't do it.

Oh. You already did? Pity. But don't worry. In all honesty, it is an inconvenience, but not one that's too complicated to handle. Sign into your Google account on your PC and enter the 'Contacts' tab. In the 'More' drop box, enter the 'Export...' menu, select 'All contacts' and check the 'Outlook CSV Format'. Save the CSV file wherever convenient on your PC, then log into Outlook in your browser using the Microsoft Live ID your phone is registered to. Use the drop-down menu on the top left to enter 'People'. Select the 'Import from file' option and browse for your saved CSV file. Your Outlook ID now has your Google contacts all exported and ready to use.

If you want to do away with bothering with two IDs altogether, enter the settings menu (the gear-shaped icon on the top right-hand corner) in your Outlook account and select 'More mail settings'. Select 'Import email accounts' and give Outlook permission to access your Gmail ID and synchronize everything to your Outlook account, and you're a 'People' person again. Only this time, Outlook stores your contacts and email, primarily.

Hanging Out

Can't use your Google account to chat on WP8 because there's no 'Hangout' app? Try IM+.

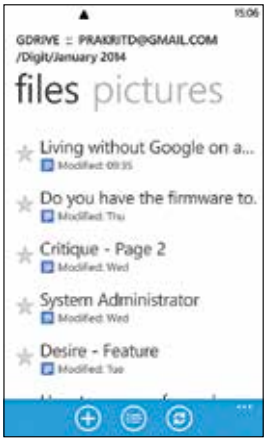
IM+ is a neat app in itself. It synchronizes all your IMing into one concrete application. Effectively, you can do away with every instant messaging app and just rely on this. Unless, of course, you're the kind that doesn't like consolidating your chats. It's a smooth app, and easy-to use.

Gee, plus!

Okay, admittedly, G+ isn't all that popular. But keeping that aside, for all those of you who're really into it, iOS and Android offer native Google+ apps. Windows Phone 8 mostly has third-party replacements that display a mobile view of the website.



G+ works like a charm



GDrive feels awesome



GMaps: A nice alternative

After trying a few other options, one of the best alternatives for Google+ is the Google Plus Viewer. It's free and has a pretty smooth user interface.

Drive through

This app's so good that it feels like the real thing. After an hour of testing, we realized that this app is NOT by Google. GDrive by Pedro Lamas is your Google Drive sync app on the WP8. It provides a very neat mobile interface to view your Google Drive files. With the exception of eBooks, GDrive could open pretty much any file directly off the app.

Find your way

No. No official Google map app for WP8, just yet. For Windows users who aren't too fond of HERE Maps (previously known as Nokia Maps), and who can't have official Google Maps, the best third-party replacement for Google Maps is gMaps by Dream Team Mobile. You could pay ₹135 for it, or simply download the ad-friendly version. The UI is a lot friendlier than most other map apps.



PCs in movies
If you ever wanted to check out some of the most pivotal moments of PCs in cinema, visit: **http://dgit.in/1gUXFAL**

Predictive cruise control
Ford's engineers are hard at work to equip cars of the future the ability to drive themselves **http://dgit.in/1fF7IWK**

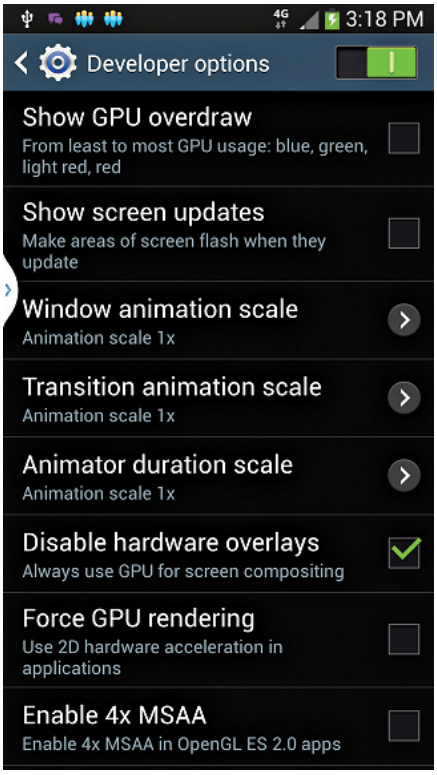
Solution for Steam installation troubles, flickering screens, troublesome flash drives...

Failing gadgets, seizure inducing flickering screens, stubborn pen drives and game troubles never seem to deter the good folks from team Digit and they come to the rescue to troubleshoot the digital lives of our readers

Flickering screen

I recently purchased a Micromax A116i Canvas HD that has a 1.2 Ghz Quad Core processor with 1GB RAM running on Android 4.2.1. Whenever I play games or watch videos on the phone, one edge of the screen starts flickering. I don't face this problem while using the phone for simple tasks. I didn't experience this issue at the time of purchasing the device and its been just three days after using the phone that this issue cropped up.There hasn't been any physical damage to the phone at all whatsoever. Also, I can't access developer options in the settings menu to check what's wrong.

-Prateek Shekharan



Disable hardware overlays from this menu

A The screen flickering issue that you're facing with your smartphone is a known issue with some devices running on Android 4.2. As it turns out, this isn't a major problem and you can get rid of it with some simple tweaking. This issue comes up when the phone has trouble deciding whether the CPU or the GPU should handle screen drawing at times. It causes redrawing of the screen which we notice as flickering. To fix this, go to Settings > About Phone > Click or rather tap on the "Build Number" at least six times. You'll then see a pop-up notification at the bottom saying "You're now a developer". Now in the settings menu, you'll be able to see "Developer Options". Go inside "Developer options" > scroll to the "Drawing section" > tap or click on "disable hardware overlays". Once you do this, your phone should be devoid of the flickering issue.

Unformattable pen drive

I have a 4GB pen drive that I decided to use as a Windows 7 bootable drive using Josh Cell software. I first formatted the drive into the NTFS file system and then ran the software. At some point the program appeared to be stuck and thus I waited for a long time but it was still stuck at the same place. Next, I decided to disconnect the drive from my laptop but when I inserted it again, it showed that some space was utilised. I tried to delete the contents but couldn't do so and I tried formatting it with no avail. Windows gave an error saying that it can't be formatted. Help me get rid of this issue.

-Pradyut Agrawal



This is an amazing tool. Seriously.

A From what you're describing, it seems as if the drive somehow became write protected and is therefore not letting you format itself. You can try using a simple but powerful tool called HP USB Disk formatting tool. This is a free software tool with an easy to use interface. Download it from here: dgit.in/DiskFoTo. To use it, install the tool on your PC and connect your pen drive. Then launch the tool and select the appropriate option from the menu and your issue will be resolved.

Gaming woes: Call Of Duty trouble

Below are the specifications of my PC:

- Intel Pentium G 2010 @ 2.8 GHz;
- 4 GB RAM;
- Nvidia GeForce GT 610 GPU with 2GB DDR3 VRAM;
- Windows 7 Ultimate 32-bit;

On this very rig, I can run FarCry 3, Borderlands 2, Dead Space 3, Medal of Honor 2010 on medium to high settings with 20+ FPS on this configuration. I recently got Call of Duty: Black Ops 2 from my friend. After installing it when I tried to start the .exe file, my Windows colour theme changed to Windows 7 Basic and nothing happened after that. I could see my CPU usage reaching about 90%.(normally it never goes above 60%) is that because my



Steam, a popular gaming client, requires an internet connection for installation

rig is unable to play the game or is there some other reason?

-Aditya Gadgil

A An ideal frame rate that makes a game playable is considered 30 FPS but since you're okay with playing games at 20+ FPS, it shouldn't matter to you. According to the specifications of your rig, it sure isn't powerful enough to run the game properly and that is why Windows changes its theme to Windows 7 basic. Nevertheless, you should be able to start the game somehow and it seems like something went wrong with the game installation or with the game config file. First search for the latest game patch on the game developers website and install the patch. In case that doesn't work then, uninstall and reinstall the game and then execute it again. If that fails to work too then search for the game config file in the game installation folder and tweak it as shown here:dgit.in/CoDBO2I

Q To root or not to root?

I use a Galaxy S Duos S-7652 and I'm sadly stuck with the outdated Android 4.0 (ICS) OS. I don't think Samsung plans to roll out an OS update for my phone. So, is there any way I can upgrade to Jelly Bean? I know about rooting the phone, but it's quite tedious and complicated. Frankly, I'm afraid of bricking my phone. I even saw some videos on Youtube but they were all confusing.

But if there is no other solution then would you please give me a foolproof way do it? Also is there a way to unroot the phone, just in case I have to use my warranty?

-Aum Pandya

A When it comes to rooting or tampering with your phone's OS, nothing is foolproof because if something has to go wrong it will go wrong but you can always make sure you follow the instructions strictly by the book. Speaking of Android phone tweaking, your biggest friend is the xda developers forum as you'll find a step-by-step guide to most queries there. So head here: dgit.in/GaSDuos and find all that you want to attain smartphone glory.



NOTE: Rooting Android voids warranty

Q Steam installation

I tried installing the steam application that came with the Digit DVDs. But it abruptly stops during the middle of the installation saying "Steam needs to be online for installation. Please check your internet connection". What should I do? Please help.

-Jagan Vignesh

A Steam is a digital distribution gaming platform developed by Valve Corporation. It is used to distribute games and related media online, from small independent developers to larger software houses (including regular consumers). This is why Steam needs an internet connection during installation and if you're someone who likes to play games then it's highly recommended to connect to the internet and use Steam.

Q Faulty servicing

I think there is something wrong with my laptop. I am not facing any stability issues per se but I am observing higher temperatures than I'd expect at a room temperature of 10 degree Celsius. The laptop is around 40-45°C during idle, and up to 52°C when browsing, with Zune and some other apps in the background. The temperature usually crosses the 70°C mark when gaming. Although never above 75°C. Considering it's been only a couple of months since I bought this laptop, I feel this is not normal. I also noticed that this started happening only after I gave the laptop to customer care for replacement of damaged speakers. Another thing is that, I can hear the fans swirling pretty loud when watching movies. Please suggest me a solution. Thank you.

-Kaustubh Yadav

A It seems that something definitely went wrong with your laptop when it was with customer service. The high temperatures indicate that the people responsible for putting the laptop back together after servicing or replacement of the speakers didn't put it back together properly. We suggest you to get in touch with the customer care as soon as possible and ask them to take a look at your laptop again.



Mystery in Berk
The new 'How to Train your Dragon' trailer unveils the mystery character behind the mask. Find out who it is: **http://dgit.in/httydrag2**

Depp Transcends
Take a look at the trailer of Johnny Depp's new film 'Transcendence' which is raising quite a few eyebrows in curiosity. **http://dgit.in/D3pptrans**

Sqeaky Clean

How to prepare for and perform a clean install of Windows efficiently

Prakrit Dhondiyal
readersletters@thinkdigit.com

Remember the sweet plasticky smell of your freshly unpacked computer? How it smoothly turned on, and seamlessly took you to your gloriously plain desktop? Not that it's necessarily a worthless piece of junk now, but power users who crack software and generally experiment with new and innovative uses of software end up visiting hundreds of infected web pages which inadvertently infect their own PCs no matter how protected or careful they are. Even if you don't live on the edge, years of bloat start showing sometime down the line.

What you need, on occasion, is a reset button that takes your PC back to a state when it was on its best behaviour.

Clean installs are almost a must for those who like keeping their systems smooth and infection-free – much like one would do a regular tune-up of their vehicles – to keep the bugs and glitches away. We obviously don't recommend a monthly full system clean-up, but once a year or every few years, "just to be safe" isn't a bad thing to plan for. All you need to do is back up all that data and do a clean install of Windows. Here are some things to keep in mind before you do either.

Back up your data

Unless you're one of those obsessive compulsive techies who arranges his stuff meticulously down to the last .txt file, your data is probably all over the place, in folders labelled 'to sort out' and 'more stuff to sort' or maybe in Leet codes and hidden directories among your system files. And unless you have an eidetic memory, it's more than likely that you'll miss one of these 'important folders'. Think hard, and remember to back up your data, especially little things such as saved passwords, auto-fill data from browsers, Windows sticky notes (yes there's a way to back that up as well. Read further and see our checklist to know more), etc.



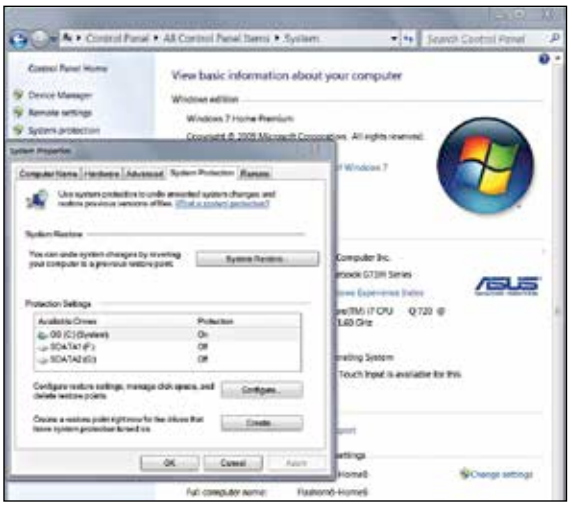
Storage for back up!

Use System Restore Points

Windows System Restore points are meant to be used in case of extreme situations. However, don't avoid the feature either; use it well.

To create a system restore point, go to `Control Panel > System > click 'System Protection' on the left-hand side pane > System Restore.` You may need Administrator permission for which you may need a password. Enter this and then click on 'Create'. On the System Protection dialog box that pops up, type out a description to make it easier for you to find the restore point, and then click 'Create'. To restore this point in the future, run the 'System Restore' option on the same tab and select your saved point.

The System Restore option usually comes in handy at times when you accidentally install software that starts playing havoc with your PC, or refuses to uninstall because of corrupt files. The option leaves your files and folders intact, so now worries. All the drivers installed at the time the restore point was set will also stay where they're supposed to be.

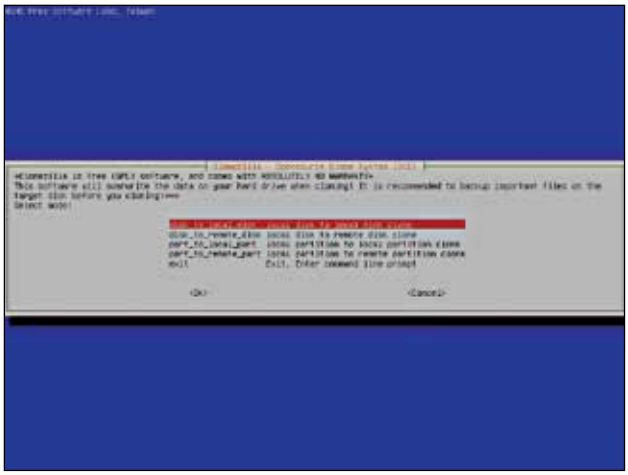


Important milestone: Windows system restore point

Clonezilla

Too lazy to pick out your folders and save the necessary ones? Clonezilla to the rescue! It's a software for people who are ready to prepare themselves for a probable crash. Sure, you can do a clean boot and reinstall Windows, taking away any and every system problem you may have with your PC. But at the end of the day, you'd obviously prefer a clean system with all the essential and basic software intact. To do so, follow the instructions given below.

Download the compatible Clonezilla .iso file from http://dgit.in/cloneZilla and Tuxboot from http://dgit.in/tuxboot. When downloaded, use Tuxboot to create a bootable Clonezilla USB with the Clonezilla ISO. When done, restart your system, and enter System BIOS. In BIOS, switch your boot order to boot from the USB before the default hard drive. Remember to save changes and exit. When you reboot, Clonezilla will start. Follow the instructions and create an image of your primary partition. For the sake of safety, store this image in



Clonezilla UI: Not the best in the world, but simply works

an external source which is in no way connected to a network – neither yours or anyone else's. After the image is created, remember to take an image of the 100MB Windows recovery partition on your hard drive and save it on the same aforementioned source.

This stock image of your PC is what we like to call your 'Clean Clone' (CC). In case your PC gets infected or corrupt, or just gets plain slow due to excessive and/or careless use, the CC can be used to bring back your PC to the exact state it was in when you created the CC.

When you have an oops moment somewhere down the line (a crack which wasn't a crack at all?) and your PC needs to be cleared, all you need is GParted, a free partition editor for graphically managing your disk partitions and your CC.

Run GParted on your PC to format an infected partition to remove all traces of viruses and then restore the image you've saved in your CC through Clonezilla to return to your clean system.

In case you forget to back up the Windows recovery partition, you may have a bootmgr issue, which can be resolved with a Windows boot disc. Learn how to create one from our Thinkdigit article on installing Windows http://dgit.in/instWin

However similar Clonezilla may seem to using a system restore point, there are certain pros and cons of both these techniques. The restore point may change your install and registry files to an earlier, more stable state, but it doesn't affect the files on your PC. The problem with this is that if you're infected with malware or any other virus, there's a high chance it will still be there after the restore.Clonezilla solves this issue, but also wipes off any data you may have downloaded onto the PC after you created the CC, so be wary of that.

Clean install (the hard but right way)

As an ultimate step, you could begin right from the start. This basically involves removing everything from your PC and reinstalling your OS and software from scratch. Yes, it's quite the task, but sometimes issues like a boot sector virus and particularly intelligent malware can force one to take such inevitable steps.

The process is pretty standard, but if you need to know more about it, check out our article on disinfecting your PC at http://dgit.in/disinPC

Things to do before wiping your PC clean

Here's a short generic checklist of things to keep in mind before you completely erase your PC.

- **Flickr has 1TB space for your photos:** Don't keep your precious memories at risk of being wiped out. Though not enough for every photo a professional photographer takes, 1TB is enough to keep the important ones backed up in case of emergencies. And if you're a smartphone pic taker, go Flickr!
- **Autofill form data and saved passwords:** Not really priority #1, but it's a luxury which, if you use often, is a pain to have to live without. And thus, it makes it into our pre-cleanup bucket list. If you use Chrome, then simply sync it all with your Google account. If you use Firefox, check out http://dgit.in/FoxFill at the Firefox forum for help.
- **Ninite:** A website for downloading bulk essential software for clean boot is http://ninite.com/ From anti-viruses and web browsers to music players and messaging apps, Ninite keeps it all ready to be downloaded in one bundle. Simply tick your necessary boxes, and click on 'Get installer'. If you don't want to dig into your precious bandwidth, simply pop in any of our Digit DVDs and look for the Essentials section. If you didn't notice already, we've had your back for years, now.
- **Sticky Notes:** They're in your face all the time, but it's very easy to forget to back up these important virtual post-its on your desktop. Avoid the hassle of recalling what your sticky notes remembered for you, and simply remember to take them with you. Press [Win] + [R], type in '%AppData%\Microsoft\Sticky Notes\' and press [Enter]. This would lead you to a .snt file. Copy this SNT file to your backup folder.
- **Google Drive/Sky Drive:** Your documents and other smaller files are important too. Back up your files on Google Drive, Sky Drive, or any of the other cloud storage tools out there. Cloud computing is the future. Hop on the bandwagon!



Cloud storage: The future home base of data



1TB photo storage on Flickr

Be careful

Don't put yourself in a situation where you have to do a clean install in the first place! Take care of your PC and your PC will take care of you.

69 **Space Age**
Mankind's oldest mystery, the moon, is always brighter on the other side. We explore some odd theories.

Who is "Spamford" Wallace?
The world's most notorious spammer, that's who. Read about the decade long quest to finally catch him here: **http://dgit.in/spamrr**

The elusive dream to create vasts amounts of energy using simple reactions has always been a dream. Which leads us to the question...

Whatever Happened To Cold Fusion?

Samir Alam
readersletters@thinkdidgit.com

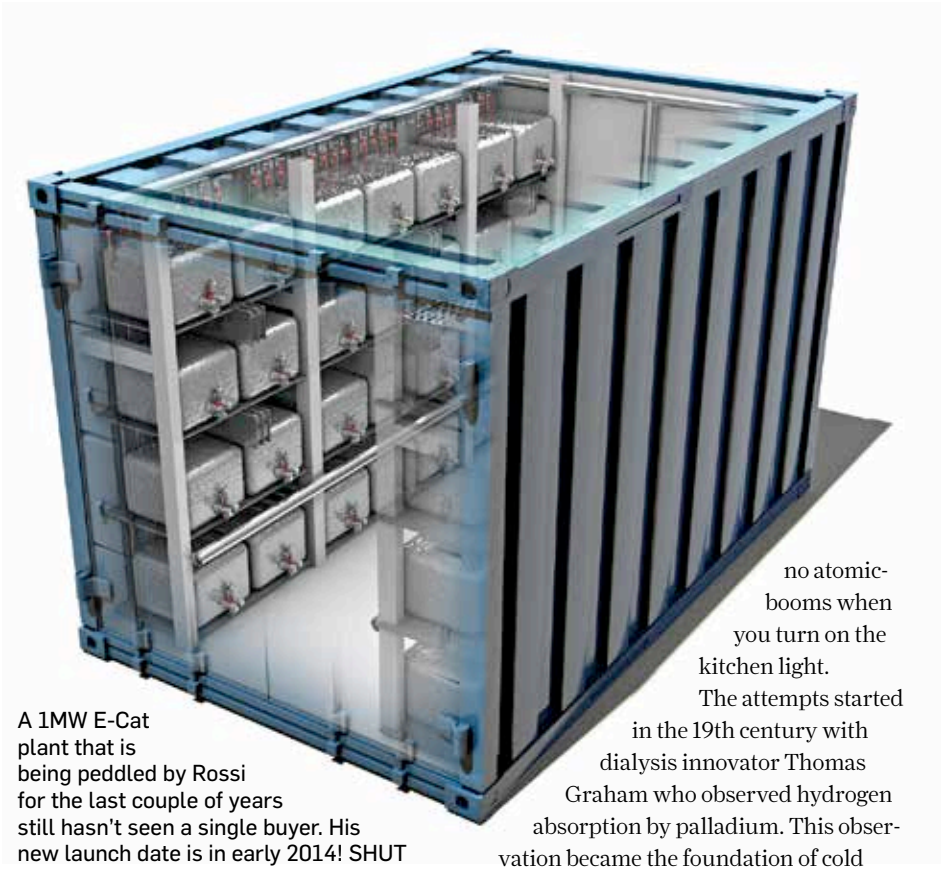
In Greek mythology Prometheus defied Zeus and stole fire for humanity. The Rig Veda tells the story of Matarisvan, a hero figure who secretly transported fire to the Bhrigus. The history of human imagination is littered with the idea of acquiring power.

More than an idea, at times it has become an obsession - the desire to receive more than we give - it is human nature at its most basic. And just as fire played the decisive role in igniting the technological revolution, so does the potential of cold fusion. Shrouded in hoaxes, myths and bad publicity cold fusion is the holy grail of energy scientists across the world but we must ask ourselves - is it even real?

Prometheus and Matarisvan Walk Into A Lab

The quest to create vast amounts of energy through simple reactions is persistent; from gunpowder to dynamite. A simple problem - to start a self-sustained process where more energy is released than invested in a nuclear reaction. Oh wait. Didn't we do that already?

Yes. There is that old recipe - a little bit of Uranium-235, a spare neutron and presto you have nuclear fission. For the chef's special, direct the nuclear fission energy to a mix of fusion materials - Uranium-238, Lithium-6 deuteride and a dash of Plutonium. Chef calls it a fission-fusion reaction. Bon apetite. Oh just one thing - the aftermath might be a little more radioactive than you're used to.



A 1MW E-Cat plant that is being peddled by Rossi for the last couple of years still hasn't seen a single buyer. His new launch date is in early 2014! SHUT UP and Don't Touch My Money!

Always a catch, eh? We all want that plentiful supply of energy - a warm light for all mankind (as Loki so eloquently put it) but without the collateral death and destruction, and can it be not radioactive as well. This is where the concept of cold fusion arises – all the tasty energy with none of the indigestion. Meaning no atomic-booms when you turn on the kitchen light.

The attempts started in the 19th century with dialysis innovator Thomas Graham who observed hydrogen absorption by palladium. This observation became the foundation of cold fusion research. But it was only in 1926, that Austrian scientists Friedrich Paneth and Kurt Peters attempted an experiment to transform hydrogen into helium at room temperature (the sun does the same thing but at 15 million Kelvin or 1.5e7°C - a bit uncomfortable). They were unsuccessful.

They were followed by others including Swedish scientist J. Tandberg who innovatively started using the newly discovered deuterium (heavy hydrogen) isotope and even went so far as to apply for a patent

(rejected of course). But after three decades of false starts, erroneous readings and lack of support, 1956 witnessed one small victory for the cause – they had a pop-culture term for it now – Cold Fusion.

The Fall of Cold Fusion

Thirty three years later, 1989 saw the first signs of hope as electro-chemists Martin Fleischmann and his student Stanley Pons declared that they had successfully achieved cold fusion. Their experiment involved conducting an electrolysis process using a palladium cathode and deuterium in an insulated vessel designed to measure process heat.

The experiment lasted weeks while current was continuously supplied and the deuterium replenished until suddenly something strange happened. The energy balance of the process shifted and the process heat increased from 30°C to 50°C, with no change in the current supply. The duo quickly realised the commercial potential of their experiment and published their finding in March 1989.

And then, everything went to hell.

The media storm following the Fleischmann-Pons experiment captured the world's imagination. The possibility of a near infinite supply of cheap energy invited interest and scrutiny from all corners of the world - scientific and commercial. But the glory was short lived as scientists across the world were unable to replicate the experiment. In addition to this setback the discovery was burdened by the complete absence of supporting conjectures or theories that could explain how the excess heat was generated.

Even reputed institutions such as CalTech and CERN declaratively stated that the experiments just didn't work. Instances of scientists publishing concurrent findings in support of Fleischmann-Pons and then retracting their support cast doubt on cold fusion as a legitimate science. The chaos surrounding the academic community's divide over the subject led "cold fusion" to become "fusion confusion", and scientists started considering the research to be incompetent and delusional. The final nail in the proverbial coffin was when the pejorative of "pathological science" ultimately spelled doom for the newly blossoming field of science.

By 1991, cold fusion had been firmly relegated to the stature of fringe science along with subjects like martian canals and crystal healing. The scientific community was divided on near religious grounds, as the National Cold Fusion Institute claimed 92 research groups across 10 countries had successfully replicated the experiment but offered no proof to the non-believers.

As the negative reviews and media turned cold fusion into a joke, Fleischmann and Pons left the United States to continue their research for the Toyota Motor Corporation. Over the years they spent USD $44 million without any success. The National Cold Fusion Institute that had been set up in August 1989 also dried up and was shut down within 22 months of operations. For all practical purposes, cold fusion was dead.



How well would you sleep with a fusion reactor in your home if no one but the designer knows how it works? No customer service in a nuclear meltdown. Sorry.

The Prodigal Son Returns, Still Prodigal

For a long time after the Fleischmann-Pons fiasco, obscure groups of scientists would continue their research into the field of cold fusion with no real results. But in 2008 a curious Italian engineer called Andrea Rossi and his E-Cat (Energy Catalyzer) device started gathering interest – commercially and scientifically.

The device was (and sort of is) purported to be the first fully functional and commercially viable cold fusion device. The description of how the device works involves excited hydrogen, a mystery catalyst, a sealed contraption and the ability to let hydrogen atoms "penetrate" nickel and transform it into copper. The energy produced is allegedly self-sustaining and many orders of magnitude larger than the most common fuel sources available.

The miracle device saw significant interest in scientific and commercial circles but given the deep scar from the Fleischmann-Pons affair, community reactions were cautious. Scientists wanted to be sure that whatever Rossi was peddling was legitimate and not another overblown curiosity. Even agencies such as NASA, the U.S. Naval Research Lab and DARPA got involved to verify the claim. But Rossi declined, maintaining a reclusive and secretive attitude over the details of his device, only allowing highly controlled demonstrations that left many questions unanswered.

It was also discovered that Andrea Rossi's engineering degree was from the corrupt and debunked Kensington University in California (shut down in 1996) and the fact that during the 1980s Rossi proclaimed to invent a machine that magically transformed garbage in to oil. That claim resulted in a lawsuit, a "poison factory", 77,000 tonnes of toxic waste and a USD $50 million clean up cost.

As of December 2013 none of that has discouraged the Italian entrepreneur. And

Birthday word generator
Do you know which words entered the English language around the same time you entered the world? **http://dgit.in/bgentor**



Please don't be a hoax
Not very fast, and not the safest thing on the road but who wouldn't want a full sized lego car? **http://dgit.in/legocarr**

despite the complete lack of scientific scrutiny or peer review, he and his investors are taking advance orders of USD $500,000 or more to sell these little magic boxes of energy. Even going so far as to invite pre-bookings for a portable 1MW unit for USD $1.5 million in November 2013 with estimated delivery in early 2014.

Even as the world waits for the E-Cat to be tested the needs of the world don't change. With world energy requirements expected to hit a sharp increase from 524 quadrillion Btu (British thermal units) (i.e. 1.5356924e+14 kilowatt hours) in 2010 to 820 quadrillion Btu (i.e. 2.40318278e+14 kilowatt hours) by 2040 it is clear that we need more power, cheaper, cleaner and safer.



A warm infinite fire for all mankind. Is that too much to ask?

And as nuclear and renewable sources of energy grow at a rate of 2.5 percent per year we can still expect 80 percent of energy from fossil fuels. Considering the past behaviour of human consumption and demand, this equation isn't likely to change, as we discussed in our story about oil consumption (Digit May 2013).

But until the first unit is in the hands of independent examiners we must hope that it works. And yet, unless Rossi dies under mysterious circumstances (we usually accept conspiracy as proof of reality, don't we?) or until scientists clearly explain the logic of his device, it's more rational to believe that while Fleischmann-Pons may have made a genuine scientific error, Rossi on the other hand is a malicious fraud. And his biggest contribution may unfortunately be to further damage the image of cold fusion as a genuine science.

Reinventing Cold Fusion!

Perhaps the greatest irony in the history of cold fusion is the origin of its name. The term arose in 1956 and became popularly associated with the idea of self-sustained nuclear fusion but it was originally coined by journalist William Laurence writing about a different type of fusion (a far less sexy type) called the Muon-catalyzed fusion reaction.

Key feature of muon-catalyzed fusion is that although considered distinct from "cold fusion", in its popular sense it conforms to all the scientific concepts - it actually allows for nuclear fusion reactions at significantly lower non-thermonuclear temperatures.

Theorised during the 1950s, it was applied by Luis Alvarez's team in 1956, resulting in the controlled generation of 5.5 MeV of energy. The success of this minor output was further investigated by John Jackson who was able to theoretically distill the practical applications of the process and its energy output.

Jackson's research outlined the practical limitations of the process as a commercial product and presented scientist's with a clear problem that needed solving to achieve success (read: alpha-sticking problem in muon-catalyzed fusion). This field rechristened itself in the wake of "cold fusion's" bad publicity as Low Energy Nuclear Reactions (LENR) research and has continued its parallel quest towards achieving "cool fusion" (as we like to call it).

Cool fusion or LENR research may have the answer that cold fusion research seems to be too hard pressed or distracted to find. For the most part cold fusion and LENR are on the same journey of discovery but over a period of time they've attracted different sorts of researchers. The former is a litany of mistaken scientist (perhaps too proud to admit their errors) and charlatans who attempt to profit from selling snake oil, whereas the latter is a quiet, unassuming and very open group of scientists whose work and credentials are transparent and easy to verify.

The Next Wave of Discovery

A world with an unlimited energy supply isn't hard to imagine; a greener world, with cheaper transportation, global connectivity, solutions to global health and food, not to mention the always elusive deep space travel - the possibilities are endless. So even as cold fusion seems to buzz around with a disreputable past the real deals aren't dismayed.

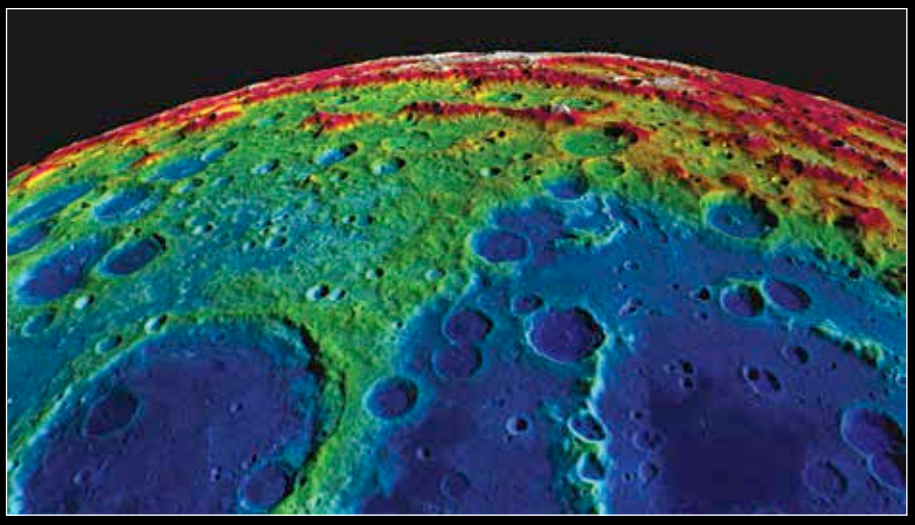
Scientists at the National Institute of Nuclear Physics (NINP) in Italy and NASA's Aeronautics Research Institute in the United States have made significant strides towards the fundamental research necessary to realise cool fusion. Italian scientist Francesco Celani at NINP has even made his research open and accessible for scrutiny, having demonstrated a modest success (5 to 10 watts energy) with the intention to grow slowly but firmly. And NASA is putting more resources in researching LENR reactors, solving each problem in a deliberate and patient fashion.

The need for this innovation is high, the time is running out and too many frivolous distractions are leaching from a noble cause, but as long as dedicated scientists continue to work tirelessly with determination and transparency, humanity will once again steal back the fire from the gods and set free the innovations of our imagination.

The dark side(s) of the Moon

Mankind's oldest mystery – Is the moon really brighter on the other side.

Samir Alam
readersletters@thinkdigit.com



DLR Institute of Planetary Research took 3D images of the Moon's far side showing a scarred surface with an extreme range of elevations.

Humanity's love affair with the Moon is legend. From its ascension as a mythological deity across all cultures to being the focus of scientific human achievement during the 20th century. Along with being the only celestial body other than Earth that humans have walked on.

We have traveled to the Moon, landed envoys on Mars, our probes have voyaged through the Kuiper belt and far into the distant reaches of the galaxy but our obsession with the Moon hasn't diminished. Like any real first love, humanity ponders and muses about it even decades after its last touch.

And even as science and technology, art and culture, myth and superstitions have attempted to explain its many subtle traits and moods, the Moon has remained a shrewish mistress, having withheld its deepest secrets for as long as it has populated our imagination. Leaving us in doubt even as to its origins. So once more unto the breach dear friends and let us try to demystify our first true love.

The Far Side of the Moon

Over its 4.5 billion years of history the Moon has evolved from a proto-normal entity to the awesome vision we see today. Constantly keeping people fascinated with the notion of its "dark side". Deeply rooted in the memory of modern society as the iconic Pink Floyd album, the misconceptions regarding the dark side of the Moon have led to numerous false theories, ranging from secret alien bases to well, more exotic extra-terrestrial conspiracies.

But to clarify - there are no aliens on the Moon. That we're aware of. Or that we're allowed to tell you. Moving on.

The fact that we can only see one side of the Moon - the "near side" - is the result of inter-stellar forces and orbit alignments. The science is very simple - the Moon completes one orbit around the Earth in approximately 29 days which is exactly how long it takes to complete one rotation on it's own axis. This coincidental synchronicity results in a "tidal lock" so only one side of the Moon is facing the Earth at all times.

The common misconception that the "dark side" of the Moon or more accurately - the "far side" - doesn't receive sunlight is false. Due to the nature of the Moon's rotation in relation to its visibility from the Earth, it appears as if the "near side" of the Moon is the only surface reflecting sunlight but in actuality the "far side" also witnesses a sunrise and sunset.

Unveiling of the Face

Since the dawn of humanity the misconceptions and myths surrounding the moon have naturally risen to fill the void of ignorance that could not be filled given the limitations of the times. And it was only in 1959 did we capture a glimpse of the far side of the Moon.

In October 1959, a Soviet probe - Luna 3 - photographed, developed and transmitted images of the far side of the Moon to Earth. The grainy images recovered from that mission were soon replaced with first hand eyewitness accounts as within a decade of the Soviet's victory, the members of the Apollo 8 mission - Borman, Lovell, and Anders - received an early Christmas gift, as they became the first humans to see



Samsung's new app
Samsung introduces the Smartphone Gamepad and Mobile Console app.
http://dgit.in/smsngapp

Nearby Tweets
Twitter's new experimental feature shows tweets nearby their location on a map
http://dgit.in/twttrnrby

the far side with their own eyes while their vessel orbited the Moon.

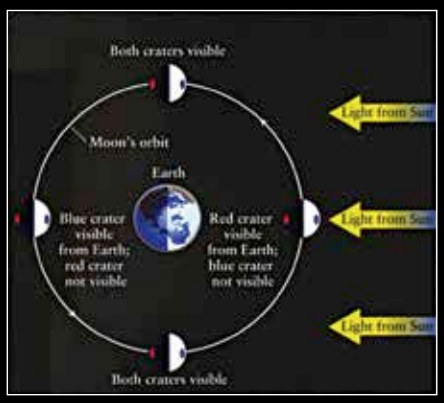
By the time Neil Armstrong stepped on the surface numerous photographs and eyewitness observations had already been analysed by scientists. Over time the improvements in technology has made those grainy images a thing of the past. The most recent addition to our knowledge of the far side is from the images taken by the Japanese orbiter Kaguya, that photographed the 185 km crater of Tsiolkovsky Crater with a full HDTV camera.

However despite the quality of the HD images it remains very hard to imagine the Moon as it must appear from space. Even the full Moon isn't truly full and we are left with only half the picture at any given time due to our "tidally locked" orbits. The rotation around its axis, the rising and setting of light across its surface and the real sense of its motion can't be appreciated from mere photographs. Scientist at NASA felt the same way so they did something about it.

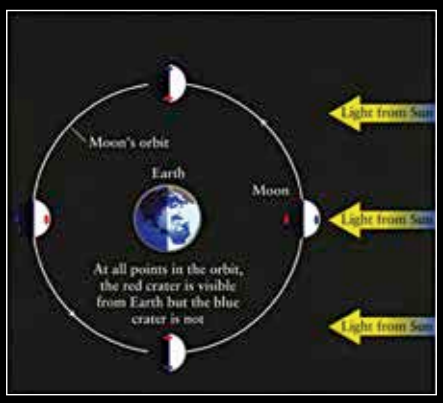
In September 2013, NASA used images taken by the Lunar Reconnaissance Orbiter Camera (LROC) over a period of four years to compile a 25 second video clip that shows exactly that - the closest possible vision to observing the Moon from a position in space. Using the LRO's Wide Angle Camera (WCA), NASA was able to take advantage of the 90 degree field of view to create a to-scale near global topographic map and make a timelapse video.

The challenge of accomplishing this task required a meticulous and innovative strategy devised by NASA scientists. An equation was determined that accounted for the angle of the sun, the viewing angle and reflectance changes and applied to every pixel of the 110,000 wide angle camera shots that the LRO took since it's launch in 2009.

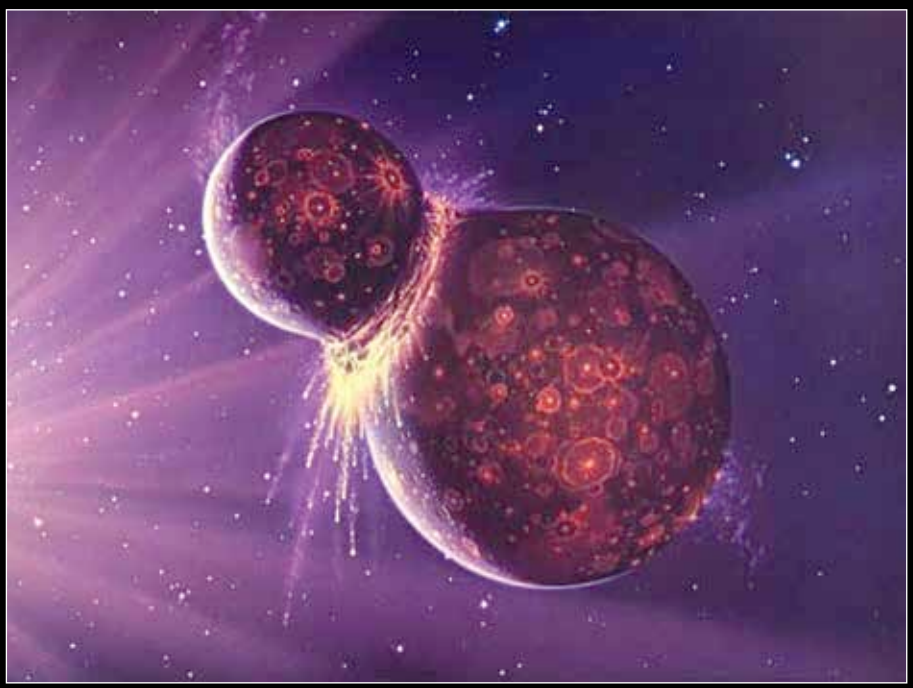
The correction from this composite allowed for a crystal-clear view of the dark side of the Moon and demonstrated how even the dark side receives regular sunlight. But its important to note that many impact craters on the Moon don't receive any sunlight at all. The reason for this is simple - the 1.6 degree tilt of the Moon causes sunlight to fall nearly perpendicular to the surface, as compared to Earth's 23.4 degree tilt which ensures that sunlight reaches all surfaces. This difference in relation to the sun results in the Moon having dark shadows in the craters and crevices of its surface.



a. If the Moon did not rotate, we could see all sides of the Moon



b. In fact the Moon does rotate and we see only one face of the Moon



The resulting debri from the collison between a Mars-sized planet and Earth is theorised to have given burth to a debri field that eventually became the Moon.

Moon Origins: More Mysteries Abound

Since 1969, six Apollo missions have allowed humans to walk on the Moon, the last of which was in December 1972 when astronauts Eugene Cernan and Harrison Schmitt became the last humans to walk the lunar surface. The 41 years since have seen very little interest in the Moon, and only recently have other countries like China and India achieved the ability to launch independent space missions.

Scientists now believe that the scientific ambition and legacy of the Moon landings needs to be reignited in order to investigate the fundamental questions relating to the origins of the Moon, which to this day are only theory and conjecture, held back due to insufficient resources. Scientists believe that in order to study the origins of the Moon and the history of our planet's evolution humans need to visit the Moon across its topography.

All manned Moon landings have taken

place on the near side, very close to the equatorial region. This narrow range of sample areas doesn't provide scientists with the necessary variety of soil and rock samples to form a sound scientific theory. The small samples obtained from probes and spectral imaging shows that the Moon is very geologically diverse and in studying the diversity can the origins of the Moon be truly discovered.

As of now we can only guess at the origins from general observations.

Giant Impact or Isotopic Twin or The Big Splat

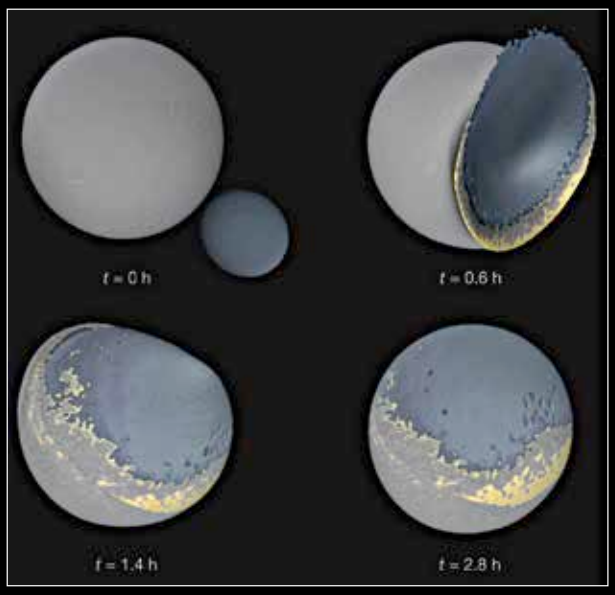
The most popular theory amongst lunar scientist is that about 4.5 billion years ago a wandering Mars-sized planet (called Theia) collided with the young Earth and resulted in the formation of massive debris, that eventually coalesced into the Moon. And although this theory has had a significant following it is still ill equipped to answer certain inconsistencies. A major one being the fact that the Earth and the Moon have an odd variety of isotopic (sharing common element isotopes) similarities in their compositions while the Moon doesn't conform to most other objects in the Solar System.

To answer these inconsistencies the theory of Isotopic Twins was floated, which sought to fill in the blanks. If the Moon was a result of an impact between the Earth and Theia, then the Moon would display isotopic features of both Earth and a cosmic body, but it doesn't, so its more likely that the Moon is a dwarf Earth twin. However, even that theory isn't totally verifiable since the only samples that show isotopic similarities were taken from the surface of the Moon. In order to truly prove a cosmic connection samples from the mantle of the Moon would be necessary.

A third theory explains more than just these inconsistencies and also addresses the strange differences between the surface of the near and far side of the Moon. The Moon's near side, as we know, always faces us and appears relatively smooth - which is a result of hardened ancient lava not found on the far side. The far side on the other hand is highly asymmetrical, filled with highlands and craters across its surface.

Scientists theorise that although the Moon was created due to a large impact from a planet sized body with the Earth, another smaller Moon was also created. A subsequent low velocity collision between our Moon and the smaller Moon resulted in what is known as - The Big Splat.

Using computer modelling and simulations, scientists at the University of California have proposed that the smaller moon's crash with our Moon is what accounts for the distinctive nature of the dark side. The low velocity collision didn't result in a large crater, instead the collision wen "splat" causing the creation of the lunar highlands.



Computer simulations show how a small second Moon from the Theia-Earth impact may be responsible for scarring the Moon's far side.

In order to verify these theories, NASA's Gravity Recovery and Interior Laboratory (GRAIL) missions are probing the Moon's gravity field to model the differences between its near and far side. The goal is to measure the gravitational effects of the materials under the crust of the Moon and test the possibility of the two Moon theory. Only time and commitment will tell which one of these theories is correct.

Where We're Going, We Don't Need Roads

Soon after the Soviet's had launched Sputnik and gained an advantage in the space race America was brimming with competition. To address the tension, on a hot summer's evening in May 1961, the President of the United States - John F. Kennedy - stood before the American public and congress, and made one of the boldest and most unsubstantiated claims ever. He promised that the United States would put a man on the Moon within ten years. They did it in 8.

The strangest and perhaps greatest aspect of the humans spirit can be analogised in that instance. The sheer human audacity to attempt the seemingly impossible given the relative ignorance of the challenge. At the time of his announcement, President Kennedy and the United States had neither the technology nor the research to accomplish the goal of landing a man on the Moon and bringing him back to Earth safely. And yet, the impossible was accomplished.

It almost feels as if the times when humanity did large, great things is diminishing. No longer do we strive for the impossible or yearn for dreams that have no practical value. The space age was actually an arms race in disguise but it brought forth an era of innovation that led to the prosperity of the whole human race; from satellite technology, telecommunications, cell phones, agriculture research, weather system analysis and so much more. All because one man made one stupid promise to follow a dream and a nation followed him there.

India is well on its way to Mars with the Mangalyaan probe but that journey too has been difficult, if not in its science then in its politics. There is a time and a place for innovation and history tells us there is nothing more ambitious than to understand the nature of the universe. So, perhaps it's time for India to get involved and send a manned mission to the Moon with the agenda to finally unveil the mystery of this distant lover once and for all.

CHANGING INDIA WITH TECHNOLOGY

AS WE ENTER A BRAND NEW YEAR, WE TAKE A LOOK AT GEEKY INDIANS THAT ARE HARNESSING THE POWER OF TRULY INNOVATIVE TECHNOLOGY TO DO SOMETHING FOR THE GREATER GOOD. THEIR CAUSE IS A NOBLE ONE, AND WE SALUTE ALL OF THEM.



IMAGING: SHIGIL NARAYANAN

Jayesh Shinde
jayesh.shinde@thinkdigit.com

Revolutionizing medicine

Just close your eyes and try to imagine this scenario – it's not difficult thing to think – just go along. Imagine a scenario that is almost synonymous with India up until 2013. The sight of a poor, neglected farmer trying to make ends meet in a god-forsaken part of the country that has no basic sanitation, water or electricity supply. His children struggle to get basic education, and his wife has no idea that a concept like women's rights exists in our country. With the onset of winter comes the cruel cold from which there is no escape; only pain and suffering with the fight against the elements. Down with an especially furious bout of cold and flu, the farmer tries to go past the village *Vaid* and try his luck with a traditional doctor. It's after all a matter of life or death, as far as he's concerned.

The doctor looks upon the farmer as nothing but a shrivelled 100 rupee note, one that he can quickly scare, intimidate and ensnare in a vicious circle of medication, consultation and expensive tests. Imagine the plight of this man who, in trying times, has to take a loved one or his relative to a doctor who isn't trying to serve but fill his coffers. The doctor tries to make a mountain out of a mole hill, advising the poor farmer to have his ill family member undergo a series of tests that he could easily have done without. Think of these additional tests like pathology reports, Xrays, etc, that pile up on the head of this farmer who has no choice but to get wringed by the corrupt and ineffective system that he's born and brought up in. He probably has to travel several kilometres to the nearest town to something as basic as a pathology, a privilege we enjoy with a second thought in bigger towns and large cities.

As is evident, our country needs an intervention. To alleviate India's woes and pull it out of these dark ages a new kind of geek is rising. A geek that's harnessing technology to build ideas that truly have a far-reaching effect, and enough potential to fundamentally correct something that's wrong in our way of life, the government, and everyone in between. Let's take a look at what these guys are up to, and the technology that's

India is eyed by the world as a destination of medical tourism, where we provide quality medical services to the ones who can afford it at a fraction of the cost of what medical practitioners demand in the West. But even today, in 2013, millions of Indians all over the country don't have access to basic health care. One of the reasons for this is the high costs of diagnostics and specialized equipment, going far beyond a GP's consultation fees and basic prognosis. In the absence of practical solutions, millions of Indians suffer. But not if we decided to do something about it.

Myshkin – co-founder of Biosense, an internationally recognized med-tech venture building innovative mobile based health technologies – and his dedicated team are trying hard to make reliable diagnostic services affordable and accessible to everyone. They provide highly sophisticated mobile diagnostic units called uChek, that are powered by the Android OS, and are capable of doing more than 14 parameter testing on urine and blood. These are powering diagnostic labs, doctor's clinics and government centers across India, at a fraction of the cost of existing equipment, but at the same



MYSHKIN INGAWALE

BIO: Before starting Biosense, Myshkin has worked at Mckinsey & Company, where he advised Fortune 500 companies on M&A and strategy. He has been a researcher at the Massachusetts Institute of Technology, where he was part of the team that conceptualized and built the Copenhagen Wheel, demoed at the United Nations Climate Summit 2009. He holds a PhD in Management Information Systems from the Indian Institute of Management, Calcutta and a B.Tech in Electrical Engineering from the National Institute of Technology, Bhopal. He is a regular speaker at TED and TEDx events, and a co-author of the book "The Unreasonable Fellows". His passions are tech startups, writing, teaching and football.



"The inspiration (for UChek) was the mobile phone and how it has revolutionized small businesses in India. Healthcare can also be revolutionary in the same way, and provide more affordable and accessible services to common people, if we are smart with technology."

accuracy and reliability levels. The uChek units also provide advanced data analytics using the cloud.

How does it work?

For uChek, right from the start, technology enables everything: The test is done by imaging urine and blood reagent strips on Android powered devices. The data is processed on the mobile device, providing a real time reading and recommendation on the fly, to the health worker doing the testing in front of the patient. The doctor is consulted over the phone/on video. All the data and the test report, as well as the doctor's recommendation is logged on the mobile device, and simultaneously, syncs with the cloud, whenever network connectivity is available. If network is not available, the system will carry on regardless and wait to upload data whenever network is available. All the data can be accessed by program managers and different levels of the health system, at all locations. Everything is geotagged with GPS and timestamped, so real time decisions are made backed by data that is current and relevant. All this runs on the internet infrastructure, most of which is open and freely available.

Myshkin is extremely bullish about UChek and other affordable healthcare ventures he's working on currently. When we asked him about how this will benefit India, Myshkin said, "The uChek and similar mobile based healthcare solutions we are developing cost 1/10th of what other more "traditional" diagnostic equipment cost, and thus make healthcare available for a new strata of society, that had otherwise been underserved or not served at all. Going forward, we think that health is going to follow telecom: In India, instead of going the way of expensive landline infrastructure (telephone poles, lines, etc as in other developed nations) whole districts and states started accessing voice and data on mobile, over the air. Mobile has leapfrogged ahead at an unprecedented rate in India. I believe in Dr Mashelkar's words "Affordable Excellence" and that India will be the first country where per capita income and quality of healthcare will be totally separate: i.e everyone will have access to affordable, high quality healthcare, the same way they have access to affordable mobile talktime."

Part of the new India, which says no to cushy well-paid jobs at MNCs or government desks and cherishes entrepreneurship and starting your own venture, Myshkin suggests that India has never lacked in entrepreneurial spirit. He points out that the "Old India was one of the power centres of global trade and commerce because of the symbiosis between trade, religion and science. We seem to have lost our way somewhat in the last few hundred years, but it seems we are making a come-back now! I think an open society does not banish the failures, it cherishes them. Each failure is a better teacher than any professor or guru in any university, and open and innovation driven societies have learnt how to harness the power of failure to power future successes, in a systematic way. I don't think we are there yet, but the difference in attitudes are already perceptible: From IAS and MBA, the new thinking now is slowly changing to *kuch hatke karna hai, kuch jabardast karke dikhana hai."*

WHAT'S THE DIFFERENCE BETWEEN THE INDIA YOU WERE BORN INTO AND THE INDIA YOU ARE LIVING IN RIGHT NOW?

"The difference is that the old India was always looking for a free lunch. We always looked to other countries to help us, and we always looked to even our own government to "save us", whereas now, the young India is looking inwards and starting to come up with indigenous solutions, innovative ways to address age old problems. Truly transformative change is only possible if it comes from within, is driven organically. And that is what is happening in India, as a whole new generation of doers is getting to work, getting things done in their own innovative way."

Going beyond just entrepreneurship and harnessing technology to its fullest, saving costs on already available medical diagnostic tools, Myshkin feels there's a strong need for indigenously developed solutions to tackle India's medicare and healthcare sectors. Until we do that, there can be no true salvation for Indian healthcare and the problems that plague the medicare system (or its lack thereof) in our country.

He continues to mention that most of India's medicare "systems" have been borrowed from the West. "Sometimes this works, but other times, India needs its own thinking. For example, all equipment in medicine has been invented in Europe or US, mostly. But this solves the problems of the West, and has been designed with their existing infrastructure in mind. India is different and Indian health care problems need special thinking," says Myshkin. He continues to urge all engineers, designers and doctors to "think different, and think out of the box to solve India's health problems." How many of you reading will take up the cause of doing something truly path-breaking to disrupt medicare in the country?

3D Printing: Giving you the power to do

As Digit readers, the concept of 3D printing isn't an alien one for you. This isn't a new phenomenon, you may even find a few 3D printing solutions near where you live. However, apart from academic pursuits and geeks trying to earn bragging rights, there has been precious little substance to tell in the early days of 3D printing. But the space is maturing, not only internationally, but closer to home here in India. This is the story of two youngsters from Mumbai, literally working on the cutting edge of technology, trying to make innovative solutions that will help others pursue their dreams like never before.



ANGAD DARYANI

"I'm a maker. I've been developing technology since I was in the 4th grade (Was a lego mindstorm robot at that time though). I've made things through online tutorials and open source instructions till july 2013. Post that, I have been working at MIT workshops and have used technology to solve real world problems like building low cost eye diagnostic tools or low cost assistive technology for the blind. I've worked on 3D printing using FDM since 2011."

Angad makes...

We met Angad at TEDx recently and were easily impressed with both his nervous excitement and calm composure. The kid's a genius! If you meet him now, he can easily give you an inferiority complex. Why? Because he's doing things that a traditional 15-year-old boy isn't supposed to do, which is to innovate, build ideas, start a business and launch a product that has a truly disruptive potential.

Angad built his first robot when he was just eight years old, and built a modified version of the open-source RepRap 3D printer by the age of 13. One of his prototype 3D printers is being used at the Indian Institute of Technology in Mumbai. At the tender age of 15, he's working on a project that's nearing completion, which is called "SharkBot" a dirt-cheap version of the RepRap which he's planning to sell in India soon, making it India's first home-grown 3D printer. And Angad claims SharkBot will be "the fastest and most robust desktop 3D printer that can print any material except metal."

His relentless passion for building things also led to the invention of Virtual Brailler, a project developed in collabo-

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ration with DIY Workshop, Hyderabad. Virtual Brailler is a device that converts digital text to Braille in real-time allowing the visually challenged to have tactile Braille feedback to the tracked finger thereby discerning unique letters and words. Needless to say, this low-cost eBook reader for the visually challenged has truly disruptive capabilities, especially when existing Braille printing costs several lakhs of rupees and text-to-speech softwares aren't accurate or localized.

Angad calls himself a maker, as he's been obsessed with making things from a very young age – taking apart toy cars, building structures out of lego blocks, doing a lot of art work, designing automobiles, soldering, etc. His goal in life? "To try to start the Maker Movement (http://www.techopedia.com/definition/28408/maker-movement) in India to give rise to youngsters who are more passionate about and who wish to solve real world problems through technology." In a suburb in Mumbai, along with the help of like-minded enthusiasts, he's even helped start the Maker's Asylum, a place where people can come and just make things. It's fully equipped like a professional workshop, the intention of which is to give anyone who wants to transform their idea into a tangible item a fair shot at making it happen.

He also has a website (www.angad-makes.com) on which he uploads all the projects he's working on along with tutorials and open source instructions to help anyone interested to learn how his devices function, and even re-make them. Angad also conducts talks and events at schools to encourage kids to explore hands on learning through workshops – e.g. something as simple as water rocketry. He has a startup which provides low-cost DIY kits to get young minds started off with DIY learning.

Being homeschooled from a young age, Angad has strong views on our education system as well. He says, "The problem is partially with the system and partially with people's mindset. The formal classroom education system does not allow a person to learn at one's own pace and innovate. Emphasis on exam performance corrupts the very purpose of education. Also, many people (parents/institutions) are not willing to invest time and money in youngsters who have curious minds."

Angad respects technology, knowing fully well how it has inspired him to pursue his dreams. "Technology helps me learn and do things even without having to enroll in any particular institution or programme," says Angad. "It helps me see science happen in front of my eyes and gets me more and more interested in solving real world problems. Technology helps me to create technology. I can also share information and instruct people on how they can create the same technology as I have been using the technology available to them." Angad also acknowledges the Internet as an instrument of self-empowerment and learning, and he owes 90% of his tech knowledge to the Internet.

We asked this truly remarkable 15-year-old on his vision and how his breakthroughs will help millions of Indians. "I'm trying to make technology cheaper, more portable and faster. Having low cost prototyping devices, low cost health diagnostic tools, low cost and fast communication, faster and cheaper educative tools, etc will make not just India but this world simpler, faster, reliable and better!"

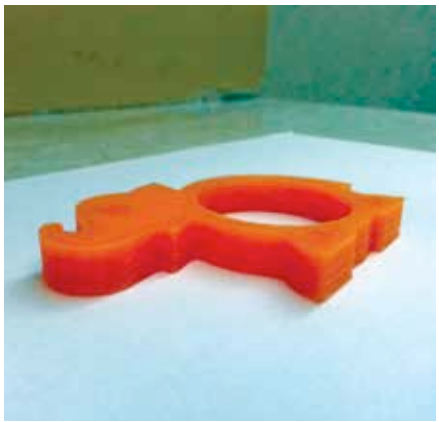
FOOD FOR THOUGHT

What are some of the applications of 3D printing that you can think of? Can it be used to 3D print your own medicines? Can you, perhaps, make synthetic organs to help someone's life? Or print out prosthetics to enrich the lives of millions of people with disabilities? Can we 3D print our own garments, for instance, with synthetic fabric? Can we print out a basic circuit board or a transistor on a 3D printer? 3D printing is nothing short of a second Industrial Revolution, empowering not only industries and companies, but every single individual to take control of their lives like never before. We leave you to imagine the endless possibilities of this truly revolutionary technology.

Karan Chaphekar

Calling himself the Maker-in-Chief at KCbots.com, Karan Chaphekar is cut largely from the same cloth as Angad Daryani. Karan has been tinkering with hardware and dabbling in robotics for as long as he can remember. After getting his degree in Electronics Engineering, Karan, now in his early twenties, dedicates most of his time focusing his efforts on 3D printing. Karan and his team has been active in the maker community for the past three years, where they're utilising their expertise in the 3D printing and robotronics domains and coming out with a revolutionarily simple and powerful 3D printer. He claims it to be uber simple – works "out of the box" – while retaining a powerful print performance. It is called, simply, the KUBE.

The KUBE allows anyone with a desktop computer to "grow" and build a real object from plastic, by just clicking



Angad's soon-to-release 3D printer is a cool device to spend time around, no?



This is a 3D-printed plastic bracelet, produced by Karan's invention



As you can see through these 3D-printed scale models, the force is strong in Karan

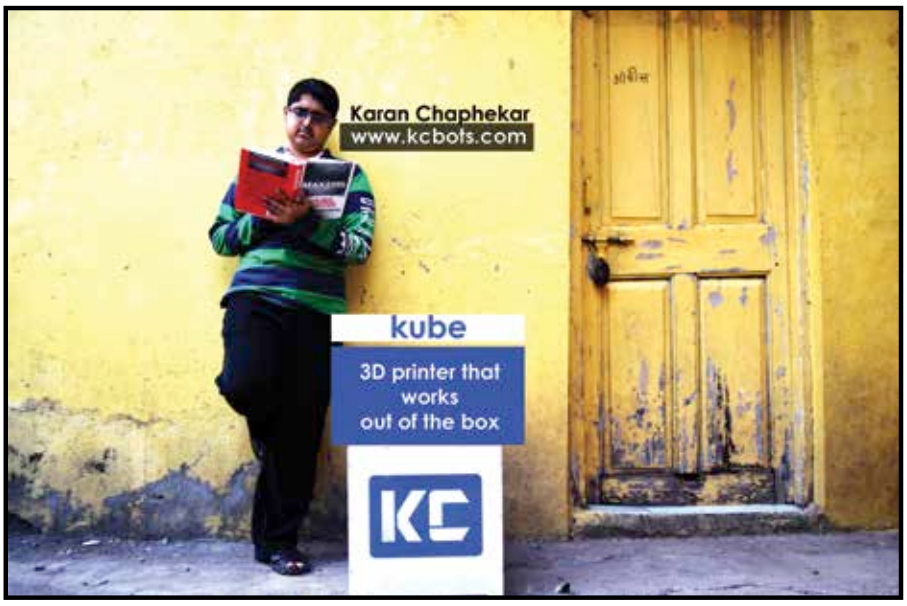
the print button. The intention, of course, is to allow anyone with imagination to build their own designs, allow anyone to make anything that they can dream up. He's especially motivated by the thought of kids in school harnessing 3D printers to make their imaginations come to life.

"I believe this is a world-changing technology whereby people's creativity can be unlocked in unimaginably wonderful ways. It can have as much impact or more as the computer has had, in the way we live our lives. At this stage, rapid prototyping is mainly used by industrial designers and professionals using very expensive and niche machines but I am amongst an increasing number of 'makers' who are working to bring these powerful tools to everyone's desktop. This maker community is open, friendly and accessible." he says.

The technology in the KUBE 3D printer is loosely based on the open source RepRap models, explains Karan, where a moving nozzle deposits molten plastic layer by layer onto a bed, "growing" the object being printed, player by layer. Imagine your regular 2D printer, but with an added Z axis, so it can not only inject ink on a 2 dimensional paper, but rather plastic in 3D space. This is not a new concept, but the evolution of the open community has made the hardware and software accessible. With the KUBE, Karan has designed a machine that is powerful enough to print complex objects with high precision, but at the same time is simple and reliable enough that non-engineers can start using it, just by plugging it in. "Now, anyone with an idea can make it happen. With great ideas being converted to reality, I think the world can only benefit," says Karan optimistically.

When asked how India would benefit from devices like the KUBE, Karan had this to say: "India is poised between an old world – of poverty and imperialist past and a new world – of opportunity, of becoming a truly knowledge driven powerful economy. I don't think it makes sense for India to become another "low cost" service center of the world. We need to innovate. What 3D printers and these type of technologies offer is the most powerful tool possible to unlock innovation on a massive scale. Imagine every person with an idea being given the license to prove the idea by making it happen, and you can imagine the positive power that can be unlocked. I want the KUBE to be one of many other useful tools in the common person's arsenal, to make everyday lives better by creating more and more innovative solutions to problems that surround us."

The KUBE is being shipped in 2 versions: The KUBE for ₹49,000 and a KUBE Mini for ₹34,000. Learn more on his website: www.kcbots.com



KARAN CHAPHEKAR

CAN INDIA INNOVATE?

"I don't think it makes sense for India to become another "low cost" service center of the world. We need to innovate. What 3D printers and these type of technologies offer is the most powerful tool possible to unlock innovation on a massive scale. Also I would LOVE kids from all parts of India, irrespective of gender, economic or social or religious backgrounds – to be given chances to be more creative, to show what they can dream of, from a very young age. I think there is huge power in the dreams of children. Even if we can make 1% of their potential happen, the future will be amazing," says Karan.

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Re-engineering behaviour

We all know by experience, and countless New Year's resolutions to attest to the fact, that changing one's habits is easier said than done. Habits are deeply ingrained memory blocks in our brain that are difficult to erase, change, or re-engineer. Habits, often as we know, can also be more than just a nuisance. Spitting on the roadside is more than just bad habit – for instance, it can come back to bite you in the form of sickness and disease-spreading germs that fester in exposed saliva. Similarly, noise pollution is another social evil that's practiced by millions of Indians on roads every day, despite the fact that this #1 cause of noise pollution increases heart rate and blood pressure, leading to hypertension and increased stress. Prolonged exposure to noise can lead to potentially fatal consequences.

Tackling the menace of "bad habits" among Indians with the help of behavioural science is Anand Damani, easily one of the most interesting people we've encountered. Along with his cousin, Mayur Tekchandaney, Anand works for consultancy firm Briefcase in which he uses science to change human behaviour – apply the knowledge of behavioural economics and cognitive neuroscience to change consumer, organisational and social behaviour. Amongst many social problems, excessive honking happens to be the first anti-social behaviour they're trying to tackle.

Honk, begone!

Angad's invention, a Behavioural Design intervention device makes the driver conscious of his/her honking. It makes the driver deliberate whether the honk is really required or not. The technology they've used to make drivers reduce their honking is a little red button placed on the dashboard of a car. When the horn is pressed, the button beeps and flashes, and basically annoys the driver. To turn it off, the driver has to press the red button. "We've called this little button Bleep," says Anand, "because we believe indiscriminate honking is like an abuse and this device helps Bleep out that abuse. The patent includes several additional features like capturing honking and vehicle data, displaying it with the driver, making sure the driver knows he/she is in a silence zone, etc."



ANAND DAMANI

BIO: "I'm a partner in consultancy firm Briefcase in which I use science to change human and social behaviour. In addition I handle the business and strategy of our Branding practice. Have worked 13 years in sales, marketing and advertising in the past."

Anand explains that he enlisted the services of Dhruv Chaudhry, an automobile engineer, who helped them create Bleep as a fully functional product. His team then tested it amongst people – office-goers, housewives, chauffeurs and measured their honks per km without and with Bleep over six months and 3,800 kms. Thanks to Bleep, he claims that his test candidates reduced their incessant or unwarranted honking by over 60 per cent.

Knowing fully well that Bleep won't be something that people will install voluntarily in their cars, Anand is trying different approaches to promote Bleep. "For it to become a reality," says Anand, "Bleep needs to be made mandatory in all vehicles because it's for the benefit of everyone in society. So we're not selling Bleep to individual customers. Rather we are approaching Govt. authorities to guide us with how to go about making it a reality. We're also in talks with the NY Taxi and Limousine Commission to see how it can be piloted in NY cabs as its drivers are known to honk unnecessarily and cause noise pollution."

Behaviour change is not easy, according to Anand. We know we should exercise but we don't. We know we should eat in moderation but we don't. So we are irrational beings and often we do things against our self interest. And conventional awareness based campaigns and education are ineffective at changing behaviour.

On a parting note, Anand leaves us to mull over the following: So we use Behavioural Design which is typically about creating small nudges that have a lasting measurable impact on behaviour. And there are so many applications of it for changing public behaviour in India and the world. From health to sanitation to education to employment to managing money better – the list of places where it can be applied for the betterment of society is endless. US and UK governments have begun using behavioural science for effective public behaviour changes and it's time for the Indian government to adopt such effective practices too. "

HOW DO YOU USE TECHNOLOGY?

"We use technology in creating interventions to change behaviour. Our objective is to nudge people and make them act in a particular way. We do not use technology for its own sake. In certain cases of behaviour change, the technology is very simple or not even used. In other cases technology is critical to behaviour change. But as technology is becoming more embedded in our lives we will be using more and more of it to create behaviour change. Overall we use technology with respect to all senses – sight, sound, smell, taste and touch," says Anand.

A government intervention

It is no open secret that we – as honest, tax-paying, law-abiding citizens of this country – just absolutely love to hate our government with great amount of disdain, no matter whatever they do in our interest. Putting politicians and elected officials aside – the one that folks like you vote for – Indian bureaucracy isn't without its bright spots. Here we highlight one such star who, with the help of technology, is trying to make systems more efficient and the wheels of government machinery work flawlessly, with greater accountability within all stakeholders.

The single-minded aim is to bring in simplicity, efficiency and transparency with the help of technology. Efficient service delivery is at the top of Mr. Aggarwal's mandate to give the government a much-needed facelift. He's quick to highlight innovative steps taken by the government in the last couple of years in this regard. "More than 35,000 Common Service Centers (CSC) have been set up across Maharashtra, primarily in rural areas, to facilitate delivery of services near the doorstep of citizens. Focus has also been on e-Services, thus reducing the public's need to travel to Government offices. Websites, applications, forms have been designed in Marathi to enable greater reach," says Mr. Aggarwal. He also mentions that applications are now being made WCAG compliant (http://www.w3.org/WAI/intro/wcag) to enable differently abled citizens to access them, thus fostering inclusive growth.



RAJESH AGGARWAL

Rajesh Aggarwal is currently serving as the Secretary IT, Govt. of Maharashtra. A B.Tech. in Computer Science from IIT Delhi (1983-87), Mr Aggarwal has been a technology enthusiast focusing on a wide array of aspects including Natural Language Understanding, Algorithms, Artificial Intelligence, Fuzzy matching and de-duplication of databases, GIS, Analytics and has the experience of working with very large citizen databases. He is also a prolific writer and has written numerous articles and papers on e-Governance, including the much acclaimed paper titled 'e-Gov 0.0 – the fundamentals of e-Governance'.

While working in the Election Commission of India, Mr Aggarwal found it exciting to work on the merging of two very different databases of Voter Cards and Voter Lists. Now the photo rolls, which have photos of voters printed in the voter lists, are being used across the country, substantially reducing the false voter fraud.

With regards to efficient citizen analysis, a UID Innovation Center has been setup in Mumbai to focus on deduplication, seeding, analysis and research based on UID, according to Mr Aggarwal. Due to this, UID data is increasingly used for linking with various beneficiary data to identify and remove potential bogus and duplicates, thus ensuring that benefits reach the intended beneficiaries. State Data Center has been established in Mumbai, including a fully functional Government Cloud. "This is the first instance of any State Government implementing a Government cloud," claims Mr Aggarwal. "This has significantly reduced the time taken to deploy applications and resulted in reduction in cost of deployment. We have introduced e-Tendering for all tenders above ₹10

"UID linkage with various scheme data has shown potential duplicates. Similarly, we have analyzed data of multiple departments and have seen issues in data quality including inconsistency in name, age, address etc. for which corrective action is being taken by the respective line departments. Our UID Innovation Center has played a significant role in data analysis. There is a need to link databases which in turn would ensure services reach the right person."



"Technology has helped us in providing better services in a cost effective manner. However, the focus also needs to be on process improvement, simplification, standardization etc. and not just on computerization. Before computerization, question needs to be asked if the process if needed at all and can it be eliminated instead of being computerized."

lakhs and e-Office for internal office automation and file management. This has further enhanced speed and efficiency in functioning of the State Government."

Mr Aggarwal's quick to point out that there is full political support for introducing enhanced IT practices and policies in government services, and being the Secretary IT of the State, he has been given a free hand to ideate and conceptualize new projects and initiatives. "There haven't been any significant challenges while ideating new projects.We have introduced new concepts like Virtual IT Cadre, Tech Saturday training program, online e-Governance training and certification program etc. for capacity building. We have also taken lead in setting up a Government cloud, IPV6 implementation etc," says Mr Aggarwal.

Mr Aggarwal also highlighted the fact that many of the applications developed by the State of Maharashtra are being shared with other states for adoption. "Source codes have been shared with other State Governments so that they may benefit from the application development work undertaken by us. For example, the UID linked SADM application has been appreciated by Government of India and the source code has been shared with all State Governments for their use. We have offered our Android based application for audit and survey to various other states on cloud. We have been pushing for sharing of source code with all Government entities to ensure optimal usage of taxpayers' money."

The magic of electricity... in every home in India

We all know that with great power comes great responsibility. But never has power been as wantonly abused as it is here in India. Much as we'd like to talk about the corridors of power inside government institutions, we'd like to stick to electricity (or power, as it's generally referred to here in India) for the purpose of this article. Every year, around US $30 billion worth of electricity is wasted in India – primarily due to theft and pilferage. That's about 185.6 lakh crore rupees. That's roughly 80 per cent of our country's defence spending for the year, 12 times the annual budget of the Ministry of Drinking Water and Sanitation, and six times the budget assigned for the Ministry of Health & Family Welfare.

While all this is happening in the country's power sector, 77 million households in India don't have access to a basic resource that we city slickers take for granted. This is where Yashraj Khaitan, the co-founder and CEO of Gram Power, is trying to remedy the situation and bring in accountability. Khaitan claims that the effective use of technology and innovative business models can reduce electricity losses on the National Grid by an amount which can be used to electrify the entire nation within three years.

So what is Gram Power?

"It's simplest explanations would be its analogy to cell phones, I guess," explains Yashraj. "Where everybody is privy to how they use prepaid cell phones, and they are also aware of the advantages that a prepaid cell phone brings to them. So the main advantage that GP brings is that it just allows them to essentially get a lot of control on their electricity bills. It allows them to purchase power in an easy, transparent and affordable manner. And it ends up giving, just as your cell phone gives you, connectivity on demand. Also the reliability that we end up bringing to the entire infrastructure allows the consumer to get power on demand."

This is a far cry from what we're used to on the existing grid, which we have to supply power in our homes where electricity and its consumption is difficult to understand and analyze.

There are essentially two models of electrification that Gram Power delivers: One is the smart microgrid that they set for villages that are completely off

the grid, that do not have access to any form of power or wires or distribution lines. In those areas Gram Power has to set up the entire micro grid with its own renewable power generation, distribution infrastructure, etc. and they end up supplying single phase power to every single consumer just like we receive in our homes in urban areas. In these areas, for instance, if in the future the national grid were to arrive, then since Gram Power's distributional infrastructure is already distributing the standard single-phase power, the grid basically becomes another source of power in that microgrid.

"Whenever the grid integrates with our system, we'll just sync the phase with a step down transformer, because we're supplying AC power on our line and there will also be AC power coming from the grid, so you just have to sync both the supplies," says Yashraj. "And whenever grid power is available, you have grid power on the lines, whenever grid power is not available, you have your renewable generation or you have your backup power from the batteries getting into that local micro grid. So that is making power actually reliable in these off-grid areas."

Challenges in rolling out Gram Power

Volatility in the electricity market in India is something that Gram Power had a major headache in dealing with. Yashraj explains, "Well, one challenge is of course that the market changes very quickly, so when we were in college, at that point the energy situation in India was quite different. To give you an example, when I started research on this project, at that point we were working in purely off grid areas, and we were only working on this simple smart battery that people could use to run a whole range of low-power appliances like DC fans, and some small TVs and lights and things like that.

"But by the time we completed that product, came and launched it here in India, the villages in those two-three years that we were doing research, had already been electrified. So since all that electrification does not equate to access to power, because having a wire in your house in no way means that you're actually getting power supply as well."

But this lead to a unique problem, even a desirable problem, Yashraj explains. People's needs for power started getting converted into demand. Instead of being content with having electricity at all, people wanted access to electricity for much larger appliances. Yashraj states that this was a great thing to witness, spurring Gram Power on to electrify rural India with much gusto. "I think what was challenging was to make sure that what you're developing is something that can really have a strong fundamental impact in the sector that you're working in, and it is something that is bringing in much more sustainability like a lot of our technology development is focused on how to make power distribution much more sustainable in rural India, which today is completely loss-making sector for all power companies," feels Yashraj.

Then there were business challenges, since the market for off-grid energy in India is so big, it also attracts a whole lot of shoddy suppliers and shoddy products out there, claims Yashraj. "So initially it was a big challenge for us because we burned our fingers with a lot of shoddy suppliers over equipment. And that was a major challenge – the subsidy environment. The regulatory environment in the country is so ambiguous and the subsidy environment keeps changing. Every year the government comes up with a new policy which makes private investment quite difficult. That was one of the main reasons why we started moving from the government funded, government subsidized solar micro grid to the pure smart grid module. We're moving now to a business module where it's completely unsubsidised, like we don't require subsidy from the government to make our business model and our technology sustainable."

Technology powering Gram Power powering Social Change?

Yashraj isn't coy about the pivotal role that modern technology has played in the development and deployment of the Gram Power electricity model across 17 off-the-grid rural villages in the country. Technology is definitely an enabler for them, becoming a key USP that differentiates Gram Power from the existing power grid operational in the country.

"Technology is actually helping us solve almost all the problems that we identify," says Yashraj, "like the payments system that we've developed is possible only because of the wireless technology that we're using. All the remote monitoring, all the remote two-way communication, grid monitoring, theft detection systems, it's all been made possible because of the hardware and software that we've developed. While of course there is a strong social component to the entire thing, you can't just go ahead and put technology in the village and expect that everything will suddenly change. People have to be told of the advantages of using electricity in the right manner and how technology is enabling the entire distribution to become more sustainable, but at the end of the day, it is the technology that is allowing us to put the right kind of checks and balances in the power distribution. So technology is the enabler for everything that we're doing."

And so far, in the pilot runs that Gram Power's had across villages, rural India's becoming more efficient than city slickers



YASHRAJ KHAITAN

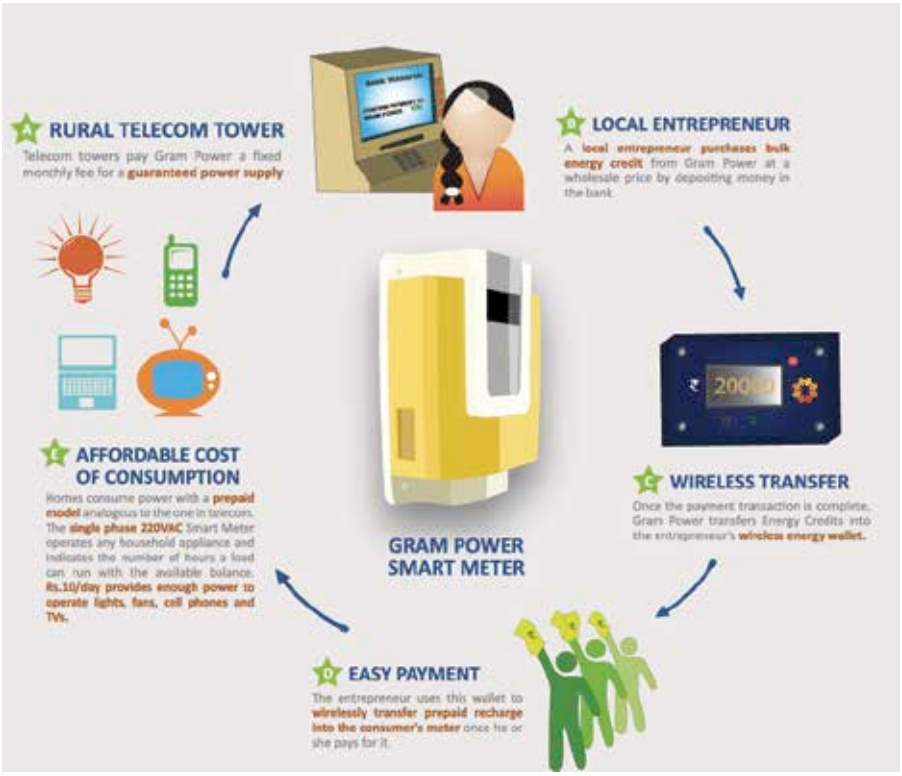
Yashraj Khaitan is the co-founder and CEO of Gram Power, an energy technology company out of University of California - Berkeley that is working on introducing a new paradigm of power distribution in rural India. Twenty-four year old Yashraj started working on Gram Power when he was 19 and prior to that worked on cutting edge solar cell research as a high school student. He completed his B.S. in Electrical Engineering and Computer Science from the University of California - Berkeley and then opted out of his post graduate program to work on Gram Power permanently.



"The first such smart grid village in the country is something that we're currently negotiating with the government. It is going to be implemented in 2014 to be the first smart grid village in India. Once we prove what we are trying to prove with the technology and the business model, then of course we'll be scaling up in that sector predominantly."

when it comes to power consumption. Gram Power has received a lot of feedback from consumers similar to the manner in which they've been using their cell phones, because it's the exact same model. When asked about specific examples, Yashraj had this to say, "We've had instances where just by looking at the information that we display on our energy meters, we've had people who are switching to more efficient appliances. But then they keep comparing the numbers with their neighbours, and they'd be like, 'oh, they're using this appliance or this fan which is consuming only one rupee an hour while my fan is consuming four rupees an hour.' So they end up switching to the one rupee an hour fan."

Gram Power's also had consumers who look at the information from the meter, and they plan and purchase their entire monthly expenses on power. For instance, if they have to spend ₹400 per month, they know that they'll be able to use their light bulbs for X hours, operate the fan for Y hours and watch the TV for Z hours. Then they actually end up using their appliances for only those many hours so that they fall within their budget.



This infograph neatly explains how Gram Power operates. It's pretty much like recharging one's cell phone balance, that's how easy it is to top-up your electricity quota.

"These things are just not possible with the conventional system, because the conventional system is one cryptic thing," says Yashraj. "The consumers don't understand what that meter says or what the bill says. It just comes once in two months or once in five months and you just have to pay if you want to continue receiving electricity."

And the other thing that it does is that it makes power purchase extremely affordable for consumers. It's like a monetized power just like they purchase their daily quota of wheat and rice, or their daily quota of veggies from the local vendors. So there's a lot of advantages, a lot of behavioural changes that the model has proven. Of course the social impact of just electricity reaching areas that don't have it. That's of course very visible in all our work and systems. I mean there's a direct offset of kerosene powered lights, we've installed some systems in very remote forest areas where because of the absence of electricity wild animals used to eat up the cattle of the villagers. So that's stopped, now. Life no longer ends post-sunset. People actually gather in community areas and they're able to connect with the rest of the world through television and things like that. So, yeah, those things are definitely there.

Coming back to the original problem of electricity theft as the leading cause of unprecedented losses in the power sector, Gram Power's smart grid is capable of accurately identifying and isolating a wire or distribution cable which is tampered with on their grid, therefore effectively making the power theft problem a thing of the past.

Just think of all the money saved, money earned by state and power discoms. Something that'll definitely contribute towards the prosperity and development of India.

digit KILLER RIGS

Everything you'll ever need to build your own PC. Whatever your budget.

Basic rig = ₹27,789 | HTPC = ₹28,936 | Entry-level gaming = ₹39,206 | Optional Accessories = ₹33,089 | Mid-range gaming = ₹66,835 | Ultra high-end = ₹2,52,622

BASIC RIG

Processor	Intel Pentium G2020	3,699
Motherboard	Gigabyte GA-H61M-D2H	3,750
RAM	Corsair 2GB DDR3 1333MHz	1,560
HDD	Seagate Barracuda 500GB	3,300
Monitor	AOC E2043FSK	6,580
Graphics Card	None	0
Cabinet	Huntkey T-91	1,650
PSU	Corsair VS450	2,300
Speaker (2.1)	Logitech Z103	1,500
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Amkette Ash Black (Bundle)	500
Keyboard	Amkette Ash Black (Bundle)	0
Sound Card	None	0
Total		**₹25,789**

HTPC

Processor	AMD A8-5600K	7,050
Motherboard	MSI FM2-A75MA-P33	4,423
RAM	Kingston HyperX Blu DDR3 4 GB	2,400
HDD	Western Digital WD20EZRX 2TB	6,600
Monitor	None (your TV)	0
Graphics Card	None (HD7560D onboard)	0
Cabinet	Cooler Master Elite 120 Advanced	2,977
PSU	Cooler Master Thunder 450W	2,656
Speaker	None	0
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Microsoft Desktop 2000 wireless combo	1,880
Keyboard	Bundled	0
Sound Card	None	0
Total		**₹28,936**

ENTRY-LEVEL GAMING

Processor	AMD A10-5800K	8,850
Motherboard	ASUS F2A85-M-LE	6,150
RAM	G-skill F3-10600CL9S-4GBNT	2,500
HDD	Seagate Barracuda 1TB	4,100
Monitor	AOC I2251FWE IPS	8,350
Graphics Card	None	0
Cabinet	Huntkey T-91	1,650
PSU	Cooler Master Thunder 450W	2,656
Speaker	F&D F680	3,500
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Amkette Ash Black (Bundle)	0
Keyboard	Amkette Ash Black (Bundle)	500
Sound Card	None	0
Total		**₹39,206**

OPTIONAL ACCESSORIES

Surge Protecter	Belkin 6 Socket Surge Protector	811
Controller	Xbox 360 Controller (wired)	2,200
UPS	APC 1000VA - BR1000G-IN	8,500
Webcam	Microsoft LifeCam Cinema	4,595
Headphones	KOSS Portapro	3,870
Mousepad	Razer Goliathus Fragged Control	899
Wireless Router	TP-LINK TD-W8968	2,440
Sound Card	ASUS Xonar Essence STX	
External DVD-Writer	Lite-On eUAU108	2,700
Thermal Paste	Arctic Silver 5 (3.5 grams)	600
CPU Cooler	Cooler Master Hyper 212X	2,649
Fan Controller	NZXT Sentry Mesh	1,725
Case Fan	Noctua NF-F12	2,100
Total		**₹33,089**

MID-RANGE GAMING

Processor	Intel Core i5-3470	13,300
Motherboard	Gigabyte GA-B75M-D3H	4,600
RAM	Kingston HyperX 8GB (KHX1600C9D3B1K2/8GX)	4,935
HDD	Toshiba 1TB DT01ACA100	4,500
Monitor	BenQ G2420 HD	10,500
Graphics Card	ZOTAC GTX 650Ti Boost	12,600
Cabinet	Antec One - S3	3,400
PSU	Seasonic S12II 620 Watts	5,650
Speaker	F&D F680	3,300
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	CM Storm Devastator (Bundle)	3,100
Keyboard	CM Storm Devastator (Bundle)	0
Sound Card	None	0
Total		**₹66,835**

ULTRA HIGH-END GAMING

Processor	Intel Core i7-4770K	23,200
Motherboard	ASRock Z87 Extreme4	13,000
RAM	Kingston HyperX Beast DDR3 16 GB RAM (KHX18C10AT3K2/16X)	16,625
HDD	WD WD30EZRX 3TB + Samsung 840 Pro	25,200
Monitor	BenQ GW2760HS	21,000
Graphics Card	Nvidia GeForce GTX 780Ti	59,000
Cabinet	Corsair Obsidian 900D	25499
PSU	Cooler Master V1000	14,199
Speaker	Logitech Z906 5.1	23,000
Optical Drive	LG Blu-ray WH14NS40 RW	6,500
Mouse	Roccat Kone XTD	5,200
Keyboard	Corsair Vengeance K95	9,699
Sound Card	ASUS Xonar Phoebus	10,500
Total		**₹2,52,622**



Browser history
Check out whether clearing your browsing history does actually delete the history **http://dgit.in/NSFSurf**



Empty America?!
Time lapse of San Francisco where every place is empty and there isn't a trace of humans **http://dgit.in/EmptyUSNSFSurf**

5 reasons to consider business laptops

Business laptops are arguably built differently, offer enhanced warranty and better security than mainstream, consumer laptops



Agent 001
agent001@thinkdigit.com

What constitutes a good business laptop and how is it different from most laptops you encounter in the market? We're going to throw some light on the topic.

As far as large OEMs are concerned, Acer, Dell, HP and Lenovo, which constitutes close to two thirds of the PC market in India, all have their consumer and business product lines very well distinguished. Apart from consumer laptops from these brands, so you'd be surprised to know that all these prominent laptop brands also have dedicated business machines under their portfolio. You probably haven't heard them being marketed as aggressively, but Acer's Travelmate; Dell's Vostro, Latitude and Precision series; HP's ProBook, EliteBook and ZBook line; and Lenovo's ThinkPad series all form dedicated business laptops offering, respectively.

Things that matter in any self-respecting business-branded laptop, things that actually help them uniquely differentiate them from other mainstream consumer laptops.

1) Build quality: Most often than not, business laptops are built to last longer than most consumer laptop offerings, simply because businesses expect better ROI (return on investment). Whether you look at the Dell Vostro's metal exterior, Lenovo ThinkPad's all-metal roll cage design, or HP ProBook's spill-resistant keyboard: such individual build quality attributes (or a combination of them) are easily found on most self-respecting business laptops. Qualities that are hard to find on consumer focused laptops.

Things like the trackpoint navigation found on Lenovo ThinkPads, HP EliteBooks, ZBooks and Dell Latitude business laptops, accelerometers that sense a laptop's freefall to lock its hard drive and cushion it from shocks and drops, and solid metal hinges to effectively tether a laptop's screen to its base are other staple features found on a business laptop. Overall, these laptops offer superior build quality.

2) Software and service: Often business laptops come built in with tools that are essential for its audience. They all offer either proprietary or popular third-party backup and restore tools, maintenance software to keep your business laptop's drivers and other services up to date, and enhanced video conferencing tools. Almost all business laptops, irrespective of the brand, offer more than a year's warranty, giving businesses some much needed peace of mind in terms of safeguarding their investment for longer than other consumer machines. These business laptops also have a wider array of after sales support options to choose from, depending on a business' requirement or IT policy.

3) Security: Since almost all ThinkPads, Vostros, Latitudes, ProBooks and EliteBooks have an option of having Intel vPro support, security is handled critically down to the hardware level of these business laptops. Additionally, business laptops have an option to include Trusted Platform Module chips to effectively encrypt the entire hard drive and protect passwords better than ever. These two highlights are enough to make any business laptop more secure than any of its consumer models.

4) Matte screens: Business laptops from competing brands share one common thread: non-reflective, non-glossy, matte screens. We've observed this trend resonating across most (and not all) Lenovo ThinkPads, Acer Travelmates, Dell Vostros, Latitudes, and HP ProBooks, EliteBooks and ZBook business laptops. This obsession is because they're better for reading text for extensive lengths, and their non-reflective nature prevents them from being irritating distractions.

5) Battery extensions, docks: Another commonality between different business laptops from brands like Acer, Dell, HP and Lenovo, is that they all have extensive battery boosting options. If a business laptop is sold with only a three-cell battery, rest assured its OEM will have a six-cell or nine-cell battery upgrade waiting in the wings for slightly higher price. Also, most of these business laptops come with a docking port to help them dock into universal port replicators, charging stations, and other compatible accessories, to maximise their functionality.

Budget laptop purchase

Dear Agent 001, I have read some of your articles on laptops. They are very informative. Now I request you to please suggest me a laptop in budget of ₹30,000.

Desired configuration is given below

- Intel Core i3 3rd Gen or AMD CPU
- 4GB RAM
- 500GB HDD minimum
- 1GB Graphics minimum
- 15.6 inch HD LED display
- Windows 8
- All connectivity ports
- HD webcam
- Least possible weight

Thanking you in advance. Please reply.

Shashank Gosavi

A Dear Reader, I recommend the following options.

1. HP Pavilion 15: http://dgit.in/1eBFxLX
   This machine has the AMD quad core APU, with 4GB RAM, 1GB graphics and a 500GB hard drive. Windows 8 comes preloaded.
2. Dell Inspiron 15: http://dgit.in/1c2FfJR
   In case you want an Intel Core i3 machine, this is a rather good option. Though you will compromise a bit in terms of the GPU - Intel HD 4000, and does not come with Windows 8 pre-loaded.

Unless you have something against AMD, I would suggest the AMD APU powered HP machine would be a better deal.



Budget laptops often have Linux as the OS

Build a gaming rig

I need your advice on assembling a PC for playing high-end games such as "Assassin's Creed IV: Black Flag" & "Arkham Origins".

My budget for this is about ₹50,000/-, including all components, UPS, speakers & display monitor. If required I am prepared to spend ₹60,000/- at the most. Your December 2013 issue has the specs for this, but is beyond my budget. I already have a licensed copy of Windows 8 & hence do not need to buy the OS.

Kindly advise if a gaming Laptop would serve the same purpose & if so, please additionally also recommend a good laptop within the same budget.

Best regards,

Karan



A cheap UPS may do more harm than good

A Hey Karan, you can sacrifice processing power and go for a slightly less beefier processor and stick to a good graphics card. Getting all the components in a 50K budget is rather difficult but we can try and find one that is right for you.

CPU - Intel Core i5 - 3470
GPU - NVIDIA GTX 650Ti (Any brand)
Motherboard - Gigabyte GA-B75M-D3H
RAM - Any 8GB 1600MHz kit
HDD - 1 TB
Cabinet - Get an OEM unit that supports ATX/mATX motherboards
Monitor - BenQ G2420 HD
UPS - None
SMPS - Seasonic S12II 620 Watts
Keyboard + Mice - Any combo under ₹600
Speakers - F&D 680

Skip the UPS for now and buy one later, it doesn't help if you go for a cheap UPS since they barely offer any backup or protection. This configuration should just about hit ₹60,000.

Sharing 3G Internet with other Wi-Fi enabled devices

Agent 001, please help. I presently stay in Chennai and use a broadband service provided by BSNL through a Wi-Fi router. Presently my laptop and two mobile phones are connected to the router whenever I am in range. In some more months I would move to some other place where BSNL broadband service is poor. So I am left with to chose from a couple of available 3G service providers. I have an unlocked 3G data card with me, too.

Is there any method by which I can share the 3G network to my Wi-Fi devices? I learnt a product named TP-LINK TL-MR3020 Portable 3G Wi-Fi router which costs about 1.4k can do this. Also I don't want to keep my laptop ON while the internet is being accessed on my mobile phones.

Amit

A Hey Amit! I'm guessing that between the two mobile phones you own at least one of them must be a smartphone. There is a feature called "tethering" which can be used to share the internet connection of your mobile phone with any device. If you are connected via USB cable to your computer then switch on USB tethering and your 3G connection on the phone can be utilised by your computer. Similarly, you can pair your smartphone via bluetooth and leech the 3G connection as well. Since you haven't provided any details about your phones we can't comment further but certain manufacturers disable tethering on their Android phone and certain phones might require a software (PC Suite) to be installed on your computer aside from the drivers. The TP-LINK TL-MR3020 works in a similar fashion as well. However, if you receive any phone call while you are surfing the Internet then you may lose the Internet connection for the duration of that call.



A portable router might be your solution



Discuss Music
"Head to the thinkdigit forums and chit-chat with forum members who're passionate about music." **http://dgit.in/MusicGeeks**



Case Mod 2013
Cooler Master's computer case mod competition kicked off in Q4 2013. See the mods here: **http://dgit.in/BestMods**

SPEND SMART

Televisions across all categories have been covered. Whether you prefer HD ready TVs or Ultra High Definition TVs, we've got you covered.



UHD TELEVISION

Brand	Model	Type	Screen Size	Display Resolution	HDMI Port	USB Port	Price (in ₹)
Sony	Bravia KD-65X9004	3D LED	65 inch	3840x2160 (4K)	Yes (4)	Yes (3)	3,67,299
Samsung	UN85S9	3D LED	85 inch	3840x2160 (4K)	Yes (4)	Yes (2)	27,00,000
LG	84LM9600	3D LED	84 inch	3840x2160 (4K)	Yes (4)	Yes (3)	13,19,841
Sony	Bravia KD-55X9004A X	3D LED	55 inch	3840x2160 (4K)	Yes (4)	Yes (3)	2,85,717
Samsung	65F9000	3D LED	65 inch	3840x2160 (4K)	Yes (4)	Yes (3)	3,98,900
Samsung	85S9	3D LED	85 inch	3840x2160 (4K)	Yes (4)	Yes (3)	24,45,498
Sony	Bravia KD-84X9000	3D LED	84 inch	3840x2160 (4K)	Yes (4)	Yes (2)	15,68,212
Samsung	55F9000	3D LED	55 inch	3840x2160 (4K)	Yes (4)	Yes (3)	3,01,489
LLOYD	L84	3D LED	84 inch	3840x2160 (4K)	Yes (4)	Yes (3)	7,89,913



HD READY TELEVISION

Brand	Model	Type	Screen Size	Display Resolution	HDMI Port	USB Port	Price (in ₹)
AOC	LE 32A3520/61	LED	32 inch	1366x768	Yes (3)	Yes (2)	16,599
Haier	LE22T1000	LED	22 inch	1366x768	Yes (1)	Yes (1)	10,514
LG	22LN4125	LED	22 inch	1366x768	Yes (1)	Yes (1)	12,044
Micromax	32LK 316	LED	32 inch	1366x768	Yes (3)	Yes (2)	19,450
Panasonic	TH-L32B6D	LED	32 inch	1366x768	Yes (2)	Yes (1)	22,421
Samsung	32EH4003	LED	32 inch	1366x768	Yes (1)	Yes (1)	24,499
Sony	Bravia KLV-32R402A	LED	32 inch	1366x768	Yes (1)	Yes (1)	27,500
Sony	KLV-32R422A	LED	32 inch	1366x768	Yes (1)	Yes (1)	29,946
Toshiba	32P2305	LED	32 inch	1366x768	Yes (2)	Yes (2)	22,550
Videocon	VJW32HH	LED	32 inch	1366x768	Yes (1)	Yes (1)	18,491
Toshiba	29PU200	LED	29 inch	1366x768	Yes (2)	Yes (1)	18,449
Haier	LE32B50	LED	32 inch	1366x768	Yes (2)	Yes (1)	20,836
Micromax	24K316	LED	24 inch	1366x768	Yes (1)	Yes (1)	11,999
Vu	32K160	LED	32 inch	1366x768	Yes (3)	Yes (2)	23,500
Sony	Bravia KLV-24R402A	LED	24 inch	1366x768	Yes (1)	Yes (1)	15,149
LG	28LN5155	LED	28 inch	1366x768	Yes (2)	Yes (1)	24,269
Videocon	VAD32HH	LED	32 inch	1366x768	Yes (1)	Yes (1)	18,199



FULL HD TELEVISION

Brand	Model	Type	Screen Size	Display Resolution	HDMI Port	USB Port	Price (in ₹)
AOC	LE 40 A1330/61	LED	40 inch	1920x1080	Yes (2)	Yes (1)	34,930
AOC	LE 42A5720/61	3D LED	42 inch	1920x1080	Yes (2)	Yes (1)	50,745
LG	LW4500	3D LED	32 inch	1920x1080	Yes (1)	Yes (1)	44,894
LG	42LN5400	LED	42 inch	1920x1080	Yes (2)	Yes (1)	48,699
LG	47LN5400	LED	47 inch	1920x1080	Yes (2)	Yes (3)	65,026
LG	47LA6200	LED	47 inch	1920x1080	Yes (2)	Yes (3)	83,484
LG	50PN4500	Plasma	50 inch	1920x1080	Yes (2)	Yes (1)	51,239
Onida	LEO22HMSF504L	LED	22 inch	1920x1080	Yes (2)	Yes (2)	14,617
Onida	LEO32HMSF504L	LED	32 inch	1920x1080	Yes (2)	Yes (2)	31,580
Panasonic	TH-L42ET5D	3D LED	42 inch	1920x1080	Yes (4)	Yes (2)	65,917
Philips	32PFL6357	LED	32 inch	1920x1080	Yes (3)	Yes (1)	24,957
Philips	32PFL6577	LED	32 inch	1920x1080	Yes (2)	Yes (1)	33,000
Philips	42PFL6977	LED	42 inch	1920x1080	Yes (2)	Yes (1)	48,270
Samsung	32F5100 (Joy Series)	LED	32 inch	1920x1080	Yes (2)	Yes (2)	33,110
Samsung	32F5500	LED	32 inch	1920x1080	Yes (3)	Yes (2)	36,899
Samsung	40F7500	3D LED	40 inch	1920x1080	Yes (4)	Yes (3)	84,848
Samsung	40F6800	3D LED	40 inch	1920x1080	Yes (4)	Yes (3)	76,213
Samsung	40EH5000	LED	40 inch	1920x1080	Yes (2)	Yes (1)	49,217
Sony	Bravia KDL-32NX650	LED	32 inch	1920x1080	Yes (4)	Yes (2)	40,999
Sony	KDL-46W700A	3D LED	46 inch	1920x1080	Yes (4)	Yes (2)	80,481
Toshiba	32PT200	LED	32 inch	1920x1080	Yes (2)	Yes (1)	25,281
Toshiba	40PU200	LED	40 inch	1920x1080	Yes (2)	Yes (1)	38,999
Toshiba	46TL20	3D LED	46 inch	1920x1080	Yes (4)	Yes (2)	64,405
Videocon	Celista Plus VJK40FF-ZM	LED	40 inch	1920x1080	Yes (3)	Yes (1)	32,149
VU	65K560X	LED	65 inch	1920x1080	Yes (4)	Yes (2)	1,64,990
Panasonic	TH-P42GT50D	Plasma	42 inch	1920x1080	Yes (4)	Yes (3)	92,329
Panasonic	42ST30D	Plasma	42 inch	1920x1080	Yes (4)	Yes (3)	70,049
Micromax	L 31L24F	LED	24 inch	1920x1080	Yes (3)	Yes (2)	13,110
Sansui	SJV42PH-XS	LED	42 inch	1920x1080	Yes (2)	Yes (1)	40,950
LG	70LA8610	LED	70 inch	1920x1080	Yes (4)	Yes (3)	3,68,977
LG	55LA6910	LED	55 inch	1920x1080	Yes (3)	Yes (3)	1,60,805
Sony	Bravia KDL-40W900A	3D LED	40 inch	1920x1080	Yes (4)	Yes (3)	86,944
Samsung	60F6400	3D LED	60 inch	1920x1080	Yes (4)	Yes (3)	1,87,117
AOC	LE 42A5720/61	3D LED	42 inch	1920x1080	Yes (2)	Yes (1)	50,745
LG	32LA6200	3D LED	32 inch	1920x1080	Yes (3)	Yes (3)	45,684
Panasonic	TH-L47 ET50D	3D LED	47 inch	1920x1080	Yes (4)	Yes (2)	84,995
Samsung	46F8000	3D LED	46 inch	1920x1080	Yes (4)	Yes (3)	1,32,650
Sony	Bravia KLV-40R452A	LED	40 inch	1920x1080	Yes (1)	Yes (1)	52,499
Toshiba	46PX200	LED	46 inch	1920x1080	Yes (4)	Yes (2)	50,999
Samsung	75ES9000	LED	75 inch	1920x1080	Yes (3)	Yes (3)	7,31,819
LG	LM6700	LED	42 inch	1920x1080	Yes (4)	Yes (3)	78,930

Bazaar

THE LATEST PRODUCTS REVIEWED FOR YOU

The Digit Test Centre receives hundreds of products every month. Each of these products is put through a series of tests and is finally given a score. The final score is arrived at after considering a number of factors and evaluating them in terms of features, performance, value for money, build quality, and, in the case of software, even ease of use.

For better understanding of our ratings, here's a quick guide to our overall score

- 10 to 30 **Extremely poor product.** Keep away!
- 31 to 50 **Strictly OK.** Not recommended
- 51 to 70 **Decent product.** Go for it, but there may be better products out there.
- 71 to 90 **Very good product.** Highly recommended.
- 91 to 100 **Ground-breaking product.** We've never seen anything like it before. A definite must buy!



INSIDE

WANT TO EXPERIENCE AUGMENTED REALITY?

If you have an iOS or Android device, you can make some of the reviews in this Bazaar section come alive.

Step 1: Install "Zoop" (from the Google Play Store or Apple App Store)

Step 2: Look for images that have the **Zoop** tag and scan them using the Zoop app (example below).



Step 3: Enjoy an augmented reality Digit like never before

Remember to send feedback about this initiative to editor@thinkdigit.com

PLUS

90 | XOLO Play Tegra Note
91 | Google Nexus 5
92 | Sony Vaio Tap 20
93 | Tekfusion ecoofers
94 | Apple iPhone 5c
95 | ROCCAT Kone Pure
96 | Canon EOS 70D
97 | Cooler Master N600
98 | Apple iPad Air
99 | Intex Sounbox Smash BT
100 | ZOTAC 780 Ti Amp! Edition
101 | Thermaltake Big Water 760 PRO

& MORE...



LG M-Disc
LG launches the Millenia Disc – a storage device with the durability of a millenium. Priced at ₹2000/-



GTB-8A
Blaupunkt launches all-in-one subwoofer for enhanced car-audio experience. It's priced at ₹9,990/-

Apple iPhone 5s

A phone for the future, held back by the present

The iPhone 5s is the perfect example of a bit of the new, with a dollop of the old. If you were a fan of the iPhone 5's aluminum chassis and chamfered edges, you will feel a warm sense of familiarity here. The colour options have been tweaked - space grey, silver and the attention grabbing gold. However, the bad part about carrying forward the same materials is that the 5s will possibly retain the same susceptibility to scratches and nicks, even though Apple says that the newer, more metallic colours will make the 5s additionally resilient to the aforementioned evils.

The form factor, the dimensions and the weight remain exactly the same as the predecessor - 123.8x58.6x7.6 mm and 112 grams. If you aren't looking very closely, or using the Golden iPhone 5s, most people may not even notice the difference. Unless someone can point out the dual LED flash at the back, or the redesigned home button which now hosts the fingerprint scanner.

Yes, biometrics have been done before in smartphones, but that hasn't gone too well. The fingerprint sensor, Touch ID is integrated into the home button itself and is protected with a sapphire crystal layer. The silver ring encircling the home button is the only visual give-away that this isn't the iPhone 5's home button! The sensor communicates directly with the registered fingerprint on the A7 chip, and that is locked away so that apps that don't have authorization do not have access to it. This is also stored on that particular iPhone, so there is no chance of it ending up on iCloud.

You can set up to five fingers, which can be used with Touch ID. If there are multiple people using the same phone, this is a rather convenient aspect. However, I did notice that the scan time did increase marginally if you have more than one print registered. It's important to note that the passcode still remains in the mix and provides an alternate means to unlock your phone.

The big change, possibly the biggest, comes with the new power package. You have the 64-bit dual core processor, teaming up with the M7 motion co-processor and a beefed up GPU. There aren't many third party apps that can take advantage of the 64-bit architecture, but that just means two things - the iPhone 5s' power package is designed to be future proof and app developers will sort themselves out and provide capable apps soon enough. The same goes for the M7 motion processor. M7, on its part, collects data from the accelerometer, gyroscope, compass, etc., and can change app behavior depending on those readings. All those fitness apps, can easily utilize this processor while ignoring the main CPU and thus increasing battery life.

All this does make a significant difference, and yet at times, doesn't. Speaking as someone who is an iPhone 5 user, in most use cases you will not notice any performance difference. Most apps open at the same speed. This is exactly what I meant when I said that despite the significantly improved 64-bit processor, the iPhone 5s will remain just an incremental update It's definitely a more powerful product, but there's not much that's making use of that power yet.

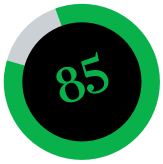
For the better processor, Apple has loaded the iPhone 5s with a slightly larger battery - 1560mAh to the iPhone 5's 1440mAh. We noticed what we feel to be about an hour more of battery life based on our daily usage, allowing us to get through an evening a bit more comfortably. If you have just Twitter and a couple of IMs running in the background, the iPhone 5s should easily get you through a day and a half.

The iPhone 5S comes with a redesigned iSight camera, with the rear sporting an 8 megapixel shooter. Interestingly, Apple has increased the sensor size, bringing the effective pixel pitch to 1.4 microns. This means that the new 8 megapixel camera is capable of photos that are better in low light, have better dynamic range and nicer colours compared to its predecessor.

The new iPhone gets the processor upgrade, as well as a dedicated motion co-processor. The camera not only has a lot more features, but is a marked improvement over the fairly competent iPhone 5, which it succeeds. Touch ID feels at home straightaway. However, till the time your apps get updated to take care of the 64-bit architecture or the motion co-processor or the fingerprint sensor, the 5s feels like an incremental update. But, the future proofing is undeniable, and apps will soon fall in line.

Vishal Mathur





Features 95
Performance 90
Build 85
Value 70

Specifications

Processor: 64-bit A7 Chip; **M7 coprocessor:** Wi-Fi: 802.11 a/b/g/n; Bluetooth 4.0: 4" screen with Retina display; Screen resolution: 1136x640; PPI: 326: Camera: 8Mp; **1080p HD video recording @ 30FPS:**

Contact

Apple india,
Phone: 1800-425-4646
Website: apple.com/in

NationalChip STB
NationalChip to launch new STB (Set Top Box) chips that claim to enhance the viewer's experience



Best warship models
War junkies, get your dope of the best models of warships ever made here:
http://dgit.in/1lg0UQL

XOLO Play Tegra Note tablet

This Nvidia powered tablet is a lean, green, gaming machine.

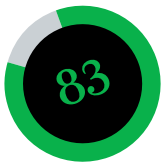


The XOLO Play Tegra Note tablet is available in India for ₹17,999, which, frankly, is a killer price for a tablet that does so many things well. At this price, the only real competition the Tegra Note faces is from the Nexus 7 (2013) that's now being sold in India directly by Google for ₹20,999 (16GB). If the display and overall design and feel is paramount, then we'd recommend the new Nexus 7. However, where the XOLO tab scores is its best-in-class performance, some neat additional features such as the highly responsive stylus that you can use to both sketch and write on the tablet, and access to Tegra Zone, a curated subset of the Play Store that highlights games that have been optimized for the Tegra chipset. The Tegra Note also accepts microSD cards up to 32GB, which again the Nexus 7 doesn't.

The aspects of the Tegra Note which disappoint include its display, which although vibrant and bright, fall short of the full-HD standards set by the Nexus, and its conservative design.

Whether the Nexus or the XOLO tablet is more attractive is a judgement call you'll have to make. You won't go wrong with either one. To sum it up, the XOLO Play Tegra Note Tab is one of the best tablets we've seen, especially in this price range, and will make a great buy for anyone.

Nikhil Pradhan



Features 75
Performance 88
Build Quality 80
Value for money 83

Specifications

Operating System: Android 4.2.2; **Screen Size:** 7-in at 1280x800 pixels; **Built-In Storage:** 16GB; **MicroSD Card Support:** Upto 32GB; **RAM:** 1GB; **Camera:** 5MP; **Wi-Fi:** 802.11 b/g/n; **Bluetooth:** 4.0; **Battery:** 4100mAh; **Processor:** 1.8GHz quad-core Nvidia Tegra 4

Contact

XOLO
E-mail: care@xolo.in
Phone: 1800-30-100-104

Kingston HyperX 3K SSD

An unnecessarily pricey SSD



The HyperX 3K follows Kingston's line of enthusiast grade SSDs and uses a SandForce SF-2281 controller. The 3K label means that the NAND memory can easily last for up to 3,000 full write cycles. Theoretically, use of 3K NAND memory should make the drive much more economical. The real world read and write transfer figures for an 8GB sequential file were 327 MB/s and 310 MB/s respectively. While synthetic tests such as AS SSD gave the drive a score of 637 which puts it right in the middle of our performance charts, the drive is very expensive and you'll easily get something better.



Features 82
Performance 83
Value for money 50

Specifications

Capacity: 120GB; **Form factor:** 2.5"; **TRIM Support:** Yes; **Dimensions:** 69.85 x 100 x 9.5mm; **Controller:** 2nd Generation SandForce SF-2281; **Warranty:** 3 years

Contact

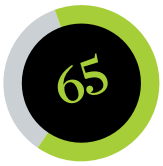
Kingston Technology
Phone: 1860 233 4515
Email: sales_india@kingston.com
Website: http://www.kingston.com

Zebronics Rattlesnake

Surprisingly good



We didn't really have high hopes for this set. It looks like one of those cheap, off-the-shelf knock-offs that you find hanging on the walls of no-name PC-hardware stores. When we put it on however, we were simultaneously impressed and frustrated. Impressed by the audio quality on offer at this price and frustrated by the awful build quality of the headset itself (except for the braided cable). This is a surprisingly likeable set and while we weren't really blown away by the audio, you'll be hard pressed to find a better headset at this price.



Features 80
Performance 70
Build quality 50
Value for money 75

Specifications

Driver diameter: 40mm; **Frequency Range:** 20Hz – 20,000Hz; **Impedance:** 32ohms; **Connectivity:** USB;

Contact

Top Notch Infotronix India pvt. Ltd.
Ph. No.: 044-40000007
E-mail: enquiry@zebronics.info
Website: www.zebronics.com



Spice Smart Flo Mettle
Spice launched the Smart Flo Mettle 4X Mi-426 recently for ₹4299 for shoppers on a budget

BlackBerry cancels launch
On account of the rising inventory costs of over 1.6 billion USD, BlackBerry cancelled new product launches

Google Nexus 5

To buy or not to buy Google's flagship smartphone?

There was a lot of anticipation before Google revealed the Nexus 5 to the world. The reason for this would primarily have to do with how Nexus 5's predecessor, the Nexus 4 fared when it was released back in 2012. The major selling point for the Nexus 4 was its price as it was priced very competitively and there was nothing with better hardware in the same price range. Moving forward, we think that the best way to continue what Google and LG started was to introduce the Nexus 5 too at an equally decent price; which is what they've managed to do with the new phone.

The Nexus 5 though well built, lacks the jazzy design and the curved screen edges of the Nexus 4. Google and LG have played it safe with the design and build of the Nexus 5. The smartphone is bigger than its predecessor with a 5-inch display, but is slimmer and lighter, measuring at 8.6mm in thickness and weighing 130 grams. It isn't the slimmest, but is surely one of the lightest 5-inch smartphones out there. It's very comfortable to hold and feels really light.

The Nexus 5 has a standard candy bar form factor and has no stand-out features to distinguish it from the crowd. The display, unlike the Nexus 4's, isn't curved around the sides. The smartphone is available in two variants with back panels in different colours – black and white. The review unit we received was the white one. There is a bit of disconnect because the front is black and there is no transition to the white which overall seems like an odd design choice, and adds the effect of the back resembling a case rather than being an intrinsic part of the build. The black variant of the Nexus 5, on the other hand, looks way cooler in our opinion because that disconnect does not exist.

There is a lot of under the hood tweaking that serves as an enhancement to the OS; enhancements that make multitasking better, the interface smoother and also manage the battery better. Overall, the user interface of the smartphone is great. Some may argue that it's limited when compared to what is on offer when compared to the UI and preloaded software available on other flagship Android smartphones such as the Xperia Z1, Galaxy S4, HTC One, LG G2 and more. While that is true, there are enough apps and launchers available on the Google Play store to completely customize the Nexus 5.

Coming to how the Nexus 5 delivers real world performance, let's start with its IPS Plus HD display. The Nexus 5's display has great viewing angles and content looks visually rich on the display. The brightness on full is great in controlled environments. Under direct sunlight however, it is better to control the brightness manually as on auto, it's a tad dim.



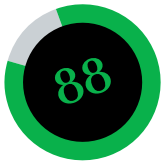
MP4 videos played really well on the device, and so did gaming apps, all of them ran very smoothly and it was a treat to game on the smartphone. We played the likes of Real Racing, Temple Run, Angry Birds, Dead Trigger and a whole lot more. They all ran very well.

Moving to the camera of the Nexus 5, it can be classified as average at best when compared to the offerings of other flagship devices. It takes a tad longer to focus than we'd like, which makes it difficult to shoot pictures under certain conditions. Being a flagship product, we expected more from the camera of the Nexus 5, especially when we have seen what the likes of the LG G2, Samsung Galaxy S4, Lumia 1020 and others have to offer.

In terms of battery life, the Nexus 5 lasted for 5 hours in our continuous video playback test. This means that the smartphone can last for an average day of use but you will have to keep the brightness low and kill apps running in the background frequently. Expect to have about 30% of battery left after nine hours of normal use on a single charge. Compared to the LG G2 and the Xperia Z1, the battery life of the Nexus 5 is a bit less.

The biggest advantage of the Nexus 5 is that it is the least expensive flagship smartphone when compared to the likes of the LG G2, Sony Xperia Z1, Galaxy S4 and the HTC One. This is why the Nexus 5 smartphone is the best bang for your buck offering a pure Google experience with guaranteed updates for the next 18 months. This is the easily among the best Android phones out there.

Team Digit



Features 90
Performance 88
Build 85
Value 90

Specifications

Screen Size (in inches): 4.95 IPS; **Screen Resolution (in pixels):** 1920x1080; **Rear Camera:** 8MP, 1080p@30fps; **Front Camera:** 1.3MP; **Battery Capacity:** 2300 mAh; **CPU:** 2.3 GHz Qualcomm Snapdragon 800; **RAM:** 2 GB; **GPU:** Adreno 330; **Storage:** 32 GB; **Removable Storage:** N; **Weight (in Grams):** 130 gm

Contact

LG India
Phone: 1800-108-8485
Website: play.google.com



Chen the knight
Jason Chen named CEO of Acer in hope of them saving them from the PC market collapse



Set up your gear
Here's a database of how-tos for setting up all those awesome gadgets you get as christmas gifts

Sony VAIO Tap 20

Tries to walk the line between a desktop and a tablet



It's great to see all-in-one desktops finally come packed with built-in batteries. And looking at the Sony VAIO Tap 20, it's unlike any other all-in-one desktop PC we've seen in the past year or so, making us wonder: is it a desktop or a tablet?

Sony traditionally makes well-designed products that look good, and it's the same story with this desktop tablet hybrid. The 20-inch wide frame of the Sony VAIO Tap 20 is built well, with a thin bezel and nice finish that oozes quality and style all around. The body is predominantly of high-grade plastic, with a foldable metal stand that props the unit up like a photo frame. Its two-toned black and white finish looks great, and when viewed from the front the Sony VAIO Tap 20 AIO resembles a giant Windows 8 tablet.

Having said that, there's no doubt that the Sony VAIO Tap 20 is a bit too heavy to be used as a tablet constantly while you're slouched on a sofa. Not only is it too heavy at 5 kg, it's also too big in terms of form factor, which isn't readily portable.

The 10 finger multitouch screen is quite responsive, especially during simultaneous multi-user interactions, and there's no navigational nag to talk about. Despite not being an IPS display, the Sony VAIO Tap 20 all-in-one desktop tablet hybrid's screen viewing angles are pretty good, with little or no colour shift. However, it's screen does attract fingerprint smudges very easily, which is a constant nuisance. The built-in NFC capability of this device is also something unique to the VAIO Tap 20 -- this is the first NFC enabled AIO desktop tablet hybrid we've witnessed.

The Sony VAIO Tap 20 isn't an extraordinary all-in-one desktop or tablet hybrid, when it comes to hardware features. It has no optical drive, which is a bit of a shame considering its desktop DNA, but not a big concern if you don't deal much with optical media. The machine handles regular PC-related work, like surfing the Web, working on productivity tools, listening to music, etc., quite well and multitasks efficiently despite its ULV processor and average RAM offering.

The bundled wireless keyboard and mouse connect effortlessly with the Sony VAIO Tap 20 and work well overall. The keyboard has chiclet-styled keys that are nice to type on, and there's no lag whatsoever. The mouse, however, has an odd shape, and can take some time getting used to in terms of gripping it properly. In terms of its multimedia potential, watching movies and videos was a pleasant experience.

The desktop tablet hybrid's onboard stereo speakers, which come equipped with a subwoofer (situated at the top on the back panel), are quite pleasant to listen to. They aren't loud enough to fill a large room, but adequate for personal entertainment, with largely distortion-free audio even at high volume levels. Don't even think of gaming on the Sony VAIO Tap 20, as it only comes fitted with Intel HD 4000 graphics. Why Sony wouldn't include a high-speed SSD in this device (which sells at 70k) is something that bewilders us as much as the VAIO Tap 20's potential customers – this is simply inexcusable on Sony's part.

The built-in battery of the Sony VAIO Tap 20 isn't much to talk about either. Because of its large screen, which is the number one reason behind battery drain, the AIO tablet hybrid barely lasts the full length of 2 hours, just enough to let you watch a Hollywood flick, we reckon. This is nowhere close to the performance you get on a laptop, ultrabook or a 10-inch tablet, for instance.

As an idea this Sony desktop-tablet hybrid isn't without its merits, but it's still far from perfection. If you always dreamt of buying a stylish, space-saving all-in-one desktop with a built-in battery, the Sony VAIO Tap 20 is worth looking into. It has great looks and design, decent hardware that performs well, and offers good multimedia potential. However, it's rather large for a tablet when it comes to personal use, and is quite cumbersome to move around for that reason.

Jayesh Shinde



Features 65
Performance 60
Value 55
Design 75

Specifications

Screen: 20-inch, 1600x900 pixel; **Touch input:** Multitouch enabled, 10 finger simultaneous; **CPU:** Intel Core i5-3337U; **CPU Speed:** 1.8 GHz; **RAM:** 4GB DDR3 1600MHz; **GPU:** Intel HD 4000; **HDD:** 500 GB, 5400 rpm; **OS:** 64-bit Windows 8; **Ports:** 2 x USB 3.0, SD Card slot, Headphone, Mic, Ethernet jack; **Wireless:** Wi-Fi 802.11 b/g/n, Bluetooth 4.0; **Webcam:** Built-in, 1.3 MP; **Keyboard:** Wireless; **Mouse:** Wireless; **Weight:** 5.2 kg; **Warranty:** 1 year

Contact

Sony India
Phone: 1800-103-7799
Email: http://bit.ly/o7xidE
Website: www.sony.co.in

AOC 42A3320/61 LED TV

Okay for soap operas, but not for consistent movie viewing



Price ₹47,990

With the LED TV prices having fallen a bit in the recent times, you can now very easily find a 42-inch panel around the ₹50,000 price bracket. However, at a couple of grand or so lower, there are a second layer of options, from the likes of AOC, Vu etc.

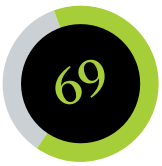
The thin bezel on three sides is pretty much in line with what the big brands offer. Below the screen, there is what looks like an extended part of the bezel, with the good quality plastic in the brushed finish. The AOC logo itself illuminates blue to signify sleep, and green to indicate power on. The panel itself isn't as reflective as some of the most established rivals, but this LED status light can be a bit annoying.

The LE42 has only two HDMI ports, which is a serious issue if you have more than two HDMI devices.

The on-screen UI looks good, albeit minimalistic. with settings that are minimal. The limitations do show in terms of the picture quality. The primary issue is with the black levels, which look dark gray at best. This does have a sort of negative impact on the rest of the gamut, and the dark scenes detailing as well. At most times, the panel clearly shows a green-ish colour cast, if you look carefully.

Clearly, this TV is meant for the casual viewer - the typical daily consumption of soap operas, a bit of news and the occasional movie. But the LE42 will be a serious compromise if you need it for watching movies regularly.

Vishal Mathur



Features 70
Performance 65
Build 80
Value 60

Specifications

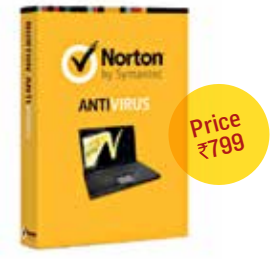
Screen Size: 42-inch; **Resolution:** 1920 x 1080 pixels; **Panel Type:** LED backlit LCD; **Connectivity:** 2 HDMI, 1 USB port, component, composite, coaxial out; **Smart TV:** No

Contact

AOC India
Website: http://www.aocindia.com
e-mail: serviceindia@aoc.com
Ph/ No.: 1800-3000-0262

Norton Antivirus

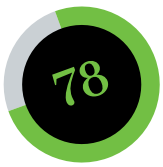
Feature-rich



Price ₹799

Norton is a well-respected brand the world over and their antivirus suite gives us an inkling as to why. The program is very well-designed and incorporated the Windows 8 aesthetic very well. The essential information is clearly visible on the main screen and it's not very difficult to find the settings that you need when you're hunting for them.

The system monitor is an excellent tool to precisely monitor what's been happening to your system and is particularly useful because you can inspect graphs and locate the programs that are causing spikes or using an inordinate amount of resources. This is a very decent suite at this price and is light on the system too.



Features 85
Usability 75
Value for money 75

Specifications

Real-time scanning; Browser protection; System monitor; Network monitor; Norton Insight; SONAR; and more...

Contact

Symantec Corporation
Website: in.norton.com
E-mail: http://dgit.in/1a5lgXH

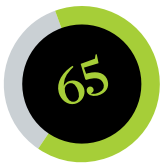
Tekfusion Ecoofers

A decent set



Price ₹1,099

Another budget in-ear headphone, the Tekfusion Ecoofers are a very decent set. The audio is, well, decent. They're no stand-out highs or mid-range; the quality of the bass is a bit on the lower side and we would have loved to have a more defined low-end instead of the vague thumps and booms that we heard. The set itself looks a little different from the average set, owing to the wood finish on the ear-buds, we also liked the flat cables that were used, ensuring a comparatively tangle-free experience. Given the price however, we feel that the Cowon EM1 is a better deal at ₹300 less..



Features 70
Performance 65
Build quality 65
Value for money 60

Specifications

Frequency Range: 18-20000Hz; **Impedance:** 16ohms; **Cable:** 1.2m flat, symmetric; **Warranty:** 0.5 years

Contact

Tekfusion Technologies Ltd
E-mail: info@tekfusiontechnologies.com
Website: www.tekfusiontechnologies.com



Google goes rapping
Google decides to investigate a rap genius for using Spammy SEO to grow traffic
http://dgit.in/gglrap



Snapchat denied
Researchers decide to publish Snapchat code which allows phone number matching after exploit disclosures were ignored

Apple iPhone 5c

The iPhone 5 returns, with a different name and a plastic shell

78

Features 80
Performance..... 80
Build 75
Value 75

Specifications

Processor: Apple A6 dual core 1.3GHz; **RAM:** 1GB; **Display:** 4-inch (1136 x 640 pixel); **Graphics:** PowerVR SGX 543MP3; **Internal Storage:** 16GB; **Battery:** 1510mAh; **Platform:** iOS 7.0.4

Contact

Apple (India)
Phone: 1800 4250 744
Website: http://www.apple.com/in/

The iPhone 5c comes across as a completely new product, and in some ways it definitely is. For all intents and purposes however, it's the exact same iPhone 5 that we all know and love, with a fresh lick of paint. Apple has done away with the gorgeous aluminum and slapped on an "unapologetically plastic" back shell. Clearly, an iPhone that doesn't have the aluminum and glass will take some getting used to. The one good thing about this change is the availability of colour options - green, yellow, pink, blue and white, and there's no doubt that the polycarbonate used is of very good quality, but it's in no way superior to the others, like say, the Nokia Lumia range of smartphones.



While it is technically a new product, there are just too many similarities that hold us back from calling the iPhone 5c a "new" product – the same A6 processor, 8MP rear camera, 1.9 MP front camera, Wi-Fi and Bluetooth 4.0 – they're all here. The only noticeable change is the 4G support and the slightly larger, 1510mAh battery. It's hard to recommend this phone over the iPhone 5, which some might argue is a better phone, but still, the colour options are funky and do add a dash of life to the very cold and aesthetic iPhone design that we've all grown to love (or hate) over the years. We're not particularly disappointed with this phone, but we're not particularly impressed either.

Vishal Mathur

LG G Pro Lite

Great potential, but flawed presentation

67

Features 77
Performance..... 63
Build Quality 60
Value for money..... 78

Specifications

Operating System: Android 4.1.2; **Screen Size:** 5.5-in at 960x540 pixels; **Built-In Storage:** 8GB; **MicroSD Card Support:** Upto 32GB; **RAM:** 1GB; **Camera:** 8MP; **Wi-Fi:** 802.11 a/b/g/n; **Bluetooth:** 3.0 with A2DP; **Battery:** 3140mAh; **Processor:** 1GHz dual-core Mediatek MT6577

Contact

LG India
E-mail: https://www.lg.com/in/support/message-customer-support
Phone: 1800 180 9999

The LG G Pro Lite is a dual-SIM Android smartphone that's priced enticingly at `19,300. At first glance, it does look like the phone we've all been waiting for. But then again, so did the Samsung Galaxy Grand, which turned out to be a thoroughly undercooked device.

The G Pro Lite has disappointing specs. The biggest thing about it, literally, is its 5.5-inch IPS display that is handicapped by a measly resolution of 960x540 pixels. The G Pro Lite is powered by a dual-core Mediatek MT6577 processor clocked at 1GHz and 1GB of RAM, again nothing impressive.

The phone did relatively better in task-based benchmarks than GPU based ones, but in terms of real-world performance, it was adequate. It just works without any lag, stutters or hassles of any sort and it's notable that the battery life is actually quite good. We got about six hours of use in our video playback test (at 100% brightness and Wi-Fi on). The camera is an 8MP shooter that isn't really inspiring. It's functional, noisy and has awful low-light performance. Contrast is a major issue as well and this was a persistent problem in video as well.



It's hard to really get passionate about this phone and all we can come up with is a "pretty ok", and that is insufficient for us to recommend this over the likes of the Nexus 4 or even the Xolo Q1000S. It's a half-decent phone no doubt, but there are better options out there.

Nikhil Pradhan

Kobo Glo

An admirable e-reader with a lot of features

76

Features 85
Performance 70
Build 80
Value 70

Specifications

Weight: 185 g (6.5 oz); **Display:** 6-inch, 1024x768 resolution, 16-level grey scale; **Storage:** 2 GB (up to 32 GB with a Micro SD card; **Format support:** EPUB, PDF, JPEG, GIF, PNG, TIFF, TXT, (X)HTML, RTF, CBZ, CBR

Contact

Kobo Inc
Phone: 000 800 001 6928
e-mail: help.in@kobobooks.com

The Kobo Glo is an e-reader, much like the Amazon Kindle Paperwhite, but with a few enhanced features. Sporting a similar 6-inch screen, the Glo is both lighter and smaller than the Kindle Paperwhite, and therefore easier to hold. It also has a slightly fancier pattern on its back, and comes in different colours.

The Kobo Glo's lit much the same way as the Paperwhite, but is a bit brighter. Reading books is a breeze and so is the ability to customize reading settings (fonts, tap to forward, etc.). It also adds gamification to your reading stats, rewarding you for reading more. Unlike the Paperwhite, the Glo supports ePub format, allowing you to inject books you didn't buy through its store *cough*. It has a microSD card slot that allows you to expand the storage capacity. The battery life of the Glo is pretty good: after 10 days of reading, with intermittent Wi-Fi browsing, the Glo still had 49 per cent of juice left.



Price ₹10,999

As a piece of hardware, we have no complaints from the Glo. In many ways, it's better than the Kindle Paperwhite. However, Kobo still can't match Amazon's might with the variety of books offered for purchase and pricing and until they ramp up their ebook offering, there can be no clear winner in this e-reader war. At least for now.

Jayesh Shinde

Roccat Kone Pure

Pure fun

70

Features 70
Build Quality 77
Value for money 63

Specifications

Switches used: Omron key switches; **Sensor Type:** Pro-Optic Sensor R3; **DPI:** 8200 DPI; **Polling Rate:** 1000; **Onboard Chip:** 72 MHz Turbo Core V2 32-bit Arm based MCU; **Acceleration:** 30 g's; **Weight:** 90 grams; **Cable:** 1.8 metre braided; **Warranty:** 1 year

Contact

TIRUPATI ENTERPRISES
Phone: 9831022600
e-mail: mail@tirupati.net
Website: www.tirupati.net

Price ₹5,100



The Kone Pure is a similar albeit a smaller mouse than the Kone XTD that we tested last year. Unlike the Kone XTD, the Kone Pure will snugly fit anyone's palm. It uses a soft touch material throughout its body which adds grip to it.

With an 8200 DPI laser sensor adjustable on-the-fly using the DPI buttons on the mouse itself, the Kone Pure is no slouch in terms of features. Roccat has also thrown-in two thumb buttons for backward and forward operations.

The Kone Pure uses Omron switches and the click feedback while gaming is quite good. The mouse is comfortable to use and is very precise. All our tests in games ranging from Quake III to Warcraft III to World of Tanks proved this mouse to be quite capable and a great performer. The tracking was spot on and the grip, excellent, with the right mat of course. The orange colour is a bit funky but some will like it and the LED lighting adds to the aesthetic appeal. The software is also packed to the brim with all the features that you'll need to customise this mouse to the hilt.

We think that the Roccat Kone Pure is a well rounded mouse meant for gamers that has a nice design with a good build quality that justify its price.

Siddhant Sharma

Meka G1 illuminated reviewed
Launch the link below to read our full in-depth review of the Ttesports Meka G1 illuminated.:
http://dgit.in/TtMekaG1

Bank hackers
The hackers who attacked Target Corp also managed to steal encrypted PINs. Read more about it: **http://dgit.in/bankhack**

Canon EOS 70D

A very competitive camera, indeed!

78

Ratings 78
Features 75
Performance 80
Design 80

Specifications

Sensor: 20 MP, APS-C; **Image Processor:** Digic 5+; **Lens Mount:** EF-S and EF; **Video Resolution:** 1920x1080 (29.97, 25, 23.976 fps)

Contact

Canon India Pvt, Ltd.
Phone: 0124 4160000
Email: info@canon.co.in

The Canon EOS 70D has the 7D's famed 19-point-all-cross-type AF system, combined with the ergonomics of mostly the 60D, paired with the touchscreen from the EOS 700D. The unique thing is the Dual Pixel CMOS AF sensor.

The AF system is almost always spot on and the various AF zones have been simplified for the average user.



Price ₹84,000

The Dual Pixel CMOS AF sensor allows the 70D to drive the AF motor in lenses while inLive view mode and it does so at incredible speeds. Unfortunately, to take advantage of this, you will either need lenses with the USM motor or the newly developed STM motor. The Dual AF system works because of twice the photo diodes behind individual micro lenses which offers speedy phase detection.

In terms of image quality, we're seeing rather standard performance. It renders excellent images (in RAW) that have a lot of headroom for editing, though the jpg files could use a little more saturation.

Anything above ISO 6400 and we're looking at a drastic drop in quality.

The EOS 70D happens to be an incredibly competent camera. So what if mostly all of its features are patched together from other Canon DSLRs? When they are all combined into this one body, they come together beautifully and if you're wondering whether to get the camera or not, we say you should.

Swapnil Mathur

Ttesports Meka G1 illuminated

An inexpensive mechanical keyboard

67

Features 73
Build Quality 84
Value for money 45

Specifications

Keyboard type: Mechanical; **Keys:** Cherry MX Black; **Polling Rate:** 1000 Hz; **Backlighting:** Full; **Wrist Rest:** Yes, detachable; **On-Board USB Port:** 2 ports; **Audio Jacks:** Mic and headphone; **Weight:** 1550 grams; **Gold-Plated connectors:** Yes; **Cable Length:** 1.5m braided; **Dimensions (LxWxH):** 430 x 160 x 40mm; **Warranty:** 2 years

Contact

Tirupati Enterprises
Phone: 9831022600
Email: mail@tirupati.net
Website: www.tirupati.net

The Ttesports Meka G1 illuminated is the second keyboard by Ttesports to grace our test centre after the Ttesports Poseidon. Design-wise, the Meka G1 illuminated looks like any other standard mechanical keyboard but it has red LED backlighting for each of its keys. The Meka G1 is built very well as every aspect of the keyboard, including the body, the palm rest, the keys, the connectors and the cable are built to last.

Though the palm rest is strong, we didn't quite like the material that they've used for it because it's very plasticky and smooth and is nowhere near as good as the rubberized finishes that we've seen on other keyboards. Coming to the backlighting, the Meka G1 has individual key-by-key backlighting with a red glow. The brightness of the symbol keys seemed a bit dull and we don't know whether this was a design decision or is just an anomaly, but a uniform brightness level would've been better. None of the keys on the keyboard are programmable and the keyboard doesn't come with any sort of customisation software, which is a downer. What's silly is the placement of the "Fn" key, as it's placed at the spot where the Windows "Start" key is normally seen and this is quite annoying. At about 11.5K, the Ttesports Meka G1 illuminated is very expensive and is missing a few important features required from a gaming keyboard. You can definitely consider some other mechanical keyboard from a lower price segment.

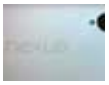
Price ₹11,500



Siddhant Sharma



5 QWERTYs
Can't think of a life without your QWERTY? We come to your rescue with 5 QWERTY phones you could consider.



Nexus 5 v4.4.2
Here's the Nexus 5 camera image quality comparison after the Android KitKat 4.4.2 update: **http://dgit.in/1dcuBPF**

Cooler Master N600

A pricey, but decent case.

Cooler Master revealed their new N series cases to the world not too long ago and the N600 is the first case that we're testing from the series. Coming in an ATX form factor, the N600, by the looks of it, follows a very simple design idea and it feels as if CM has gone back to the books with the N600. The reason why we're saying this is because the front facia of the case for example, is completely a meshed grille to provide more airflow; dust filters are present of course. A slim plastic panel runs vertically on the front-right of the case which has all the usual ports and buttons mounted on it.



Price ₹7,000

The rear of the N600 is fairly regular with the exception of a switch at the top-left for fan control. The N600 we received for the review was a windowed side panel version but other panel options are also available. The left side panel was rather interesting to see as it had space for installing fans or wait! What? A radiator? Yes, the N600, though it looks tame, isn't, as the case can accommodate two 240mm radiators and another 120mm radiator. Support for these many radiators is cool for a case this size and we're not complaining. From the inside, the N600 is well laid out and we especially liked the removable HDD cage area with modular drive brackets. With an internal case temperature of 39.9°C under load, the N600 is a decent case but is a bit expensive as well. There are better options out there, but few with support for so many radiators.

Siddhant Sharma



Features 85
Performance 79
Build 68
Value 60

Specifications

Dimension: 207(W) x 455(H) x 520(D) mm; **Motherboard Support:** ATX, mATX; **Expansion Slots:** 7+1; **Form Factor:** Mid-tower; **Drive Bays:** (x3) 5.25", (x7) 3.5" or (x10) 2.5"; **Cooling:** Front 1x120mm, Rear 1x120mm; **Front I/O:** (x2) USB 3.0, (x2) USB 2.0, Audio jacks; **Weight:** 8.1 kg

Contact

Cooler Master Co. Ltd.
Phone: 9820207871
Email: sanket_naik@coolermaster.com.tw
Website: www.coolermaster.in

Gigabyte H81M-S1

Small, yet functional



Price ₹3,825

The H81M-S1 is a micro-ATX board that sports the very bare essentials that are required for a PC. You're restricted to only four SATA ports, two USB 3.0 ports and the only way to connect a display, if you don't have a GPU, is via the lone D-Sub port on the back. There are a few electrolytic capacitors thrown in with the solid state ones. This board really has no frills and fancies on it, it's just a very basic motherboard with the bare essentials intact.



Features 30
Build Quality 75
Value 60

Specifications

Memory: 2xDIMM @ 1600MHz; **Expansion:** 1xPCIe x16, 2xPCIe x1; **VGA:** D-Sub; **SATA:** 2xSATA 3.0, 2xSATA 2.0; **USB:** 6xUSB2.0, 2xUSB3.0; **Warranty:** 3 years

Contact

GIGABYTE Technology Pvt. Ltd.
Ph.No. : 022-40633222
e-mail: sales@gigabyte.in
website: www.gigabyte.in

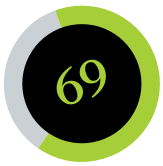
Sony MDR-XB30EX

Underwhelming, but expensive



Price ₹2,190

As far as in-ear sets go, this set is quite chunky and all that extra bulk is attributed to the "Advanced Direct Vibe" structure that Sony says they use to pump out the "extra bass" that defines this headset. Strangely, we didn't really notice much of that "extra bass" that Sony's been talking about. The bass is pretty decent, not too overpowering and at an acceptable, if not very great, quality level. This is where the good news ends though as the rest of the audio is just a muddy mess that only gets worse the heavier the track gets. A decent set at half the price.



Features 75
Performance 65
Value 70
Design 65

Specifications

Driver: 13.5mm; **Sensitivity:** 105dB/mW; **Impedance:** 16ohm; **Frequency response:** 4-24000Hz

Contact

Sony India
Ph. No.: 1800 103 7799
Website: www.sony.co.in



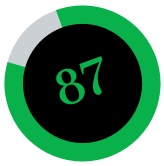
LG Flex in hand
Team Digit's first impressions of the LG Flex. Take a look at what we think, just in case you intend to buy it: **http://dgit.in/1jMCLU0**



Social Resolutions
9 Social media resolutions you should make in 2014 to avoid being a tech zombie
http://dgit.in/K3NN9y

Apple iPad Air

The best tablet out there, gets further improved



Features 95
Performance 90
Build 85
Value 75

Specifications

Processor: A7 dual core 1.3GHz; **RAM:** 1GB; **Display:** 9.7-inch Retina with IPS (2048 x 1536 pixels); **Graphics:** PowerVR G6430; **Storage:** 16GB; **Platform:** iOS 7.0.4

Contact

Apple india,
Phone: 1800-425-4646
Website: apple.com/in

Apple has given the iPad a proper redesign - thinner bezel, and gone is the tapered design in favour of a much flatter look. However, the true change is the weight reduction - 469 grams now as against the 652 grams earlier - massive difference.

When the fourth-generation iPad was launched, it was powered by a custom version of the A6 processor - seen then in the iPhone 5 - called the A6X. For the iPad Air update, Apple has not bothered with the X customization. The A7 has 1 billion transistors, double that of the A6 chip that it succeeds.

Not many apps have still been updated to take full advantage of the 64-bit architecture, but the ones that have make all the difference. For one, Apple's own suite of apps are utilizing the 64-bit boost, and the Safari performance shows that. The iPad Air clocked 5142 in the Octane benchmark test, while the previous generation iPad scored 2891.



The newer PowerVR G6430 GPU is a huge step forward. The 3D Mark Ultimate benchmark clocks 15241, while the predecessor would top out at 10,819 in the same test. While the display res is the same on both tablets, the same games look incrementally better on the iPad Air.

Because of the smaller footprint, the iPad Air chucks the 42WHr battery for a smaller 32WHr pack. One hour of movie playback at 100% brightness and 50% volume takes up 5% of the charge.

Vishal Mathur

Sony Alpha 7R

The best mirrorless camera?

The Sony Alpha 7R is the latest camera from Sony and manages to pack in a few industry firsts. To start with, it's the first full frame mirrorless camera in the world. It's also the lightest. It sports a 36MP full frame sensor which is excellent at capturing detail, not just because of the pixel count, but also because the optical low pass filter has been removed from it.

The A7R is unlike any mirrorless camera Sony has ever made. It's designed more like it's smaller sibling, the RX1, which is Sony's full frame point and shoot camera.

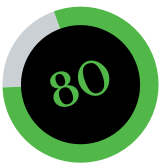
The A7R boasts of some serious specs, which makes the great performance of this camera absolutely predictable. The A7R has low light performance that can give most DSLRs a run for their money. The dynamic range in this camera is quite phenomenal; of course, it struggles a bit with the mid-day sun, but the raw files will offer enough headroom to recover detail in the shadow areas.

The camera is extremely quick and accurate. Shoot options make this great AF system slightly slower though. While you place your trust in the camera to lock focus on the object you want in focus, if you like to manually select your AF points, you could be in for a slightly frustrating time.

Overall, the A7r is a mirrorless camera like no other, bringing true DSLR quality to a segment that has had a hard time being taken seriously. With the a7r and a host of Zeiss lenses, that is all set to change.

Swapnil Mathur





Features 75
Design 80
Performance 90
Value 75

Specifications

Sensor: 36 megapixel full frame; **Lens Mount:** Sony E-Mount

Contact

Sony India
Ph. No.: 1800 103 7799
Website: www.sony.co.in



ZOTAC GTX 780 AMP!

Why buy a 780 Ti when you can get the 780 AMP! edition

Performance.....88
Value.....75
Build.....67

Specifications

Chipset: GK110; **Base clock:** 1006MHz; **Memory clock:** 1552MHz; **Stream processors:** 2304; **Texture Units:** 192; ROPs: 48; **Manufacturing process:** 28nm, PCIe 3.0, 2560 x 1600 digital resolution support, 3GB Memory, **DirectX support:** 11; **OpenGL support**: 4.3; **Power Connectors:** 8Pin + 6Pin; **TDP:** 250W; **Dimensions (LxWxD):** 267mm x 111mm x 35mm; **Warranty** - 5 years extended warranty

Contact

Aditya Infotech Ltd.
Phone - +120-4555666
Email - sales@adityagroup.com
Website - http://www.zotac.com/

We have yet another ZOTAC factory overclocked graphics card for benchmark and it's the ZOTAC GTX 780 AMP! edition. The card features ZOTAC's triple silencer design which has three fans of which the one in the centre is a 100mm fan while the remaining two are 80mm fans. The PCB has a black solder mask which seems to be favoured by most consumers and is purely cosmetic. The card needs a 700 watt SMPS with at least 42 amperes on the 12 volt rail. The custom cooler isn't that wide so it only occupies two PCI-e slots which is the norm with all cards out there.

Price ₹48,000

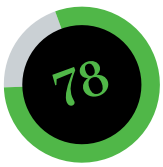
The base clock is at 1006MHz which is 170MHz higher than the stock card. The memory clock scales according to 1552MHz. The memory capacity remains the same as the stock card with 3GB of GDDR5 memory. 2304 cuda cores makes a good card for OpenCL programming as well but a Tesla card would be better. As far as SLI support goes, one can set up a triple-SLI configuration with these cards. So by all means this card has much more packaged into the same price segment.

The card runs pretty fast on most high end benchmarks. The extra processing power is quite evident in all benchmarks and the card runs at par with the GTX 780 Ti stock card. The difference in frame rates is more noticeable at the lower configurations, but why one would want to do that when you can get 100fps at ultra settings is beyond us. Temperatures were also pretty controlled at a steady 65 degrees

Mithun Mohandas

Intex Soundbox Smash BT

Surprisingly brilliant



Features.....80
Design.....70
Performance.....75
Value.....90

Specifications

Output power: 20 W + 10 W*2; **Speaker size:** 5.25" Woofer, 3" Mid x 2, 1" tweeter x 2; **Impedance:** Woofer 8 Ohm, Satellite: 4 Ohm; **Frequency response:** 30Hz - 20 KHz

Contact

Intex Technologies (India) Limited
E-mail: info@intextechnologies.com

Every now and then we get a device for testing that makes us sit up and take notice. Notwithstanding the name, this iPod dock from Intex is quintessentially such a product. The Soundbox Smash, takes the "box" part of its name a little too seriously – it really isn't much more than a black box. No frills here whatsoever, but guess what, if it was any other "high-end" manufacturer flogging this very design it would've easily passed off as minimalism so it's only fair that we don't hold it against it. In fact, we quite like the design. Little design elements such two white LCDs that diffuse through a small acrylic plate at the back of the pod, give it some more of an understated sort of elegance. The feature set – which includes bluetooth wireless playback, a video out, line-in, and remote control – is comparable to what the best in the industry has to offer. But let's set aside all of that for a moment, since it was ultimately the performance that really took us by surprise.

Price ₹4,999

This 40W powerhouse was able to reproduce stunning crystal clear highs, deep and thumpy lows. The mid range does get muddled when dealing with tracks such as No More Tears but all of these aspersions get thrown out of the window when you get to the price – an affordable ₹4,999. If you're not on the current gen lightning connector iDevices, the Intex Soundbox Smash BT is a total no brainer. Heck, if you're in the market for a set of PC speakers this is not a bad option at all; just keep it on line in and switch to Bluetooth or iPod mode whenever your heart desires.

Siddharth Parwatay



Fascinating moments
See a list of 2013's most fascinating video game moments and be amazed.
http://dgit.in/GameMo



Gaming in West Africa
Check out this brilliant photo essay by Nick Hagen on gaming in West Africa
http://dgit.in/GameAfrica

ZOTAC GTX 780 Ti AMP!

The 780 Ti has now been dethroned by the AMP! edition

Every time we receive a high end card the excitement around it isn't lost by any measure. However, when the fastest card out there gets bumped down a place then it's an all new matter. We recently got the ZOTAC GTX 780 Ti AMP! Edition. That's right, after the 780 got its AMP! edition it was only natural for the Ti to get one too. What we noticed was that both the 780 AMP! as well as the 780 Ti AMP! are clocked at 1006MHz. The memory clock is higher for the Ti as it is at 1800MHz while the 780 has a slightly lower 1552MHz. Other than that, the two cards are absolutely identical all throughout. The triple cooler design has made yet another appearance here with the fans and the other elements remaining the same. Subsequently, the card is significantly hotter compared to the 780 AMP! edition by 5 degrees at peak load, hitting 70 degrees easily.

The base clock is 130MHz higher than the stock card which is usually at 876Mhz. 2880 cuda cores pack a lot more processing power than any NVIDIA card so far. This all comes with a price tag of ₹60,500/- which isn't that high given that the stock 780 Ti we received was priced at ₹59,000/- So for ₹1,500 you are getting a custom cooler, factory overclock and freebies which on their own are worth more than the modest price hike here.

Blazing through all benchmarks this card performs exactly as expected. Dual GTX 760 graphics cards equal this SKU in certain aspects but for everything else, the competition can be said to have been left far behind. It's neck and neck between a dual GPU MARs card and the GTX 780 Ti AMP! edition during a run of the Bioshock Infinite benchmark but when run at ultra settings there is some disparity between the two cards. The FPS remains in the mid 90s while the Mars card lies in the upper 80s. Hitman Absolution is a stressful benchmark for high end cards but the 780 Ti AMP! Edition could easily pull off a mid 70s average at peak load levels, especially where the screen is chock full of NPCs loitering about a town square. Sleeping Dogs on Ultra hit the lower 70s, which is the highest we've seen so far. On one particular run the ASUS MARS card did manage to get 0.1 FPS ahead but that is within the error margin so we won't be worrying about that.



Yet again the Triple silencer design pays, keeping the card moderately cool, but the lack of anything extra compared to the Triple Silencer on the 780 AMP! Edition means that this card runs a bit hotter and that is quite evident from the numbers. Idle temperatures remained in the low 30s and when running at high load the card crawls all the way to 70 degrees celsius which is way below the thermal threshold.

This is one monster of a card that has put every single-GPU card that has come to our labs to shame. The price is quite high but not high enough to qualify as extortion, but the performance is tremendous and more than justifies the price when compared to a stock NVIDIA GTX 780 Ti. Most may find the card impractical, but there something to be said for drool value. The cards at the very top of the performance spectrum rarely sell above 300-400 units across the country but there is something about this card that tells us that it might do a little better compared to its predecessors.

The ZOTAC GTX 780 Ti AMP! edition has everything that one would expect from a high end card – factory overclock, custom cooler, good build quality and ... ahem ... free games. Add to the fact that this is the fastest single GPU card out there and you've got one of the best cards there are on the market. That is, until the dual GPU cards start making their presence felt.

Mithun Mohandas



Performance..... 90
Value 75
Build 67

Specifications

Chipset: GK110; **Base clock:** 1006MHz; **Memory clock** - 1800MHz; **Stream processors:** 2880; **Texture Units:** 240; **ROPs:** 48; **Manufacturing process:** 28nm, PCIe 3.0, 2560 x 1600 digital resolution support, 3GB Memory; **DirectX support:** 11, **OpenGL support:** 4.3; **Power Connectors:** 8Pin + 6Pin; **TDP** - 250W; **Dimensions (LxWxD):** 267mm x 111mm x 35mm; **Warranty:** 5 years extended warranty

Contact

Aditya Infotech Ltd.,
Phone - +120-4555666
Email - sales@adityagroup.com
Website - http://www.zotac.com/

Thermaltake BigWater 760 Pro

Not worth the fuss

72

Features 86
Design 80
Performance..... 68
Value 55

We welcomed the Thermaltake BigWater 760 Pro like any other hardware loving geek would, that is, with high hopes. Especially so since this CPU cooler from Thermaltake was the first DIY liquid cooler to reach our test labs. The radiator, pump, reservoir and cooling fan all are connected together in a bay that fits inside the 5.25" drive bay of your cabinet and takes two bays to accommodate it. The tubing required for the coolant (Ethylene Glycol solution in distilled water) runs out of this drive bay unit and connects to the waterblock attached on the CPU. Though the idea that Thermaltake has employed with the BigWater 760 Pro is plausible in terms of saving space, it's also not ideal. We say this because, in a bid to fit the whole cooler in a small space, the radiator, which primarily dissipates heat, would not do so efficiently due to the low of airflow. Installing the 760 Pro sure takes some time and you need to be extremely cautious while doing so. Once we had the cooler up and running for some time, we ran our standard tests and the results were as we suspected i.e., not very good. The idle and load CPU temperatures were 33.5°C and 53°C respectively. You can get similar performing coolers at a much lower price.

Price ₹9,500



Siddhant Sharma

Specifications

Unit Dimensions: 252.8mm(L) x 145.8mm(W) x 84mm(H); **CPU Support:** AMD FM2/FM1/AM3+/AM3/AM2+/AM2, Intel LGA2011/1366/1155/1156/1150/775; **Warranty:** 2 years

Contact

Savera Marketing Agency Co. Ltd
Phone: 9830866800
e-mail: samit.ghosh@savera.co.in

Sony MDR-10RNC headphones

Bass heavy, but vocals aren't always handled well

69

Features 70
Performance..... 70
Build 75
Value 60

Sony has maintained similar design elements in the entire MDR range of headphones. The headband and earpads are well cushioned with the black coloured leather. Despite the slightly thicker material, these feel lightweight and comfortable throughout long listening sessions.

Sony's MDR headphones always appeal to the bass lovers. However, while that is brilliant, it is disappointing that the mids and highs tend to not have the definition you would expect, in certain cases. The proof of the presence of the low frequencies - Knife's Silent Shout and around 5:25 minutes during the interlude in What Goes Around by Justin Timberlake. Jay-Z and Kanye West's, No Church in the Wild, is another example of excellent bass and low-mids, but the vocals seem muddled and lacks crispness.

Pink Floyd - Time is the best example that shows these cans do not have a wide soundstage. However, critical to note that the layers aren't muddled, with each element getting its own time under the sun. One surprising thing that emerges is that for a track that is itself focussing on mids and highs right from the recording time, these seem to suit the MDR-10RNC better. While these headphones are good for bass heavy tracks, classics and originally vocal focussed tracks will do well on these cans.

Sony rates the battery life up to 20 hours, but this vary from person to person. Surprisingly, there is no auto shutdown of the noise canceling feature, which would kick in after a period of inactivity.

Price ₹14,990



Vishal Mathur

Specifications

Type: Over-year headphones; **Noise Cancelation:** : Yes; **Power:** AAA battery; **Frequency response:** 6Hz to 24,000 Hz; **Sound Pressue:** 101dB; **Connector:** 3.5mm with airplane adapter; **Controls:** In-line; **Weight:** 190 grams

Contact Contact

Sony India
Ph. No.: 1800 103 7799
Website: www.sony.co.in

The future of energy
Could frozen natural gas be the solutions to earth's energy problems? Learn about the wonders of methane hydrate here: **http://dgit.in/methhyd**



No girls allowed
Games are strictly a male's domain? Where are the girls?.
http://dgit.in/nogurlz

Sennheiser CX300 II

A bad deal?

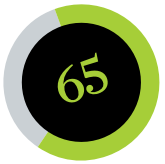
Sennheiser has always been known to produce great headphones but we're yet to come across an in-ear set from them that we really liked and unfortunately, the CX300 II is no exception to this rule. The CX300 II is built pretty well and the ear-plugs are very compact and the ear-buds are actually quite comfortable and that's about as far as the good news goes.

The audio tends to get very screechy (enough to set your teeth on edge) in the higher spectrum and the bass is muted, missing out on detail in heavy tracks. The mid-range is decent and voices do sound pretty good, which is the only redeeming feature in the audio department. We can still ignore the muddy bass, but the highs are terrible. It takes a conscious effort to actually leave the set in your ears when you're listening to tracks with strong highs.



We're really at a loss when it comes to recommending this set as it doesn't really have a USP of sorts. The sound is uniformly bad, the build quality is only decent and the design is not unique in anyway. Even a set such as the Klipsch s4i has an insane amount of bass, the Sennheiser on the other hand is just a half-decent set. There are better options available at this price, including the Sony XBA1, and you'll be better off saving up for something better.

Anirudh Regidi



Features 70
Design 60
Performance 70
Value 60

Specifications

Frequency Response: 19-21,000Hz; **Impedance:** 16ohms; **SPL:** 119dB; **Cable length:** 1.2m

Contact

Sennheiser Electronics India Pvt. Ltd.
Ph. No.: 124 4187800
E-mail: info@sennheiserindia.com
Website: http://en-in.sennheiser.com/

ASRock FM2A88X Extreme 6+

The best FM2 board so far

AMD's APUs haven't kicked up a real storm the way they were supposed to, but if you do have a top of the line FM2-based APU, then the ASRock FM2A88X Extreme 6+ is the board you want. It's a very feature-rich board with everything that you would expect from a high-end board from any company. It's literally got everything, gold-plated, solid-state caps, crossfire support, seven SATA 3.0 ports and even six USB3.0 ports. It's got every video output that you'll need, not to mention a Realtek ALC1150 chipset and the TI NE5532 Amp that lets you plug in 600ohm headsets.

The board itself is well-laid out and in fact, the first slot is a PCIe 1x slot which ensures that even if you have triple slot GPUs, you won't be sacrificing all of your expansion slots at once. Other than that, you have the usual assortment of front-facing SATA ports, power and reset switches and a BIOS switch to switch between the two BIOS options that you get. One big complaint we have is that you can attach only one PWM fan to the board (not counting the one for the CPU).



Regardless, the motherboard is a feature-rich board and the BIOS options are quite comprehensive for a tweaker and is the best FM2 board we've had in our labs.

Anirudh Regidi



Features 55
Build Quality 85
value 85

Specifications

CPU: FM2+ 95W / FM2 100W; **Chipset:** AMD A88X; **Memory:** 4xDIMM @ 2600MHz; **Expansion:** 2xPCIe 3.0 x16 slots, 1xPCIe 2.0 x16, 2xPCIe 2.0x1, 2xPCI; **VGA:** DVI-D, D-Sub, HDMI-IN, Display Port; **SATA:** 7xSATA 3.0; **USB:** 8xUSB 2.0, 6xUSB 3.0; **Warranty:** 3.5 years

Contact

Mediaman Infotech
Phone: 022-43441111
e-mail: sales@mediaman.co.in

Curious case of Sony's PS4 pricing

Last year was an exciting one for the gamer, despite missed opportunities for microconsoles like the OUYA, NVIDIA Shield, Gamestick, and others, to show any signs of going mainstream; challenge the hegemony of established console companies like Microsoft, Nintendo and Sony. There was a brief window of opportunity last year for these devices to score some customers, ones who weren't looking to buy an Xbox 360 or PS3 – if they would've seen a great new console with a promising platform, they would've thrown money at it. But it wasn't to be.

As expected, and with much fanfare, the Microsoft Xbox One and Sony PS4 were launched around the world. While we wait for Microsoft to make its move in India and unravel the Xbox One, Sony's already bitten the bullet and launched the PS4. At a price of Rs. 39,990. This has ticked off several Indian gaming enthusiasts who think Sony India's gone absolutely bonkers. After all, how can those Americans have the same console for 60 per cent of the cost of what Indians are expected to pay? Blasphemous! Absolutely preposterous!! Through social media, the minuscule Indian gaming community voiced their outrage and told Sony India where to stuff up their shiny new PS4s.

Responding to the hue and cry – which was quite shocking by itself – Sony India issued a statement on the apparent high price of the console in India. Blame the draconian Indian import duties, they said. If we assume 1 US Dollar to be 62 Indian Rupees, and import duty at 28.85 per cent plus 15 per cent VAT, we arrive at a price of Rs. 35,585. Probably there are other minor taxes that I'm not factoring in which ends up driving up the cost of the PS4 to 40k – which is, wow, quite a lot. And if our government is solely responsible for this fiasco, sure it deserves a lot of flak for not recognizing the burning need of second-third generation gamers in India who have all their basic needs taken care of.

Or maybe the government just likes to milk households with disposable incomes dry down to their last drop, and Sony India isn't any different in this respect, either.

It's not just the PS4 console that's priced "outrageously", its accompanying games will cut a deeper hole through your bank account, too. Sony's own games will sell at ₹3,999, while EA titles will set you back by ₹4,499 per game. Several other publishers have indicated their PS4 game prices to be between ₹2,499 to ₹3,499. Holy guacamole, that surely hurts!

Sony tries to justify this in a Times of India interview by claiming "their prices have to be such that they are in the positive with respect to the cost price, and only then can you have a viable business." In short, profits. Sony India's here to make profits to sustain their gaming business. What's wrong with that? Every business has a right to make profit, right? Not when several independent reports and sources from Sony's global business units are confirming that the PS4 console itself is being sold at a loss on launch. Is that so here in India?

One can debate whether 35k or 30k would've been a more acceptable price for the PS4, but the larger point remains: that Sony missed a great opportunity to send a message to the gaming industry with their PS4 strategy here in India.

They are not Apple, and the PS4 isn't an iPhone that the general populace will be enamoured with constantly. So they should've taken a leap of faith to look beyond profits for a struggling gaming market like India, and tried to drive up volume. No one's tried to do that; how do we know that strategy's doomed to fail, if no one bites the bullet?

And we all know that the console is just a flash in the pan when it comes to steady and continued revenue from steeper game prices (exactly how printer companies get their revenue through expensive ink cartridges) and PSN Plus subscriptions. So why this "outrageous" pricing for the PS4 console?

Unless Microsoft bamboozles us with an aggressively priced Xbox One, the console market isn't going to take off any time soon, with every smartphone and tablet sale leading to a potential casual gamer. Mobile games will continue to rule in India, and the second coming of next-gen consoles will be nothing short of an aberration.



Jayesh Shinde
Manager - Test Centre
jayesh.shinde@thinkdigit.com

"Sony missed a great opportunity to send a message to the gaming industry with their PS4 strategy here in India."



Calxeda shuts down
Calxeda, the ARM server chip pioneer has shut down due to additional financial problems. Read the full story: **http://dgit.in/PoorCalxeda**



Sony Dualshock 4
Want to know what's new and what's old with Sony's DualShock 4 controllers? **http://dgit.in/18Tcko5**

AMD R9 290X v/s NVIDIA GTX 780 Ti

A multi-faceted look at the flagships from both NVIDIA and AMD

Mithun Mohandas
readersletters@thinkdigit.com

Now that we have the flagships from both AMD as well as NVIDIA, it is high time to get a comparison out before we get the dual-GPU flagships from both manufacturers if there ever will be one. While the GTX 780 was touted to be the flagship, AMD's introduction of the R9 290X tilted the scales in the favour of AMD which is why NVIDIA came out with the GTX 780 Ti. While the pricing schema has remained the same with the NVIDIA card being priced way above the AMD card, the performance trend has changed for the better. AMD is no longer lagging far behind and that coupled with the fact that the card is cheaper makes the AMD seem a much sweeter deal but that all comes down to where your priorities lie. Read on to figure out which card suits your definition of what a graphics card should do.

Features

Mantle and DirectX

The AMD card has support for the new Mantle API which is due to be released in an update this December. The new API allows direct access to the onboard GDDR5 memory so game developers may be able to make better use of that memory for not only storing frames but also use up memory for loading maps. While this hasn't been implemented and there is a lot to consider before going for such an approach (like ensuring that performance doesn't take a hit while using the onboard memory), it offers diverse possibilities and has a lot of potential. Battlefield 4 is going to be the first game where we'll be able to see the new API in action. NVIDIA hasn't mentioned anything about Mantle so far and it's not as if only the R9 290 and the R9 290X are capable of using Mantle. Previous generation AMD cards will be able to render the Mantle API as well.
AMD 1 - NVIDIA 0

Raptr GeForce Experience and Shadowplay

The most recent addition to the NVIDIA environment would be the GeForce Experience widget which came along with the recent driver package. And close on the heels of the same, AMD launched a similar feature by incorporating Raptr's client into their drivers. These two software collect information regarding your computer configuration and monitors your FPS. After a while this data is sent to their servers. By analysing this information they can come up with the optimal configuration where you can get the most FPS at the highest settings possible without compromising on frame rate. The implementation of the system by both manufacturers needs to be looked at. NVIDIA's tool is created solely by them and is less intrusive compared to Raptr's client which pops up after each gaming session. However, Raptr has a better API which recognises games and incorporates an UI overlay similar to that of steam. Also, the whole community aspect comes into the picture with Raptr while GeForce Experience doesn't have that.

Another new feature that has been included is Shadowplay which allows you to save gameplay videos without having to utilise an external capture device. The feature is limited to cards that came after the GTX 660.
AMD 1 - NVIDIA 2

Memory

The AMD card comes with 4GBs of GDDR5 memory and the NVIDIA card has 3GBs of GDDR5 memory but that's not where the story ends. AMD's R9 290X offers a memory bandwidth of 320GB/s with a bus width of 512bit while NVIDIA's GTX 780 Ti gives you 336GB/s with a bus width of 384bit. The overall performance comes from the overall bandwidth and this is where the NVIDIA card gets ahead by a narrow margin. This marginal increment comes into play when you have memory intensive tasks like Anti-Aliasing, HDR

lighting and high-resolution gaming. Till then they offer next to no advantage.
AMD 0 - NVIDIA 0

Stream processors

The R9 290X has 2816 cores while the NVIDIA card has 2880 cuda cores. The NVIDIA card may have more cores but the AMD card has a better implementation because of which the OpenCL performance on AMD cards is way greater than that on the NVIDIA card. The aspect is demonstrated in our OpenCL benchmark so we aren't declaring any winners here.
AMD 0 - NVIDIA 0

Texture units

The NVIDIA card has a clear advantage here with 240 texture mapping units against 176 units on the AMD R9 290X. This translates to 210 GTexel/s on the GTX 780 Ti while the R9 290X can output 176 GTexel/s.
AMD 0 - NVIDIA 1

ROPs

The NVIDIA card has 48 ROPs against 64 ROPs on the AMD card. These are proportional to the other elements of the card and come into play in the final stages where all the data computed separately needs to be combined to give the final output on the screen, which is why we won't be scoring cards based on the ROPs they have.
AMD 0 - NVIDIA 0

Floating point performance

The AMD hardware triumphs over the NVIDIA GTX 780 Ti when it comes to Single precision as well as Double precision floating point calculation. The AMD card can output a maximum of 5632 GFLOPS versus the NVIDIA card's 4500 GFLOPS of Single Precision floating point calculation. The performance difference scales similarly for Double Precision floating point calculations as well with the AMD R9 290X crunching 704 GFLOPS against 210 GFLOPS on the NVIDIA GTX 780 Ti.
AMD 1 - NVIDIA 0

Build

Cooling

Both have copper bottomed plates onto which we have aluminium fins. There are no heat pipes on both cards and the fan design is also the same. A difference that we see right off the bat is that the AMD card's fins are closed off from the top while the NVIDIA card's fins are open ended. AMD's heatsink, however, has more copper on the base to go with compared to the NVIDIA heatsink. All this hasn't brought much difference to the table since the AMD card still runs hotter compared to the NVIDIA GTX 780 Ti.
AMD 0 - NVIDIA 0

Connectors

Both cards have the same set of connectors. But you'll notice that the AMD R9 290X card doesn't support VGA output anymore so even if you managed to use an adapter(adapters won't fit given the lack of sockets for the analog pins) you won't be able to obtain a VGA output. However, keeping in mind that these are flagship cards that support 4K resolution it really doesn't make sense to use a VGA output anyways. So yet again there will be no winner in this segment as well.
AMD 0 - NVIDIA 0

Power

The NVIDIA card has a TDP of 250W and requires at least 42 Amperes on the 12V rail to work optimally. AMD on the other hand hasn't mentioned any numbers here so we're in the dark regarding this segment.
AMD 0 - NVIDIA 0

ROI	NVIDIA GTX 780 Ti		AMD R9 290X	
	Value (Rupees)	Reduction (@25%)	Value (Rupees)	Reduction (@25%)
Current	₹59,000	₹14,750	₹38,000	₹9,500
After 1 Year(s)	₹44,250	₹11,062.5	₹28,500	₹7,125
After 2 Year(s)	₹33,187.5	₹8,296.875	₹21,375	₹5,343.75
After 3 Year(s)	₹24,890.63	₹6,222.656	₹16,031.25	₹4,007.813
After 4 Year(s)	₹18,667.97	₹4,666.992	₹12,023.44	₹3,005.859
After 5 Year(s)	₹14,000.98		₹9,017.578	

Benchmarks

In this section we've decided the winner based on a 5% error margin. For a full list of all tests performed check the online article at http://dgit.in/1guBd1g
AMD 1 - NVIDIA 3

Return on Investment

Going back about five years, we had the GTX 285 which was the highest performing single GPU card and even to this day it performs well. Most games released in each year don't have exhaustive graphical requirements given that plenty of them are designed to work on consoles as well. So any card bought today will perform decently 5 years down the line.

For tax calculation purposes, we in India use anything between 20-30% to calculate depreciation in value of computer hardware. We'll be using 25% in this calculation. So both cards over a period of five years will depreciate in value by the following table. So at the end of five years you've lost ₹44999 on the GTX 780 Ti and ₹28982 on the R9 290X. Given that the performance difference between the two is barely anything, the price difference does bite NVIDIA on the rear especially since the ROI on both are pretty much the same.
AMD 1 - NVIDIA 0

Winner

The final scores stand as follows with NVIDIA in the lead by one point.
AMD 5 - NVIDIA 6

This alone is not enough to decide the winner on the whole. When it comes to gaming the NVIDIA GTX 780 Ti is ahead of the AMD R9 290X by a small margin while the AMD tries to cover up for that with computational prowess. However, we're looking at desktop graphics cards here where the primary focus is on gaming performance and which is why the NVIDIA card takes the crown.

Deciding the perfect NAS for you

With so many choices to pick from you need to take into account what all parameters are absolutely essential for choosing the right NAS device and here is how you go about picking one for your home or your office.

Mithun Mohandas
readersletters@thinkdigit.com



The back of the NAS is apparently a bigger deciding factor and this is why

There are plenty of factors when it comes to picking the right NAS device and for the sake of simplicity we've broken them down for your convenience. Obviously, getting a NAS device which aces through all these categories would be undoubtedly expensive so do keep that in mind when you are finalising what to buy.

Hard Drive

The brand you need to pick should be power efficient, come in different form factors and capacities, remain cooler and feature a firmware optimised for NAS usage. There are a few brands that have such specialised hard drives. One of the important factors when deciding on a hard drive is whether it is supported by the NAS manufacturer and this is where popular brands excel because pretty much every manufacturer out there supports their full portfolio of hard drives.

Storage

Capacity

Each NAS device has a certain upper limit when it comes to the total capacity of each drive as well as all drives combined. Now this will only be an issue if you opt for the most basic model available so do check the packaging to figure out if there is such a limit and also research online. Often, each bay will support a maximum of 4TB which is the highest HDD capacity currently available.

Bays

NAS devices often have support for RAID which means they will support a minimum of two hard drives and thus, there will be at least two bays. Having more bays also allows for redundancies. So whenever any of your hard drives go out of action then you can easily swap them out without loss of data, i.e. provided you choose a RAID level that supports redundancy like RAID 1.

Formfactor

Hard drives are available in 2.5 inch form factors as well as the traditional 3.5 inch form factor. The smaller form factor drives are comparatively expensive and storage capacity is also limited to 2TB which is why the 3.5 inch drives are still the rage when it comes to picking one for your NAS. But most NAS will have bays that have screw holes for installing the smaller 2.5 inch form factor drives as well.

SSD support

SSDs are available in large capacities but the cost per GB is still quite high compared to hard drives but most NAS that do support SSDs use them as a cache drive to speed up data transfer between the NAS and your computer.

Hardware

Processor

The processing power comes into play when you need to cater to a lot of users/clients downloading different sets of files simultaneously. So a NAS device with an Intel Atom processor should be more than sufficient for the average home/small office. If you expect a lot more clients to be connected on a regular basis then you might consider having a dual core Atom processor or one of

those specialised SOCs which are designed for being used in NAS devices. For example, the Atom CE5315 is one such processor.

RAM

RAM requirements scale according to the features that are utilised. Which means if you have error checking and correction or anything that resembles similarly then the RAM requirements ramp up. There are certain algorithms that need 1GB RAM per TB of data being managed.

Interface

Wired/Wireless

If you wish to stream directly from the NAS device then you could go in for a model having inbuilt WiFi, however, it would be better if you stick to a modular approach and buy a device without the WiFi component. This way you can simply change your wireless router when you wish upgrade to a better 802.11 protocol revision.

Ports

Ports for connecting to various storage peripherals are another aspect to be considered if you are to hook up your external devices to your NAS. So eSATA, USB 3.0 and Thunderbolt are the more popular high-speed ports commonly featured on NAS devices.

Gigabit/100Megabit

The days of the 10/100 interface are behind us and Gigabit is the way to go. Even routers now support Gigabit transfer speeds over 802.11ac which is the latest WiFi protocol. Also having a greater bandwidth means that more clients can be satisfactorily catered to simultaneously.

OS

The operating system of the NAS plays a huge part in the decision process. Most of the features are actually enabled by the software rather than the hardware which is why an OS which is more open source friendly will have that many plugins available to customise your user experience.

For example, you can make a web server or a media server out of your NAS if you manage to get the right plugin. Also, features like remote access over the internet and auto-backup are enabled by the software in most devices. Hot swapping is another feature which is helpful if you plan on swapping the hard drive out of your NAS device on a regular basis.



The flexibility of a NAS in terms of features is heavily dependent on the OS

RAID Level Comparison

Features	RAID 0	RAID 1	RAID 1E	RAID 5	RAID 5EE	RAID 6	RAID 10
Minimum Drives	2	2	3	3	4	4	4
Data Protection	None	Single-drive failure	Single-drive failure	Single-drive failure	Single-drive failure	Two-drive failure	One disk failure per sub-array
Read Performance	High	High	High	High	High	High	High
Write Performance	High	Medium	Medium	Low	Low	Low	Medium
Read Performance (Degraded)	N/A	Medium	High	Low	Low	Low	High
Write Performance (Degraded)	N/A	High	High	Low	Low	Low	High
Capacity Utilisation	100%	50%	50%	67-94%	50-88%	50-88%	50%

Features

RAID

Hardware RAID is preferred over a software RAID anytime. There are multiple RAID configurations for different usage scenarios. Eg. RAID 0 for speed and RAID 1 for redundancy. Depending on what you wish to set up you'll need to pick a NAS with the right number of bays since there is a minimum number of hard drives needed for each RAID configuration.

Printer

If your router doesn't support connecting a printer via USB then you can opt for a NAS device which does support printers via USB. An ethernet port on a printer is a premium feature so it's an uncommon feature in entry level printers.

Noise

The noise factor depends upon the build quality of the NAS since a device with more drives will obviously vibrate a lot more. Excessive vibration is bad for any and all hardware device. This is another reason to go for NAS optimised drives since they intelligently balance the load and thus vibration is greatly curtailed. Nonetheless, you should check that the drive bays are secure and have padding or springs to absorb any vibrations.

Energy Efficiency

Being energy efficient is a feature that is most welcome for any electronic device. This is not only economical in the long run but an energy efficient device also remains cooler. Most NAS drives feature some sort of power management module hard coded into the drive and reduces power during overall usage.



Thrill of heights
This glass room gives you a spectacular view of the highest point of the Alps. **http://dgit.in/alpfloating**



Steam Controller Test
See the Steam controller in action. Watch the test run to see how it handles. **http://dgit.in/steamC**

A Fontastic interview with Neeraj Gulati, MD Monotype India

Monotype, makers of the world's most iconic fonts, talk about piracy, their India operations and the technology that underlines their fonts.

Can you tell us a bit about Monotype?
Sure, Monotype is a company that has been in existence for the longest time, contributed tremendously to the time of typeset printing and desktop printing came alive. Initially it was more of a company that did font design and it was the creative arts that was the major focus and as technology became integrated with communication instead of just print, monotype has products focusing on type, technology and the expertise that goes along with that. So you're familiar with all these web portals that we have – we have fonts.com, myfonts.com were some of the most iconic fonts are available for designer around the world to try and use, buy and subscribe. We already love technology because one area of technology is about delivering fonts to the different types of designers, so that they leverage the cloud a lot. There's a product that we've got called https://skyfonts.com, it is basically fonts from the cloud for designers. We've got other technologies that make available fonts as a service.

Can you elaborate on this concept?
So when the web started out, if I was the designer and I was making any asset on the web, I had to ensure that the fonts that I was using in my artifact, unless inside a picture, had to be a font that my end-use has on their desktop, on their computer. This restricted a lot of creative space that designer could operate in. Then together with partners Monotype drove a standard around web fonts, where I can publish my content using any of the latest fonts, using custom fonts, and the end device – whether a PC, Mac, or tablet, or a mobile phone – as it's downloading the content, doesn't need to have the font as it's being fetched from the cloud that we host. So at the top-line we're basically into type and technology.



Neeraj Gulati, MD, Monotype India

So is this an open standard or proprietary?
No, it's an open standard that we've also helped developed and helped promote. So the theme for us is that we want to be a part of every bit of communication which is happening in print and predominantly on the web. Since a lot of it is text and a lot of it is from designer who want to catch the attention of the end consumer or partner or whatever it may be – creative type becomes a very important ingredient.

What solutions does Monotype have for various device makers?
So with connected devices and disparate screen sizes and resolutions one of the challenges for anybody who is publishing, especially brands, they want to maintain

brand fidelity across all different devices. So if I'm a British Airways or I'm a Tata or whatever, I want my brand communication to look as crisp and as clear and as legible irrespective of end-device that the consumer or user is using. So that challenge is quite huge and it exists across screens like handhelds or screens found inside cockpits. Monotype has done a lot of work in the area of rendering legible text across different screen-sizes, screen quality, and memory availability. That business line call 'Display Imaging' we have our products deployed in automobiles like Ford, Hyundai etc. So the display technology ensures that all content irrespective of language comes across as crisp as it should be on very high resolution or on large screen.

So for these interfaces – say in-flight entertainment – do you just develop the fonts for the interface or you work closely with the partners involved right down to the display technology itself?

So let's take the example of automotive. In automotive you've done a lot of work in terms of fonts as well. We have very specific set of font that we know work very well in the automotive sector. We did this very in-depth study with MIT to figure out in terms of time and attention of the driver is there a difference when it comes to fonts. Every minute that needed the attention and the distraction can cause problems so we've fonts that we've designed and researched on over the years that work very well in certain industries. Beyond that, we also have technology that make fonts legible and clear. Our tech is not restricted to just these in fact Amazon Kindle device uses our display text rendering technology as well. Also, almost 9 out of 10 laser printer manufacturers out there world wide have our print driver technology.

What about you know Indic fonts what monotypes position there?

The Company has been in Indic fonts from so long time from the 1960s. In fact, the number of fonts that are quite heavily used in India. We were actively involved in the Typography Day in IIT Guwahati last year and a font called Frutiger Devanagari. We see a of brands are looking to have complementary Indic and Latin fonts for their brands. You know there's a lot of vernacular population that doesn't understand English. We see indic languages as extremely important and there are complex scripts that pose challenges to render on screen. It's an area where a lot of work needs to be done and will be done over the coming years.

Do you commonly work with OEMs, you know helping them create regional packs, for example Apple recently added bangla support from iOS 6 onwards right?

Yeah, so we work with OEMs when it comes to screens, mobile devices, say Samsung. We also work with independent software vendors like Google and Android, and Apple device, so yes; both Apple and Google are our customers.

Considering today's mobile devices is there a type of font and display technology that is best suited for reading text?

When a font works very well on a given type of screen, it is because there's some technology that is embedded in the font. There is a technology called 'hinting' where we create add-ons to a font so that it looks well on low resolution screens. There are lots of technology elements so that font looks better and very clear on different screen types. In terms of the future, I think, one of our focus areas is to bring incredible global fonts – one of the largest libraries out there – onto the fingertips of creative professionals. Skyfonts will be doing that. It allows you to try fonts anywhere on the cloud and our library, and try them out in your designs so you might be working in InDesign or PowerPoint or whatever tool you might be using. If you like it, you can try it for free, and if you like it, you can go for a subscription or any other suitable payment model that you want.

And what is the kind of DRM being used here? If someone wants to just go ahead and use it in their final production, what stops them?

See ultimately when the file download is done, the font is sort of encapsulated by our own technology. You don't have to delete it, after a few minutes it will disappear. But, this is a very huge relief for creative community because this ability to use a font that was created yesterday by some iconic designer, which is not available to anybody around the world, within minutes. That's huge! As it reduces the time in market tremendously.

This raises another question: we have thousands of fonts packs on torrents and all available freely. Does this kind of piracy affect your business at all?

Any form of art or technology or IP there's always a dark side, right? And it happens with music, it happens with arts, so yes, definitely it's the area of concern. Now having said that, the market is becoming easy, right? Let's look at it this way: some people were doing this because they do not have easy access legally to get fonts quickly. A designer gets a few days, a few weeks to get a production or a new creative done. Now, with things like SkyFonts easily available the logic is, what's the point? I've a legal way that's easy so why bother doing illegal things? Similarly, the models of payment have changed tremendously now. We have payment models that suit every requirement, and its not just tailored only for the high-end requirement only. So for web fonts there's a little bit of a cost up front but most of the cost is by usage. As people are using that font, they're paying so that reduces the sort of overall front-end cost for the designer or firm that is using it.

Is there any big name brand or website that I would know of that's using your fonts?

There are pretty much iconic brands out there, if you know Timberland, Nike, Adidas, Samsung, American Idol uses it, if you talk about our web-fonts, huge brands are using it. If you talk about fonts then pretty much any big company in the world uses it.

What are your operations in India like?

We decided about 16-18 months back that this will be our innovation centre globally. So we're working on developing technology that we talk about. We are developing and designing fonts as well in Noida, so our guys take a lot of pride in doing this here. We want to share that at have people come over and see what we are building, interact etc. I am giving an open invitation to come and see for yourself what's going on.

Twitter Change
Twitter takes a leaf from Instagram's book. How, you ask? Take a look!
http://dgit.in/InstaTwt



JD Goes Disney
Jack Dorsey hops onto the Disney bandwagon and joins its board of directors. **http://dgit.in/JDDisney**

"Malware has advanced, become more complex"

Not our words. This is what Juraj Malcho, Chief Research Officer at ESET claims to have observed. And his word counts. Why? Because he's been a virus researcher for 10 years now, and loves every bit of it. Excerpts from our exclusive interview:

Jayesh Shinde
jayesh.shinde@thinkdigit.com

You've been a virus researcher for close to a decade. How have viruses evolved in the last 10 years?

We've seen a shift towards the mobile. The malware has become more advanced and its capabilities more complex, and therefore, so have our products.

The complexity of threats and attacks are coming from all directions, thereby stressing out the need for layered security. A single point of protection is easy to defeat, thus, for companies it's necessary to deploy protection at the gateways as well as endpoints. Generally, it's necessary to look where the people or money is because that's where cybercriminals will strike. After all, the times when malware was written for fun and fame are long gone.

Talking about checking possibilities and hacking/cracking for "fun" and proof-of-concept, we're seeing attempts to attack any smart devices out there and finding weaknesses in their design and implementation. This concerns any device you can connect to, such as Smart TVs, intelligent houses (alarm system, devices) and so on.

Also, hackers are targeting QR codes. How?

We can see a lot of QR codes are showing up in stores and a ton of new NFC-enabled smartphones will be hitting the streets this year, opening up the possibilities for those who would seek to abuse them. Hackers use the software which interacts with the code/tag and proceeds to act on the data in the code/tag without asking permission. This will happen when the associated software will not have preview-and-authorize as the default setting. On the Android platform, we noticed "Control Near Field Communication: Full internet Access" as one of the permissions sought by apps like Google Earth and YouTube.



Juraj Malcho, Chief Research Officer, ESET

We feel QR codes (which are freely available) suffer from potential weakness. If anyone wants QR code for their project, we strongly suggest them that there are many websites that will generate the code and also test the code before deploying.

How are cyber criminals exploiting digital wallets?

The mobile platform itself is directly being used for online banking, which is gradually attracting the attention of criminals. While absolute numbers of malware targeting mobile (by far mostly Android) platforms is low, the significance of those attacks is high for the victims since they typically lose money. There are numerous malware families today performing Bitcoin (digital currency) mining or other crypto currencies or both. Spying trojans and banking trojans also follow the money trail and turn their attention to Bitcoin, directly aiming to steal digital wallets, but there are steps you can take to keep your Bitcoins safer than most.

If your wallet's stolen, act fast: If your Bitcoin wallet has been stolen, it's not quite as easy for the attacker as stealing a real wallet – he or she has to move the currency out of it. If you're lucky, and fast, this can sometimes save your coins. When the Bitcoin wallet is stolen from the victim, the attacker will have to "spend" the Bitcoins in it – by either adding them to his own wallet, purchasing something, etc.

Keep your PC clean if you're dabbling in Bitcoin: Keep your computer clean and uncompromised by "thinking before you click" and having your system, applications and anti-virus up-to-date.

Encrypt your wallet: To stay safe, you just have to ensure no one else ever has access to these. Bitcoin provides a way to encrypt wallets, and this would make it much more difficult for the attacker to get his hands on the Bitcoins

What are some of the most innovative, never-before-seen cyber attacks witnessed this year?

A threat, which has gained momentum in the past months, is ransomware. The absolute numbers are not high and these trojans by far don't make it to the top of prevalence charts, but they get a lot of attention because they are very visible, unlike a typical bot. (Ransomware is malware which hijacks the PC and then demands a ransom from the victim, typically by locking his/her PC (Lock-screen) or encrypting his/her files.)

When Technology Goes #Fail

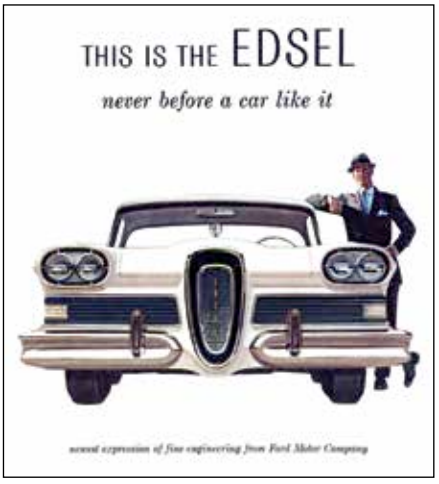
13 EPIC Tech Fails Till 2013

Samir Alam
readersletters@thinkdigit.com

1 Cinerama Technology (1952 to Now)

Now could have been something seriously cool. The Cinerama experience was the first IMAX-killer projection technology that was actually invented decades before the IMAX! Covering a widescreen expanse of 146 degrees in its vision, images were breath taking, immersive and holy hell complicated to shoot. Faced with the many challenges - from shooting and editing footage to eventually projecting it on screen - the Cinerama system demanded three projectionists to work in near Borg like collective harmony. Developed decades before computerization and automation of digital film, Cinerama was ahead of its time and is extremely difficult to be adapted in the mainstream today. There are still a few theatres in America and UK that use it. Try it out if you get the chance.





2 Ford Edsel (1957)

The bigger they are the harder they fall. Such was the case with Ford's Edsel, a product born from the ego of Mr. Edsel Ford, President of the Ford Motor Company in 1957. Yes ladies and gentlemen, he named it after himself! And it lived up to the name. An over-hyped, egocentric, pricy and inefficient car that has been held up over the decades as a prime example of "marketing failure" and "design failure" wrapped up in one ugly looking package. The wrong product, at the wrong time, for the wrong reasons. Enough said.

3 Motorola Iridium (1993)

Its hard to hide the disappointment over the failure of Iridium. Almost like a scheme out of a James Bond villain's handbook, the global satellite phone company in partnership with Motorola planned to connect 66 satellites in orbit so anyone, anywhere could call anyone, anywhere else with just one phone. Of course this was all in the early-90s when cellphones were still finding their footing and anything was possible in the haze of pre-bubble Silicone Valley dreams. Unfortunately, not everyone could be in line of sight with a satellite (car, tunnel, home, name it) or for that matter afford the USD $3000 price tag that came with the handset. The company that became operational in 1993 met its quiet end in 1999. I expect you to die Mr. Bond.



4 Apple MessagePad/Newton (1993)

In crowded hallways of Apple headquarters and Macworld Expos there still scurries a breed of geek nursing the Apple

119

Digit 101
To know what are the different smartphone sensors and how they're used, read this month's Digit 101



Blaster Sold
Han Solo's blaster from the movies gets sold online for $200,000. Read on to know more.
http://dgit.in/5o1oblaster



Newton antique from 1993 blabbering to anyone who'll listen that Newton suffered the slings and arrows of misfortune and could've been the father of smartphones. There, there, we feel your pain. But Apple's ambitious mobile PDA-like device failed to either deliver the portability, battery life, handwriting recognition and value that it was supposed to for the jet setting age of pre-bubble IT-land. It got usurped by Microsoft and Palm's PDAs and Apple bowed out of the scene. Until the iPhone revolution. So it got the last laugh. But the Newton still sucks. Sorry Expo dude.

5 Sirius XM (2001)

The Sirius XM satellite radio was uber-cool when it first launched in 2001. Over a hundred stations, portable and commercial free music was a god sent. The consumers loved it and subscribers rose year over year as the company fell deeper and deeper in debt to keep it all running. In its attempt to capture market share, hundreds of millions were spent



on marketing, operations and other expenses, just waiting for the right time to start raking in that sweet, sweet revenue. But during the slow moving decisions of corporate hobnobbing, the Apple iPod came out. It was all over as users realised they could now carry their personalized music library with them without having to rely on old fashioned radio to play their favourite tracks. Within months the company started crumbling and all the dreams of revenue crumbled with them.

6 Myspace (2003)

How can anything that is led by the mighty creative vision of Justin Timberlake suck, right? (insert sarcasm here). But that was after the crash and burn you say? But even then Myspace is kind of useless. Starting out in 2003 as THE social networking site, Myspace enjoyed its time in the sun right up till the moment



Facebook launched and it was all over. Within months users realised the horrible user interface, design and experience of Myspace and left. And in under a year Myspace dried up to half its size. It kept leaning up until Timberlake came on board and confused its rebranding completely, leading reviewers to actually come up with a suggestion - "Just Die Already". We think they meant My Space, not Timberlake. We think.

7 Microsoft Zune (2006)

Its hard not to giggle about the Zune. Seriously. Microsoft had to work really hard to screw up the Zune - despite having major music labels, major hardware R&D resources and massive coffers for marketing - Microsoft wasn't able to design and deliver a music player system without heap loads of glitches, clunky online store interface and major design turnoffs. Since



its late 2006 release the Zune has only taken about 1 percent of the MP3 player market share while Apple continues to dominate with a near 80 percent advantage. And even though the Zune hardware player is no longer manufactured, sold or supported, Zune finds itself disembodied as a software music service across the Microsoft ecosystem. Tread lightly. You've been warned.

8 TwitterPeek (2009)

The interweb is a weird place filled with fake ads, fake people and fake news. So in 2009, when we heard about a gadget that's supposed to be used exclusively for Twitter, we took it with a pinch of salt. But dang it! We were wrong. TwitterPeek is real. A pocket sized mutant love child of a colour LCD pager and a QWERTY keyboard, TwitterPeek could allegedly read, post and display tweets. That's it. Sold for about USD $200 with a monthly subscription cost for data services, the device didn't really find its customers (because asylums don't allow Tweeting, although they should). The TwitterPeek couldn't even display the 140 character tweets fully and displayed images only from



TwitPic, in addition to which the clunky web browser, lack of multiple Twitter IDs and its dysfunctional tweet-syncing made it a sure fire failure in the face of Twitter enabled Android feature phones at the same price.



9 HP TouchPad (2011)

Like crazy Hollywood marriages, the touch screen tablet launched by HP didn't really last long in the market - 49 days. Even Kim Kardashian's marriage lasted 72 days! Launched only two years ago in 2011, the HP TouchPad was plagued by its amateur WebOS system (well yours would too if it was slapped together in just 9 months). Customers were left underpowered and abandoned in a new OS terrain as compared to the iOS and Android environments. Selling just about 25,000 units in America, HP tried to undercut the bad reviews and customer aversion by slashing prices. Sorry. No takers.

10 Qwikster (2011)

Another flash in the pan product, Qwikster took the dumbest aspects of business and combined them in one perfect service. Launched by Netflix as a standalone DVD rental (by snail mail) business in 2011 (weren't we already streaming back then?), Qwikster seemed like one of those redundant ideas you think are a joke. Until they become real. Then you scream with frustration. Intended to separate the DVD rental business from Netflix's streaming cash cow business, Qwikster did nothing but piss people off. Filled with annoying requirements like separate accounts for the services, separate payment processing and complete mistreatment of customers in general, Qwikster was customer averse and cost Netflix a lot of goodwill before dying out a slow painful death. And no one came to the funeral.



11 Surface RT (2012)

Some people still have trouble figuring out what the RT exactly was - a tablet? An operating system? For laptops? For desktops? Retail store product? What exactly? And even as savvy geeks distinguished its features with a Jedi-like awareness, the broader user community couldn't really find a connection. A result of confused branding and shoddy marketing at the hands of Microsoft, it didn't



even work properly on the hardware it was designed for at the time. So Microsoft is doing what it thinks best - removing the "RT" from the name in the next series of Surface products and hoping that people won't get confused. Well, they may not be confused, but they might not really care either. Now where's my iPad?

12 Yahoo (2012)

Not all failures come in a neat package. Some are built in to the company's leadership, as was demonstrated by Yahoo's Marissa Mayer who somehow over saw the unbecoming of a brand. In 2013, Yahoo saw over thirty brand logo redesigns on its website, a complete redesign of its email product and a bungled marketing strategy promoting all these changes. As Mayer inflicted her leadership on consumers and employees alike (she disbanded the company's telecommuting policy), Yahoo reached a real low point when its own employees couldn't use their own Yahoo mail properly. Faced



with complaints from thousands of users about glitches, failures, redesign hate and general discontentment, Mayer and Yahoo stood fast doing nothing and essentially ended up failing themselves.

13 Samsung Gear (2013)

Regrettably our dreams of acting like a secret agent are still yet to be fulfilled. The Samsung Galaxy Gear was supposed to be that gadget - the one we imagined as a child, yet adult in its functionality and utility. But at a USD $300 price tag (USD $369 in India at Rs. 22,900) and not enough features for the price, it sorely lacked in value for money as well as innovation. Alternatives like Sony's Smartwatch gave better value but honestly were just as unnecessary. Aiming to start up the wearable technology market Samsung ended up selling



nearly a million units but as incompatibility issues with other Android or Samsung phones became more and zmore realised, reviewers and critics alike have panned the device as an example of too little for too much. Seriously? 23,000 bucks!



The XOLO 4G
XOLO's new smartphone, LT900, has been listed on flipkart.com. It supports 4G LTE. Find out more at **http://dgit.in/xolo4g**



LG@CES
LG announces that it plans to launch a stylish Sonos-style multi-room audio streamer at CES **http://dgit.in/LGmras**

The best and worst movies of 2013

2013 was a frustrating year for us. There are good and bad years, but the lack of good movies to watch were few and far between. Regardless, here is our compilation of the best and worst movies of 2013.



Oblivion

If only we'd remained oblivious to the existence of this movie. The only good things about this movie are (the stunning) Olga Kurylenko and the amazing work the special effects team put into the, well, special effects. On paper this movie had everything going for it, but even Morgan Freeman's voice wasn't enough to pick this story up from oblivion.

Elysium

When it comes to this movie, we really don't know what to say. It had a stellar cast, an interesting premise, great special effects and some of the best robots we've seen in a while and it still failed. As with Oblivion, the horrendously ridiculous plot is unmatched in its idiocy and the movie just a technical showcase for the studio behind the special effects.





After Earth

This is actually a tough one for us. It's hard to describe how awful this movie truly is. If anyone can take an actor as good as Will Smith and then put him in a movie where he doesn't change his expression, tone, or even his posture for most of the movie, he should be shot in the foot and buried alive in a radioactive pit filled with mutated fire ants.



Pacific Rim

It's difficult to place our finger on what makes this movie so awesome (we all know why it's dumb, hint: the sword). We have a sneaky suspicion that it has something to do with the sincerity of the acting in a movie that's so obviously over the top, coupled with, obviously, some of the best robot on monster action that we've seen in at least a decade.

Evil Dead

The most gloriously awesome gore-fest that we've ever seen manifested itself in the form of Evil Dead. This gruesome masterpiece of old school horror was a refreshing change from the pseudo-sentimental nonsense that are being passed off as movies this year and we're mightily pleased with the outcome. If only there were more movies like this.





This is the end

This is what you get when you put two off-beat comedians together, give them a mountain of money, and ask them to make a movie. This is one of the most random movies you'll encounter this year, with cameos from almost every actor you know (including an epic one by Channing Tatum we must say). Just watch the film. You won't regret it.

Mac Pro pics
See the Mac Pro from every angle before you invest your money into it. Here's a good slide show by techcrunch **http://dgit.in/mcprpics**



Missh MoneyPenny?
Screenshots of Nokia MoneyPenny, the upcoming dual sim phone were leaked online **http://dgit.in/1fDEWG5**

How we unwind



GO! GO! GO!

We've all played CS on and off, some of us more than most, but we've never played it as a team. This month's winter sales got the team a copy each (for a measly $3.5) and we've barely played anything else since. As before, befriend staticsid, anirudh_regidi, legendarysid, barbarian-monkey and jshinde if you want to join us.

Winter sales

During the build up to December there's only one thing on our minds, "winter is coming." The winter game sales are a highlight of the year for us (not to mention the summer and autumn sales as well) and we watch our favourite gaming websites (esp. Steam) like hawks and swoop in when the deal is right.





The Hobbit Part II

The latest addition of the LOTR franchise had us making plans weeks in advance, seats in the best theatre possible and clearing up schedules in advance. Those plans couldn't be realised unfortunately, but we still managed to sneak away from office long enough to snatch a show at a local theatre.

digit DIARY

Ant is almost always the star of the month, he always ends up doing something that grabs our attention and defines that month for us. This month however, the tables turned. Our acting-editor (for now), Siddharth has been feeling a little down. He's been having the worst month of his life yet and the team has all gathered around to give him support (yes, we support our comrades in times of need. We do make fun of them as well, but we're always there when needed).

Where do we even start? The poor guy's been ignored the whole month. We communicate a lot via e-mail and for some reason, people forgot to mark him on their responses; his name would even surprisingly vanish from mails he's replied to. Who knows what happened? Maybe it really is lonely at the top.

Regardless, his woes didn't end there. Warcraft III TFT is a game that he's particularly keen on, it's a game in which he's capable of whooping our collective arses and he's spent a couple of hours taking on the Pony and Ant together and still coming out victorious. This month however, horror of horrors, the Pony, a relative n00b at the game, took down Sid with ease; massacring his entire army and wiping out his base within half an hour! A feat that's shaken the Sid's to the core.

If that wasn't enough, the Sid's been having the most awful time in Quake as well, barely managing to win one game out of the dozens (only) that we played this month. Did the losing streak stop there? Of course not! Counter-Strike GO was a surprise and sudden entrant to many of our gaming libraries and everyone, except Big Daddy himself, has been showing the Sid how it's done. The Ant in particular has proven to be quite adept at the game, earning the nickname "ninja" within a few hours of joining the fray.

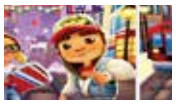
Mithun and Regidi are old hands at the game though, and proved their mettle time and again, but we shouldn't have written the Sid off so early on. You've got to be made of sterner stuff than the average person to get to be the editor of Digit and a thick, scaly, reptilian skin is part of the requirements. After many (humiliating) defeats, he finally caught on and started fighting back and within a couple of days the Sid was back in form, sticking his knife into anyone who dared to oppose him (we might have been a tad lenient with him, but don't tell him we told you).

Speaking of rising spirits, we held an impromptu Christmas party in our office (a merry Christmas and happy new year to you, dear reader), courtesy of our timeless designer, Vijay bhai. Plum cake and a dash of wine were exactly what the team needed to get through the rigours of closing in this festive time.

As you would have read in the boxes above, we've been preparing for the winter sales for a long time and we must say, the wait has paid off. Our steadily increasing game libraries are now a matter of pride among the team and even more than that, the Steam trading cards have really caught on. Everyone is now doing their best to level up, craft badges and just generally soak in the gamification that Steam has brought to the system. Jayesh even went to the extent of wrangling a few cards out of a kindly reader!

All in all, this was a great month at Digit, and a great year. We have been worked off our feet to bring these issues to you and we'll continue doing so. Just don't forget to write in with suggestions and critiques so we can strive to improve, or maybe just revel in the adulation of our fans.

20GB on Skydrive
Microsoft offers an extra 20GB of cloud storage on SkyDrive for one year for all Windows Phone users for a limited time **http://dgit.in/1gRhsB1**



Subway Surfers WP8
Subway Surfers arrives on WP8 platform for devices with 1GB of RAM **http://dgit.in/IX7vDB**

digit SQUAD

This month we highlight some aspiring tech writers and their spirited attempt to get published in the magazine. Let's have more!

Readers' write-ups



Palash

What went wrong with AMD laptops!?

This one comes from an avid AMD supporter cum fan, but not a techno racist! I remember the time when AMD used to advertise their multitasking capabilities on TV via a clunky 'Office boss' commercial! But at that time, I didn't even know what AMD was. All I could grasp from that commercial was, 'AMD is something related to doing multiple things at once'! Well, time flies. Now after all these years reading and exploring about tech stuff and owning this processor brand for over 5 years I've realised what AMD is!

Mobility has become a priority these days, the thought of writing this article came to my mind when one fine day a friend of mine was in the market looking for a performance machine on a restricted budget! So we both went hunting for an AMD laptop. Some small dealers, to our surprise didn't even know that AMD makes mobile processors. Selling them was out of question! Second option, some well known retail chains. It was pleasing to see 2 or 3 AMD based laptops trying lure buyers in this Intel dominated territory. But they were mostly dual core and low end models with a low end IGPU. Last option – shop online. And that was it, we could find some real good AMD configuration on our beloved Flipkart.

After using the machine for few weeks, we were quite surprised to see how "beastie" it's performance was. We grabbed a quad core A10 clocked at 2.3Ghz(3.2GHz turbo) paired with AMD's HD 7670M in CrossFireX with the iGPU HD7660, for less than ₹38K. Sounds like a gaming monsters, doesn't it?! Well, most of the recent titles were running lag free at medium to high settings at native resolution. Which is very impressive for a sub ₹40K laptop. Now, here comes the question, "If these laptops are so powerful and relatively cheap, then why aren't they selling like hot cakes!?" My views on this question are presented below-

The big "Over Heating" myth:
Okay, some initial AMD 'Athlons' had overheating issues, but that was back in the 2003-2005 era. This is 2013, and some wise Youtubers have proved with their thermal guns, that AMD runs cooler than Intel. But, this myth or hoax has significantly affected sales here in India. No matter whom you ask, either they don't know about AMD or they simply talk about Overheating and after sales Service.

Advertising.
Since that TV commercial which I saw in my childhood, I haven't come across even a single Commercial from this 2nd largest Processor maker! Strange, but true. We Indians are fond of Commercials which boasts of features that these devices claim to have!

Demoralisation by the dealers.
This, at present could be the prime reason for low sales. Dealers, they simply ignore you when try to step out of Intel territory to buy something that is not overpriced as hell and makes sense overall. In our experience, 9 out of 10 dealers told us not to buy AMD. Reason – "No just don't". We were ordered not to buy it for no reason! Well played 'commission'! Yes, It was in the media a few years ago, that the competitor was found to be paying retailers a little extra to as compared to the commission given to dealers for selling AMD products.

Synthetic benchmarks, the truth behind them.
So, we found many people talking about AMD's not-so-impressive(according to them) performance. As almost none of them had actually used an AMD machine, their claims were clearly based on Synthetic benchmarks. Benchmarks, (those darned software) which calculates and rates your hardware according to some parameters. So, they're just software, optimization matters. Example, In Digit's recent Nexus 5 benchmarking review, Antutu gave it 25262 points, where as Phones running even less powerful hardware got above 30000 points. What now!? A Layman would badge the Nexus as mediocre device without even having a look at it's real world performance! Real World performance, yes this is the place where AMD shines and clearly marches ahead of its competition! We were pleased to multitask on our AMD laptop where a ₹50K, Intel i5 powered pseudo 'BEAST' gave up and literally hung itself.

OEMs Showing less interest.
Very few manufacturers have exposed our market with Top end AMD models(The A10's A8's). Only HP, Lenovo and Samsung are shipping high-end AMD powered laptops to India. The model we tested was HP g6 2313Ax. As already said, performance was surprising for the price we paid for it!

Bottom line, AMD needs to wake up, show more interest towards growing markets like ours. Advertise their product dynamically. They create some of the best processors, enthusiasts still remember the old warhorses, Phenom X4 and Athlon II. But sadly never got the market share that they truly deserved for the mean beasts that they happened to be.



Tarun Dham

Comparison between iOS/ Android / Windows Phone 8

Users while going to buy a mobile phone do choose the operating systems very carefully, and they should. So here's a in-depth comparison between the home screens of the most common mobile phone operating systems in the market currently i.e. iOS, Android and Windows Phone 8

Android:
Android's home screen is probably the most versatile of the lot, with Widgets(they are an app's most important updates that you can see on the home screen. Users can enlarge, decrease the size of the widget, and also can change the way the widget looks, and also the placement). Most of the home screen is used for Widget placement, but folders with apps can also be placed on the home screen. There is a limit of about 16 apps per folder. There is one thing that I would like to change about Android that is the Widgets- although they are very customisable, but I would like to see the widgets change colours automatically, and after understanding the wallpaper so that the user can see the widget clearly. There is a limit to the home screens as well only 7 that maybe too less for a person like me who wants all information at a glance

Some manufacturers like HTC, Samsung, Sony make their own Android Skins. The best one in my opinion is the HTC, because it is the most customizable, the widgets are probably the only one you would ever want, and also very dynamic.

iOS:
iOS' homescreen has been the same from its inception, a icon based simplistic homescreen. But a little has changed in a few years, you can now integrate the icons(of apps)into a folder. Now with iOS7 you can make pages into a folder for better maintenance of the apps.
There cannot be anything that can be added to the homescreen, except when you jailbreak and install some widgets to it(about that I will discuss it later).

I would likediOS to have some sort of widgets rather than the notifications are shown as a star on the icon.

Windows Phone 8:
Windows Phone 8, has to be the most fluid, most responsive OS of the lot, and probably ever, the OS is very simplistic, and minimalistic. The OS has a tile based interface, which not only shows what the tile is for but also shows some new updates for that app. For eg. If you get a missed call, the phone will, show it in the tile, thus you don't need widgets.
There are 3 sizes of tiles now in WP8, small(just for the icon), middle(for little info), large(for maximum info) I would like to see folders in WP8, without it you cannot put your favorite apps together.



All home screens beside each other

Also, another thing I would like to see more colours to choose from, or atleast have wallpaper at the background since that is a feature that we all like.

Disclaimer: The views expressed in this section are of the respective Digit Squad members. Neither Digit nor 9.9 Media takes no responsibility of their claims whatsoever.

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Sony Ultra Z

The Sony Z Ultra Google Play Edition joins the league of other Google Play edition devices
http://dgit.in/1enP8G0

Head over to our online communities for some of the best discussions, buying advice and user reviews. Of course, you'll meet like-minded (and not-so-like-minded) geeks; be they utter n00bs or experienced digitians. Join the fun !

15-12-2013, 07:26 PM #96

icebags
Alpha Geek
icebags's Avatar
Join Date: May 2008
Posts: 848

Re: the Open Source hardware thread

made a simple clock with 16x2 and arduino.

anyways, who has first hand experience with interfacing sd /mmc card with arduino ? I wanted to capture night time temperature log into an mmc card with an lm35 tempo sensor this winter. but i am kinda busy and getting mad with ork, amd may not be able to do it anytime soon.

anyone else wanna try ?

[URL="http://www.thinkdigit.com/forum/open-source/176760-open-source-hardware-thread-arduino-beaglebone-rasp-pi-etc.html"]Open source hardware thread : Arduino/BeagleBone/Rasp-Pi[/URL]

Reply With Quote

21-12-2013, 08:57 PM #100

quagmire
Allright !



Re: the Open Source hardware thread

Check out Jeremy Blum's Tutorial on Data logging and SD cards..

"It's only after we've lost everything that we're free to do anything."
[Spoiler]Canon SX240 | Simpex 333 ![/Spoiler]

16-12-2013, 01:51 PM #1

shaunak
Tux Fan



Join Date: Mar 2004
Location: Mumbai
Posts: 1,216

SMPS recomendations - Home PC

Hi,
I just upgraded my PC to the following:
i3 4xxx+ Intel H87 motherboard, 1TB Seagate 7200 RPM drive,
1 Optical drive, 4GB DDR3 Ram
This PC will be used largely for programing, office work and watching movies. (Maybe kept on for days together)

The SMPS calculator pegged the PC at ~230W load (max)

I had an old VIP Gold SMPS 400W what I wanted to use - but i realized that its fan has jammed (It was installed with the fan facing down in its old home [Im stupid, I know.])

I dont plan on installing a graphic card. Another 640GB drive may be added soon.

I need a good power supply for this systems and am looking for recommendations. Should I go with another VIP GOLD 400W [1.6k]? Should it not be okay for such a modest configuration? Or are there any other SMPS I need to look at?

Cheers
Shaunak
Feel free to PM/email me.

Visit me sometime @ [URL]http://shaunak.ws[/URL]

Reply Reply With Quote

16-12-2013, 02:06 PM #2

harshilsharma63
Everything Parallel



Join Date: Jul 2012
Location: Jodhpur

Re: SMPS recomendations - Home PC

Antec VP450P available for 2600 is a good PSU.

Intel i3 2100 3.1GHz | EVM 2x2 GB DDR3 RAM 1333 MHz | Intel DH61WW | Seagate Barracuda 500 GB | Corsair CX430v2 | Zebronics Oval | LG E2242C 22" FHD | Logitech MK200 | Seagate Extension 500 GB portable HDD | APC RS-600 UPS | Philips SHP 2000 | Nokia X2-00

Digit 101 - Smartphone sensors

All the voodoo magic that your phone is capable of carrying out is by using some very smart sensors and here's how they work.

Ever wondered how your smartphone switches off the screen when you pull it close to your ears to answer a call? Or how the screen rotates on it's own to re-orient itself in landscape/potrait mode? It all comes down to a few discrete sensors hidden away in your phone. Chances are that you'll never see them if you own a black coloured phone but with a slew of models now available in white fronts these "dots" have had the users intrigued. New features like cancelling a call by waving your hand over the phone is facilitated by these little sensors. Read on to know what all sensors your phone might have and how they come into play enabling certain features on your phone.

Accelerometer

Function: The accelerometer reads the acceleration of the device along three axes - X, Y and Z.

Feature: The accelerometer senses any tilt or motion and conveys it to the operating system. So when you tilt your phone or flick your phone it is this sensor which triggers a change in the screen orientation or skips a song in your playlist. These sensors are very sensitive and can measure acceleration up to 1G on a fine scale.

ALS

Function: They use of two different types of photodiodes(or light sensors) to each record the level of light currently falling on the screen. Each sensor records a different spectrum and by combining the output of these two sensors portable devices such as tablets, smart phones, and laptops can sense a side spectrum of light.

Feature: Accurately measuring the brightness of a room. This information is then used to adjust the screen brightness to make it easier on the user's eyes and also helps to extend battery life. When your smartphone is set to auto-adjust the screen brightness, it is the ALS which tells the phone how bright/dark it is.

Barometer

Function: Measures the atmospheric pressure around the smartphone.

Feature: Pressure differences exist between small changes in altitude which is where this sensor helps. It can smartly work along with the GPS sensor to accurately provide you with your altitude information. The function wouldn't work optimally indoors since there are more factors like open/shut windows, air-conditioning which will mess with the pressure reading.

Compass

Function: The compass is simply used to figure out the magnetic north and relay the information.

Feature: Technically called a Magnetometer, the compass detects variation in magnetic field to figure out the direction. Having devices that cause electromagnetic interference can mess with the readings. This is why your compass application demands a calibration each time it is activated. Commonly used with GPS to provide map directions.

GPS

Function: Communicates with GPS satellites to determine position of the phone on the surface of the earth.

Feature: The GPS sensor works in unison with the compass and barometer to provide you with your current location. For added accuracy the GPS will also use your WiFi module and GSM antennae to locate the nearest signal antennae. GPS requires that you have as less obstruction between you and the satellites as possible.

Gyroscope

Function: Measures the angular acceleration of your smartphone while the accelerometer measures linear acceleration. Both devices are used together to get an accurate depiction of how your phone is oriented and how it came into that orientation from its previous position.

Feature: Racing games use it to allow you to use the device as a steering wheel. Other than that it is primarily used to help with the screen orientation especially when moved slowly in a manner that the accelerometer won't be able to pick up.

Humidity

Function: Measures the amount of water vapour in the air.

Feature: This is more of a luxury sensor since the ways that information regarding humidity can be used is limited. It can be used to add an extra layer of detail to your GPS sensor.

Proximity Sensor

Function: It detects how close a smartphone is to objects facing the sensor. Ideally it is an InfraRed sensor module.

Feature: It lets the smartphone know whether you have the screen close to your face when taking a call. Subsequently, the smartphone switches off the screen to save battery life. Also, with the screen shut down the phone also keeps a lot cooler, especially for calls that last a long time.

Step counter

Function: It measures the number of steps that the smartphone user takes.

Feature: Currently, the accelerometer and gyroscope are used together to figure out how many steps a person has taken over the course of a marathon or a morning jogging session. The step counter is just a specialised implementation which does the same function but consumes less power and is more accurate.

Temperature

Function: Measures the temperature around the smartphone.

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