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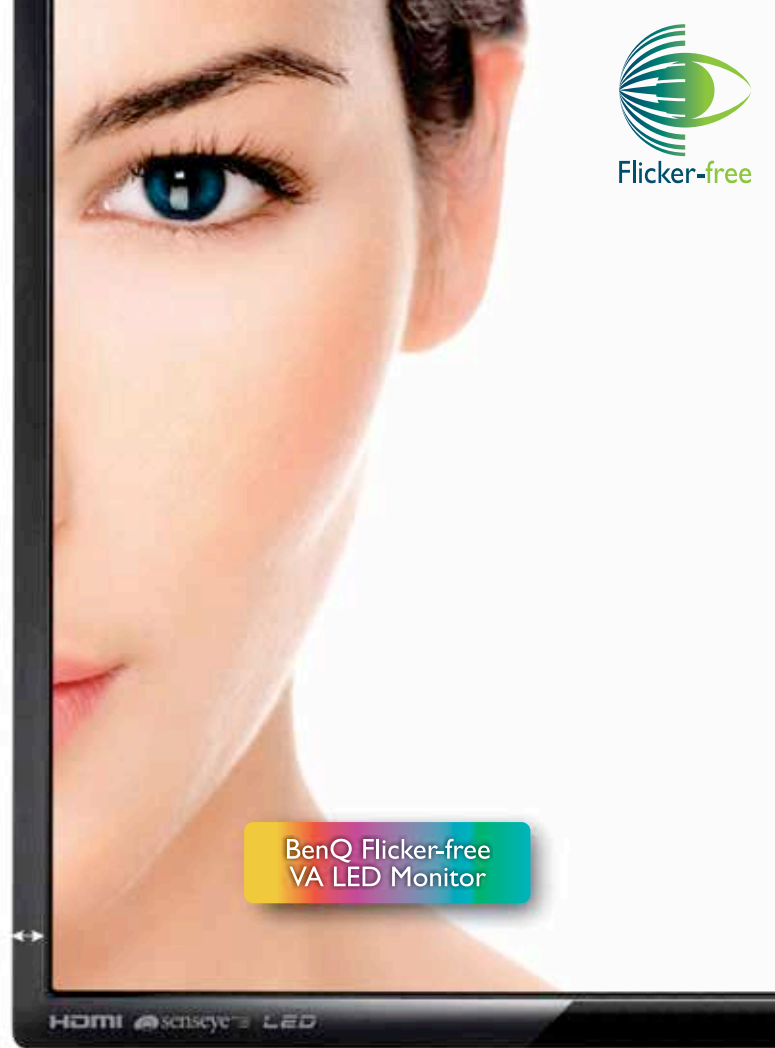
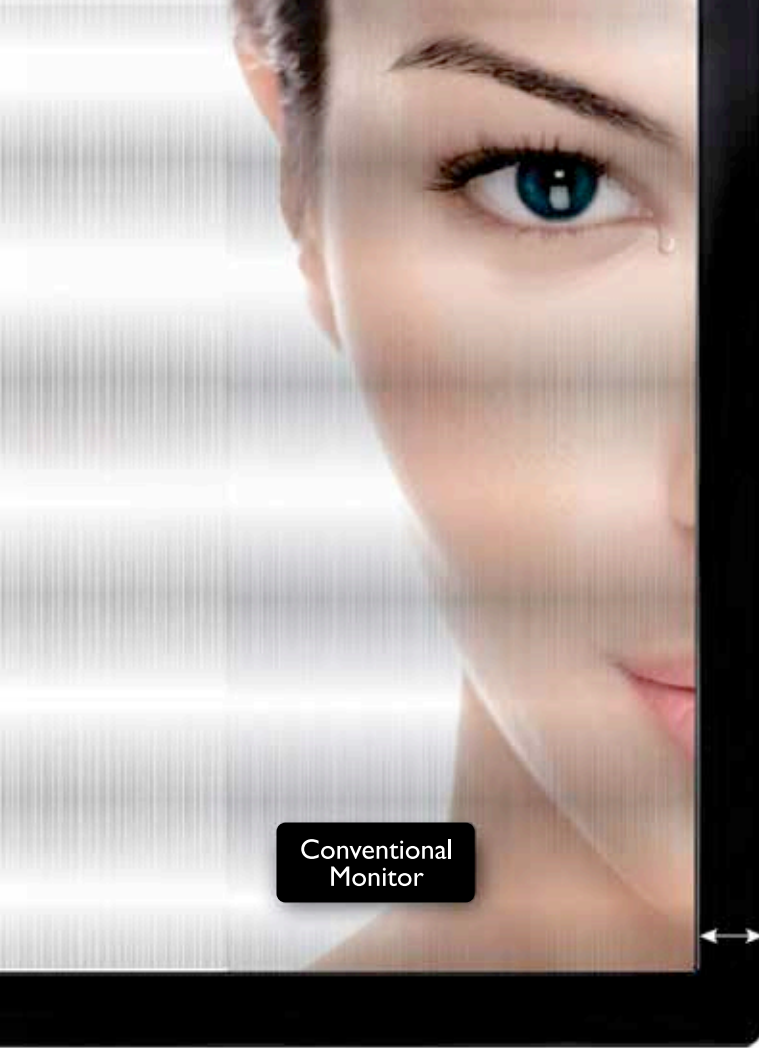
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# Glass half full?

Google's Glass has been making a few waves recently. There are already "Google Explorers" walking about US cities wearing them, and even apps are starting to appear... Of course, as usual with any new tech, there are fans and critics - those who cannot wait to get their hands on a pair, and those who scream bloody murder at the privacy implications.

The major concern seems to be Glass' ability to take videos and pictures on command. The concern is that what the wearer sees, can now be recorded. Of course, that's the case right now as well, spy glasses with hidden cameras are not really a new concept. Just a quick Google for it will throw up options ranging from the \$50 to \$300 price range (hardly unaffordable) which is much cheaper than the \$1,500 for Google Glass.

What I'm trying to say is, perverts will find a way, regardless of what Google does or doesn't do. In fact, anything Google brings out will get enough publicity to make sure anyone with net access will know exactly what the product looks like. It'll be no different than someone pointing a camera phone at you, though they'll also have to say, "OK Glass. Record a video", hardly spy novel stuff.

What bothers me more about Glass is the voice interface. Let's face it, voice activated UIs are seriously not a new concept. Then again, neither was touch or multi-touch until Apple perfected it. However, touch is still ideal for personal devices. In the crowded cities and towns where most of the world's tech-enabled population lives, personal space is important. We're already irritated by people who talk in loud voices to others (on phones or in person), can you imagine how irritating it would be with everyone talking to their gadgets as well? Besides, even Google's Executive Chairman, Eric Schmidt, has been quoted as saying that the voice control is "the weirdest thing".


I have serious doubts about voice ever becoming popular for systems or gadgets that aren't located in our homes or other controlled, noise-free environments. It's just not feasible, and is, well, just plain rude too!

Augmented reality, however, certainly is the future. Even if it's not something you wear, or something as distracting as glasses, it certainly is the way forward. Just think of a simple appli-

cation, on a bus for example. Why can't the windows of a bus be augmented to display what's passing by, where the latest sales are, what area you're in, and perhaps even remind the person in the nearest seat that their stop is next?

Perhaps even in private transport, the windscreen of our cars can have subtle areas out of driving vision that give us directions or information such as what roads are one way. Beats looking down and away from the road to look at your GPS device anyway. Incidentally, many believe that voice is best suited for controlled environments like your car, though I am personally against anything that distracts a driver of a car - especially on India's crowded and crazy streets.

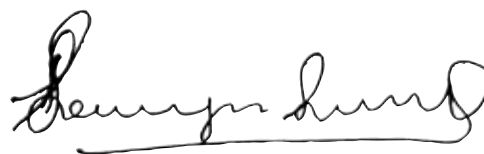
I certainly don't believe that touch is the finest solution to the human computer interface that we can come up with, but it certainly isn't going away anytime soon. However, enhancing reality (augmenting it), or even creating false realities (movies?) is the future of technology that we all want. 3D is already boring; we want 4D, with sensations, smells - not just touch but "feel" as well.

This is why I think Google Glass (or Durex's Fundawear, even) is just a step in the direction the world wants to go. None of it is as finished a product as the multi-touch based UI from Apple was, but then again, it's a much harder barrier to cross. Eventually, I'm sure we'll all be as used to seeing information pop up around us randomly as we are with pop-up ads on web sites today. Perhaps we'll be as immune to it all as we are today - as commonplace as someone tapping away like mad at a screen, probably playing a game or texting... I can't help but smile when I see that though, because it always reminds me of the birdbrained sparrows I'd have to chase out of my house for doing the same thing to the bathroom mirror! 



Robert Sovereign-Smith  
Executive Editor  
[editor@thinkdigit.com](mailto:editor@thinkdigit.com)

**"I certainly don't believe that touch is the finest solution to the human computer interface that we can come up with..."**



*PS: Don't forget next month is our 12th anniversary special, and we're already working on making it memorable. We don't think you'll ever look at 12 of your keyboard keys the same again, for example...*

Liked or hated this column?  
Write in to [editor@thinkdigit.com](mailto:editor@thinkdigit.com) and let me know your thoughts.

MAY 2013

VOLUME 13 \ ISSUE 05

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Even though you can find a whole host of digital camcorders for sale on Amazon, the Olympus LS-100 is a unique offering. It's a pocket-sized camcorder that can record in 1080p HD, has a 2.8" LCD screen, and a built-in microphone. It's also got a 12MP camera and a 3.5" LCD screen. It's a great choice for anyone who wants a compact, high-quality camcorder.

**Logitech Touchpad T650**  
The Logitech Touchpad T650 is a sleek, modern mouse that's perfect for anyone who wants a more natural way to interact with their computer. It's a touch-sensitive device that lets you control your cursor with just a few taps. It's also got a built-in trackball and a scroll wheel. It's a great choice for anyone who wants a more ergonomic mouse.

**YotaPhone**  
The YotaPhone is a unique smartphone that's designed to be used with both hands. It has two screens, one on the front and one on the back. This lets you use the phone with one hand while the other hand is free. It's also got a built-in camera and a microphone. It's a great choice for anyone who wants a more versatile smartphone.

**Sena SMH10 Motorcycle Headset/Intercom**  
The Sena SMH10 is a high-quality motorcycle headset that's perfect for anyone who wants to stay connected while riding. It has a built-in microphone and a speaker, so you can talk to your fellow riders. It's also got a built-in intercom system that lets you talk to your fellow riders. It's a great choice for anyone who wants a more comfortable and convenient way to communicate while riding.

**Sonic Screwdriver Universal Remote**  
The Sonic Screwdriver is a unique remote control that's designed to look like a Star Trek tool. It's a sleek, modern remote that's perfect for anyone who wants a more fun way to control their TV. It's also got a built-in speaker and a microphone. It's a great choice for anyone who wants a more entertaining way to watch TV.

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Managing Director Dr Pramath Raj Sinha  
 Printer and Publisher Kanak Ghosh  
 Publishing Director Asheesh Gupta

**Editorial**

Executive Editor Robert Sovereign-Smith  
 Features Editor Siddharth Parwatay  
 Multimedia Co-ordinator Anirudh Regidi

**Test Centre**

Manager, Test Centre Jayesh Shinde  
 Senior Reviewer Nimish Sawant  
 Reviewers Vishal Mathur, Sameer Mitha,  
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 Interns Siddhant Sharma, Cyril Vatelli,  
 Chandni Raste  
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 Assistant Vikas Patil

**devworx & Custom Publishing**

Asst. Editor Nash David

**Thinkdigit.com**

Online Editor Soham Raninga  
 News Editor Abhinav Lal  
 Sr. Sub Editor Kul Bhushan

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Sr. Creative Director: Jayan K Narayanan  
 Sr. Art Director: Anil VK  
 Associate Art Directors: Atul Deshmukh & Anil T  
 Sr. Visualisers: Manav Sachdev & Shokeen Saifi  
 Visualiser: NV Baiju  
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 Designers: Charu Dwivedi, Peterson PJ,  
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 Designer: Rahul Babu  
 Studio  
 Chief Photographer: Subhojit Paul  
 Sr. Photographer: Jiten Gandhi

**Contributors**

Writers Ekta Tibrewal, Richa Yamini  
 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 Mgrs Kshitij Garg, Sourabha Shakya  
 Mgr - Online Shauvik Kumar  
 Co-ordinator / Scheduling Kishan Singh

**Circulation Sales**

National Co-ordinator Samir Mehta  
 Regional Mgrs Jayanta Bhattacharyya,  
 Norbert Joseph  
 Manager Circulation Dharmendra Singh  
 Executive Vijay Mhatre

**Reader Services**

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

Cover Design: Peterson PJ

**TO ADVERTISE**

Email: sales@thinkdigit.com

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**Lalit Arun, Mobile: +91-95822 62959**

South:  
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West:  
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North:  
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East:  
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- Circle Attitude 2.1
- Corsair H100i
- Corsair H60
- Cowon EM1
- ESET Smart Security 6
- Fujifilm X100s
- Galaxy GTX 650Ti BOOST
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- Olympus STYLUS XZ-2
- Rapoo 6080 Wireless mouse
- Rapoo E6100
- Simmmtronics X-Pad X-801
- Sony DSC-RX1
- Toshiba Portege Z930
- TP-Link TD-W8968
- Xolo X1000
- ZOTAC GTX 650Ti BOOST

**Mirrorless Cameras**

- Fujifilm X-E1
- Fujifilm X-Pro 1
- Olympus OM-D E-M5
- Olympus PEN E-PL5
- Panasonic Lumix GF5
- Panasonic Lumix GH3
- Panasonic Lumix GX1
- Samsung NX1000
- Sony NEX-6

**Monitors**

- Acer S240HL
- ASUS PA246Q
- ASUS VS 238H
- BenQ GL 2450
- BenQ GW 2250
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- BenQ XL 2720T
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- Dell S2740L
- LG 29EA93-P
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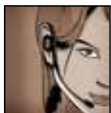
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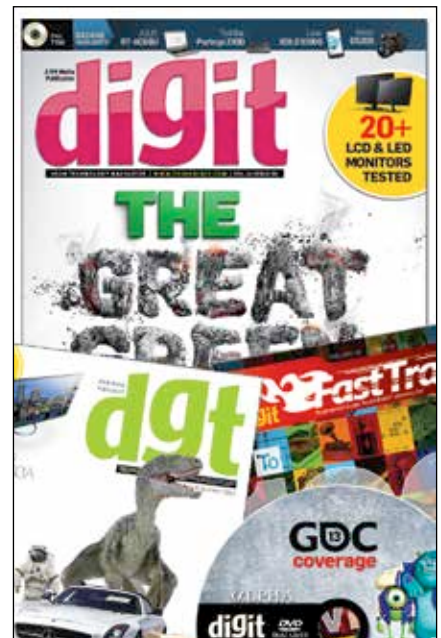
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## Zynga games shut down

Zynga is going to shut down four major games as part of its efforts to cut down costs including CityVille 2, The Friend Game and so on. <http://dgit.in/ZmOqju>



## WWDC '13 on June 10th

Apple's annual WWDC is scheduled from June 10th to 14th. New versions of iOS and OS X are on the cards

✉ First up, there are no words to describe your work ethic to bring out our favourite magazine month after month. Without doubt, no technology magazine here in India can match your quality, both in terms of content and reader satisfaction. I've been a regular reader of Digit for four years and I'm currently 15!

I had no big reason to write in until last month when I went through the letter sent to you by Harsh Khurana (published in March '13 issue). I assure him that this is in no terms a rebuttal to his letter but I really got upset by him suggesting that Digit become a 'gadget mag'. I really liked the way Robert replied. You know, I (and I believe many others) love you guys and your magazine only because of your ideology of demystifying technology (not only gadgets) and presenting it in a simpler manner. I really appreciate the amazing diversity of Digit. I strongly oppose you falling in line with magazines who simply fill in the pages with software, gadget and game reviews. I think a happy fusion of pure computer science and gadgets along with a lifestyle angle to it (think: DGT) would be the best way forward. But, let's not end here, you guys do so much hard work and hence deserve appreciation. So, here we go:

### Pros:

1. The RSS Feed, right from its catchy heading to its content, the editorial page can be termed as the 'flagship' section of Digit.
2. I loved the articles in Consumer Protection and the cases published below them. Please continue them.
3. Your Esc section is really comforting and it gives me good sleep if I read it before dozing off :-)
4. Fast Track - This is your USP! Never forget that. Where are the remaining volumes of Encyclopedia Technica?
5. The DVD content. Keep the nice videos, TED talks, lectures and tutorials on development coming.
6. devworx is a brilliant initiative, carry on with it!

### Cons:

Only one: please proofread the magazine properly. There are mistakes which some-

## Feedback for the April 2013 issue of Digit



times dilute the reading experience, so be careful. There are many typos and subject-verb agreement errors.

*Abhineet Pratyush*

📌 Thanks for understanding where we come from, Abhineet. While gadgets and gizmos are an essential part of what Digit is all about, the world of technology isn't only restricted to them. Don't worry, we aren't going to change that vision. It's great that you like the different sections of the magazine and DVD. The team puts in a lot of effort to pull it off, and appreciation is a nice little unexpected bonus. Thanks for being a grammar nazi. We promise to work on keeping typos to a minimum. Watch out for the Encyclopedia Technica in our next month's 12th Anniversary Issue.

*Jayesh*

✉ I think you should increase the SKOAR! content. I was expecting a much bigger review on Crysis 3. Also, please provide a gameplay trailer for games. In dgt, you have a section called 'Critique' where you talk about movies among other things. Can you also add songs to this list? The 'Examined' section was really good as was 'Launch Pad'. Can the next 'Workshop' section show us how to make our own game?

*Joshua Rodrigues*

📌 As much as we'd like to increase the SKOAR! pages in Digit and DGT, we have to ensure that we don't get carried away by having too much fun with the gaming pages. Hopefully, with enough gaming fans like you clamoring for more gaming content, you might see Moar of SKOAR! Who knows? Stay tuned. Thanks for the story suggestions, we'll definitely try and include them.

*Jayesh*

✉ First of all, you all are doing a great job by publishing this magazine. I remember I was in Class 6 when I started buying this magazine though I didn't know much about computers because I didn't possess one at that time. I got my first PC last year, but thanks to you, I'm considered quite intelligent in this field by my friends. I'm not in the 11th grade and still an ardent reader.

This letter is in reference to April 2013 issue's cover story "What's Wrong with Windows 8? Why every alternate Windows OS fails". I bought Windows 8 for ₹699 as an update to my pre-installed Windows Home Basic x64 on my notebook. The point is that you showed only the bad side of Windows 8. You didn't show its ease of use. The ribbon in the title bar includes new folder, undo, redo, rename, delete and properties button. This is very convenient when you're in a hurry. Even the new IE 10 is the fastest browser in my system. Yes!!!

# WiFi



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## Airtel and MS launch combo plan

Airtel and Microsoft have tied up to launch special Airtel Broadband plan with Xbox 360 for customers in the main metro cities until 30th June, 2013. <http://dgit.in/13wZU3i>



## 32GB Nexus 7 on Play Store

Google has put up the Nexus 7 32GB Wi-fi only model on sale on the Play Store for ₹18,999 <http://dgit.in/ZvIXb2>

### LETTER OF THE MONTH

✉ I'm still an avid reader of Digit but a few things really bothered me in this month's issue.

1. Do you have anybody spying on Microsoft? How did you come to know that the next version of Windows would be christened 'Windows 9'? It may be 'Windows Ultra', 'Windows Bizarre'...or anything under the sun! If you agree with this, why were you so eager to publish the cover page with the name 'Windows 9'? Was it to raise your sales? Come on guys, you people are doing good! Relax!
2. I don't support the idea that Windows 8 is a failure. I purchased the online version on December 12 and I'm happy. Windows 7 is a pretty stable and user friendly version, yes, but Windows 8 is here for good. You, in your article have not even cared to mention the good stuff you have in Windows 8: Client Hyper-V, mount any image by default, support to dot net 4 by default, bitlocker by default... only to name a few. When I was going through your article, all the criticism on Windows 8 sounded like the usual ones I face in office by a bunch of old guys not ready to embrace something new and are happy with Windows XP - not ready to budge a



- little, think differently and embrace new stuff! Come on guys, I expected you all to be much more versatile!
3. I agree that Microsoft is making its users a bit too used to touch-enabled devices, but what's wrong with that? We don't embrace Linux because we're lazy but I believe in Closed Source because on another platform if someone knew the root password, they could change heaven into hell! I don't believe in Open Source. Take a look at what's happening with Java; despite being so popular, Norton is reporting that Java updates are not reliable any more even from the company site.
  4. Please do some reviews on servers also. What about server OSes? What about supporting server OSes such as Microsoft Exchange Server? What about Mac? Think Digit, think.

*Shubbankar Nath*

📌 We reported what we found, and it's no coincidence that globally, tech experts agree with our views. As for no faith in Open Source... seriously? Linux may not be a popular desktop OS, but the server OSes you want us to look at... ruled by \*nix! Android - open source... need we say more? We're not fanboys, and neither should you be one.

*Robert*

I prefer IE 10 over Chrome. The Windows 8 store also provides a great deal of apps which wasn't present in the earlier one. What about compatibility issues, you ask? When I find one, I run it in Windows 7 mode. Windows 8 lets you search - not only in your PC but also in the search apps or your apps such as Google search, Bing, etc. This wasn't there in Windows 7. The most important thing is shutdown speed. Booting and shutdown is faster than with any other Windows OS. Moreover, Microsoft didn't remove the traditional Windows totally so that Windows 7 users don't have much problem using 8. I do miss the Start

button, but not completely since if I point to the bottom-left corner of my screen I can see a start icon, which upon clicking directly takes you to the Start screen where you can directly search for an app, file, settings or anything else (without opening the charms bar). If you've used Windows 7 frequently, you'll be able to adapt to 8. It's very easy to use, fast and fluid. In this version, the snap left and right options are of great use when you're using two apps at once (The video app in this mode is really attractive). The People app lets you post your views directly (update status and post to Twitter) and the messaging app lets you chat with

your Facebook friends and Live groups (it would have been better if Windows had included a large number of social networks and numbers (SMS) in it). I've been using it since three months and I think it's just right for me and techno-geeks. The Windows apps don't let you get bored. You don't have to surf the whole web for the news, weather, travel, finance etc., you get everything on your Start button without running it separately. Moreover, the menu bar in the file explorer really provides many handy tools to use when you're in a hurry. According to me, Windows 8 is better than Windows 7. But I really liked your review on "How to make start button visible". That was really good and I liked that idea.

Last but not the least, keep on bringing out the latest reviews so that I can use my spare time efficiently. You won't believe it but I prefer reading Digit over using my Android smartphone.

*Kaushik Ghosh*

📌 Since you've invested your hard earned cash on your Windows 8 purchase, you might be suffering from a buyer's bias. No no, we kid you Kaushik. Your point about Explorer getting the new ribbon is perfectly valid, but don't you think it falls in the "about time, Microsoft" category? And yes, people ought to give IE another chance. As for your point about the app store, traditionally for Windows (as the most popular OS on the planet) the entire internet (in turn, any app you discover in the wild) was your app store. About apps snapping into place, yes those Metro apps designed with that functionality will do it well, but Windows 7 too had aero snap if you remember. And you were not even restricted to the 20:80 ratio. When working with multiple programs (notice we're not calling them apps), Windows 7, we find gives you much better window management; at least for serious work. Sure for checking weather or your social feed (tablety stuff) the modern UI is just about fine. The dichotomy is what's troubling. At the end of the day however there's no escaping the vision Microsoft has laid down for us, and since you've made the switch without too much teething trouble, we old-timers will look at you for inspiration! Thanks for writing in.

*Siddharth*



**Manufacturer of the Year 2013**  
Computer Active



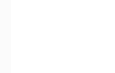
With a new ASUS All-in-One PC preloaded with Windows 8, easily access available networks, enjoy more computing power and longer battery life. Stay connected and get more done wherever you go.

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Full HD LED Backlit Display



Adjustable Stand



10 point Multi-touch Support\*



SonicMaster Optimization



Double as a Monitor



Side Panel USB 3.0



Easy Wall-mountable\*

	ET2220INTI	ET2220IUTI	ET2013IUUKI
<b>CPU</b>	Intel® Core™ i3 3220 Processor	Intel® Core™ i3 3220 Processor	Intel® Pentium® G645 Processor
<b>OS</b>	Windows 8	Windows 8	Windows 8
<b>Memory</b>	6GB DDR3 at 1600MHz	4GB DDR3 at 1600MHz	4GB DDR3 at 1333MHz
<b>HDD</b>	1TB HDD	500GB HDD	500GB HDD
<b>Display</b>	21.5" (54.6cm), 16:9, Full HD 1920x1080, LED-backlight	21.5" (54.6cm), 16:9, Full HD 1920x1080, LED-backlight	20.0" (50.8cm), HD+ 1600 x 900, LED-backlight
<b>Graphics</b>	NVIDIA® GeForce GT610M 1GB	Intel® HD Integrated Graphics	Intel® HD Integrated Graphics
<b>Touch</b>	Multi Touch Screen (10 Fingers Touch)	Multi Touch Screen (10 Fingers Touch)	Non-touch Screen
<b>Keyboard / Mouse</b>	Wireless Keyboard & Mouse	Wireless Keyboard & Mouse	Wireless Keyboard & Mouse



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Beautiful, fast, fluid Windows 8

## ASUS desktops - leading in satisfaction with reliability

Based on the PCWorld USA 2012 reader survey of tech satisfaction, reliability and service.



Disclaimer: "Apps from Windows Store; vary by market".

\*Conditions apply.  
All specifications are subject to change without prior notice.  
\*VESA wall-mount screw and touchscreen are available on selected models only.

**Mobile watch**

Among other things we check out Facebook's attempt at deep integration on the Android platform via Home

**App watch**

This time around we check out six apps to keep you up to date with the IPL fever this season

# Contemplating the Logosphere

Since we last met, we've seen quite a few changes to the World Wide Web, from popular websites abandoning their tried-and-tested business models, to a new search engine that can sniff out vulnerable connected devices ranging from cyclotrons to routers

## Flipkart Marketplace to take on eBay

Online retailer Flipkart is looking to change its business model as it recently announced a new marketplace system. Dubbed as Flipkart Marketplace, the new system is said to transform the site into a "virtual mall" and provide customers access to various sellers and brands on one platform.

Moreover, users will be able to compare sellers and get the best prices at varied service levels for most products. Flipkart will also be introducing categories such as clothes, shoes among others. The new business model of Flipkart, believed to be inspired from eBay and Amazon, indicates the company will no longer have an inventory of its own.

Flipkart in a release explained what the new system brings in for users as well as sellers. The company says users will continue to enjoy COD/EMI options and return/replacement policies. One of the important highlights of the new system is

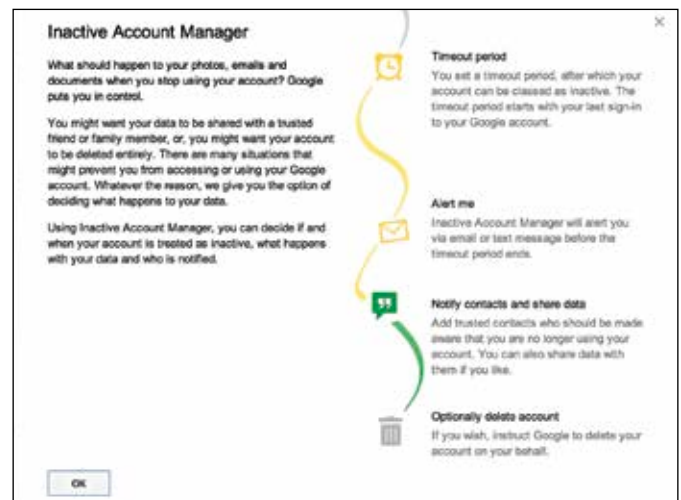
that Flipkart will continue to take care of shipping and door-step delivery through its logistics partners. A new protection programme will be formed to resolve complaints.

For sellers, Flipkart says it will bring in a "rigorous onboarding process" for identifying the sellers and to ensure sale of genuine products. Sellers who provide a superior customer experience will get prominence on Flipkart Marketplace. Flipkart further says the new system will encourage the SME community.

## Google Inactive Account Manager

Lately, there has been a lot of concern over what happens to one's emails and social networking profiles after their passing. Google has launched the Inactive Account Manager, which allows you to control what happens to your Google accounts after you pass away.

The tool, announced in a Public Policy Blog post entitled



Google Inactive Account Manager

'Plan your digital afterlife with Inactive Account Manager,' gives the user several ways to tackle the issue of wiping their Google Digital Footprint. The first involves sending a text message to a phone number after a set amount of time has passed. You can select up to ten contacts who will receive your Google account log-in information after a long amount of time has passed from your last log-in.

If giving away your account information gets you queasy even in the afterlife, then there is always the "self-destruct" option. If your account hasn't seen you logging in for a considerable amount of time, then Google will just delete your entire account completely.

## SHODAN Strikes Again

PC gamers who played System Shock 2 will recall the creepy

disembodied A.I. SHODAN that made their lives hell in the game. Taking inspiration from that, computer engineer John Matherley, created the Shodan search engine, a search engine that can find a huge number of devices connected to the Internet - from servers to webcams and routers. According to a CNN story, a large number of the connected devices that Shodan turns up are unprotected and can be accessed by almost anyone with an Internet connection.

This is scary because along with stuff like home routers and office printers, Shodan search results have also turned up command and control systems for a nuclear plant, traffic lights and even a particle accelerator cyclotron, which sounds like something that Bruce Banner would accidentally set off. Searching for connected devices on Shodan also



Flipkart Marketplace user interface

# VIEW COLOURS AS NATURE MEANT THEM TO BE.



**A116**

Gorgeous greens, bright yellows, radiant reds and stunning blues. The spectacular natural wonder which is the Danxia Mountain Range, a sandstone marvel, boasts of all these incredible colours. The new Micromax CanvasHD with 12.7cm (5) TRUHD IPS screen and 16.7 million colour depth brings these colours alive and displays them as vividly as nature meant them to be.



12.7cm(5)  
Mega Screen



8 MP  
Camera



16.7 Million  
Colour Depth



Quad Core  
Processor



Burst Mode  
with 99 Shots

**CanvasHD**  
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**Security watch**

Find out about the world's Biggest DDoS Attack and the recent hacking troubles with WordPress



**Microsoft launches GeoFlow**

GeoFlow for Excel will allow users to share 3-D visual representations of their data. <http://dgit.in/XFd3ZH>

turned up many devices whose default username was “admin” and password was “1234”, which is tremendously easy for anyone to guess. Security analysts have already pointed out the risks that these results represent and how this information could be used for all the wrong reasons if used by cybercriminals.

However, at present, Shodan is being primarily used by security experts and researchers to ascertain security flaws. Matherley has put in restrictions that limit use of Shodan by anonymous users and require registrations to view larger number of results. Matherley admits that Shodan could be used by people with nefarious objectives in mind but he points out that anyone wanting to do so could do so using botnets instead of relying on Shodan. For the time being, security experts hope that Shodan’s immense power is being utilized for good rather than evil.

**SC issues notices over porn-site ban**

Hearing a PIL seeking modifications of laws to make watching porn a non-bailable offence, the Supreme Court issued notices to ministries of Information and Technology, Information and Broadcasting and Home Affairs and Internet Service Providers Association of India, seeking their suggestions to tackle the pornography.

A bench comprising Chief Justice Altamas Kabir and Justices A R Dave and Vikramjit Sen issued the notice on a petition filed by Indore-based advocate Kamlesh Vaswani alleging the current laws have failed to curb the growth of pornography and that it was affecting the younger generation and even causing in surge of sexual assaults on women.

Appearing for the petitioner, senior advocate M N Krishnamani called for urgent measures to block all porn sites as they were “peace of mind, health and wellness, happiness and human potential”.

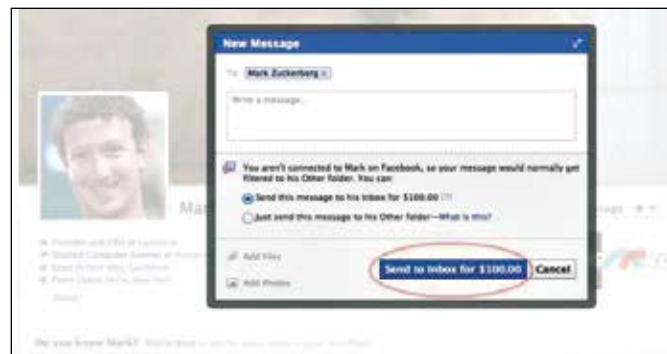
“Absence of internet laws encourages watching porn videos since it is not an offence. This has led to a situation where more than 20 crore porn videos/porn clippings are available in the Indian market, which have been downloaded from the internet,” says the petitioner through counsel Virag Gupta.

According to a Times of India report, several lawyers supported the petition. Vijay Panjwani, one of the lawyers supporting the petitioner, said the current Information and Technology Act wasn’t effective to tackle the pornography, including child pornography.

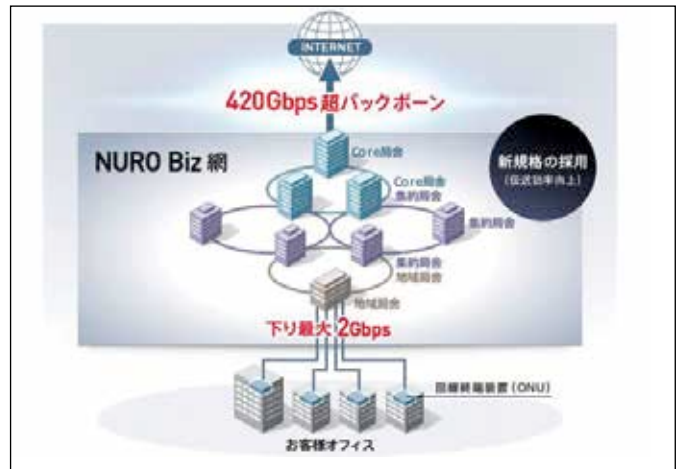
**Facebook PMS being tested**

Facebook has been looking to monetise its platform for quite some time. After having launched ‘pay to promote’ posts feature, the social networking giant is now testing a new system for private messaging to celebrities and others outside their friends circle, or a paid messaging service (PMS).

Facebook says the new system will prevent users from being bombarded with “spam”



Facebook’s new paid messaging service



NuroLight network offers 2 Gbps download and 1 Gbps upload speeds

messages. It’s notable the social networking site currently allows users to send messages to strangers on the network for free. However, messages to non-friends drop in the “other” inbox and are treated as spam.

The new system features a sliding scale of fees for members, based on their number of followers and how many are paying to contact them. Also, it will allow users to pay to prioritise their emails, ensuring their messages appear in the main inbox of others.

**Sony unveils world's fastest internet**

When it comes to Internet speeds, we in India are a deprived lot. So if news of a Sony-backed ISP (internet service provider), called So-net Entertainment, launching the

“world’s fastest” home Internet connection makes you want to emigrate to Japan, we totally get that.

So just how fast is this new Internet highway from So-net? Well, the Nuro Light network — which is what the new uber fast optical fiber Internet service is officially called — offers lucky Japanese netizens connections that allow 2 Gbps of download speed and 1 Gbps of upload speed, according to a report.

The Sony-backed Nuro 2 Gbps Internet service is rolling out to home users and small businesses in Japan’s capital city, Tokyo, and its surrounding areas. Due to existing network adapter bottlenecks in most devices, including routers, it is unlikely that individual users of this Internet service will actually experience 2 Gbps data speeds.

Just to put things in perspective, the Google Fiber service, an ultra-fast Internet connection which is all the rage in the US right now, offers “only” 1 Gbps download speeds to homes in Kansas City where the service is up and running. That’s half of what Nuro promises to deliver to Japanese home Internet users, and at a much cheaper rate, too. **d**





ASUS recommends Windows 8.



**CG8580 (i7)**

**CPU** : 3rd Generation Intel® Core™ i7-3770K Processor  
**OS** : Windows 8  
**Chipset** : Intel® Z77  
**Memory** : 8GB DDR3  
**Graphics** : GTX 680 2GB GDDR5  
**HDD Storage** : 1TB  
**SSD Storage** : 128GB  
**Optical Drive** : Blu-ray writer

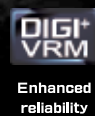
The Turbo Gear instantly cranks CPU speed at any time, without rebooting



DEFCON Indicator shows system readiness with blue and red LED light



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Enhanced reliability



Wi-Fi GO!



35x cleaner audio quality

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**CG8270 (i7)**

**CPU** : 3rd Generation Intel® Core™ i7-3770 Processor  
**OS** : Windows 8  
**Chipset** : Intel® H77  
**Memory** : 8GB DDR3  
**Graphics** : GT 640 3GB DDR3  
**HDD Storage** : 1TB  
**Optical Drive** : Blu-ray writer



**CM6830 (i5)**

**CPU** : 2nd Generation Intel® Core™ i5-2320 Processor  
**OS** : Windows® 7 Home Basic  
**Chipset** : Intel® H61  
**Memory** : 4GB DDR3  
**Graphics** : Integrated Intel® HD Graphics  
**HDD Storage** : 500GB  
**Optical Drive** : 24X SuperMulti DVD burner



**CM6731 (i3)**

**CPU** : 2nd Generation Intel® Core™ i3-2120 Processor  
**OS** : Windows® 7 Home Basic  
**Chipset** : Intel® H61  
**Memory** : 2GB DDR3  
**Graphics** : Integrated Intel® HD Graphics  
**HDD Storage** : 500GB  
**Optical Drive** : 24X SuperMulti DVD burner



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Beautiful, fast, fluid Windows 8



**ASUS desktops - Leading in satisfaction with reliability**  
 Based on the PCWorld USA 2012 reader survey of tech satisfaction, reliability and service.



Disclaimer: "Apps from Windows Store; vary by market".



### Apple bans comic

Y: *The Last Man* creator's new comic is banned from the IOS store because of 'gay sex' images. Read more <http://dgit.in/ZMKB22>

### Android called unfair

An EU antitrust complaint has been filed over Android's practises by companies like Microsoft, Nokia and Oracle. <http://dgit.in/16Mdd03>

# A Brave New World

The mobile space has seen some interesting developments since we last met, from complete details of the much awaited heads-up display Google Glasses to Facebook's attempt at deep integration of the social network on the Android platform via a new app, things are certainly heating up

## Facebook Home

Facebook Home is an Android app that acts as a home screen replacement or 'launcher,' which will customize the lock-screen and the home screens



The Facebook Home app

for easy access to everything on the social network. Coverfeed is what sits on the lock-screen – it throws out the wallpaper and that clock widget and replaces it with the latest on your FB Timeline while letting you update statuses, check-ins and more. You can configure this to have your friends' cover photos used as a live background, with the ability to like and comment from here too.

Facebook is integrating the Home launcher so deep into the system that it will even take the simple SMS app within its umbrella. The Chat Heads feature handles FB messages, chats and SMSes. When you get a new message, your friend's profile picture floats across the screen and you tap it to read and continue the conversation.

The Facebook Home initially hit Google Play Store on April

12 for the U.S. market, and was only compatible with the HTC One X, HTC One X+, Samsung Galaxy S III and Samsung Galaxy Note 2. A workaround, however, has brought the app to all Android devices and regions.

## HTC First

The HTC First phone was unveiled at the same event as the Facebook Home. The HTC First won't be a premium top-of-

the-line phone but will instead hover comfortably around the ₹15,000 to ₹20,000 mark. The First has a 4.3-inch Super LCD display with a resolution of 1280x720 pixels (341 ppi). It will support 3G, Wi-Fi, 4G LTE, NFC and Bluetooth 4.0 and will be



The First's lowest price is ₹15k

powered by a dual-core 1.4GHz Snapdragon 400 processor and a 2000mAh battery.

The First will come with 1GB RAM but HTC didn't reveal the internal storage specs of the First. Imaging will be handled by a 5MP camera that's able to record 1080p full HD videos; the First will also sport a front 1.6MP camera. HTC will launch the First with Android 4.1 (Jelly Bean).

## Samsung Galaxy S4 India Launch

At the time of writing this article, there's no clear information about the pricing of the Galaxy S4, but speculations suggest that it will be priced between ₹40,000 and ₹45,000. Samsung would be pricing the S4 slightly higher than HTC's flagship smartphone, the One (₹42,900), taking into account the pedigree.

Certainly one of the most anticipated smartphones of this year, the Samsung Galaxy S4 was unveiled to the world on March 14. It is touted to essentially be last year's Galaxy S III. The S4 bears a 5-inch full HD super AMOLED display, and runs on an Exynos 5 octa-core processor along with 2GB RAM. The Samsung Galaxy S4 brings with it a slew of features including S Translate, Smart Pause, S Voice Drive, S Health and Air Gesture. Some of these features are hits.



Samsung Galaxy S4

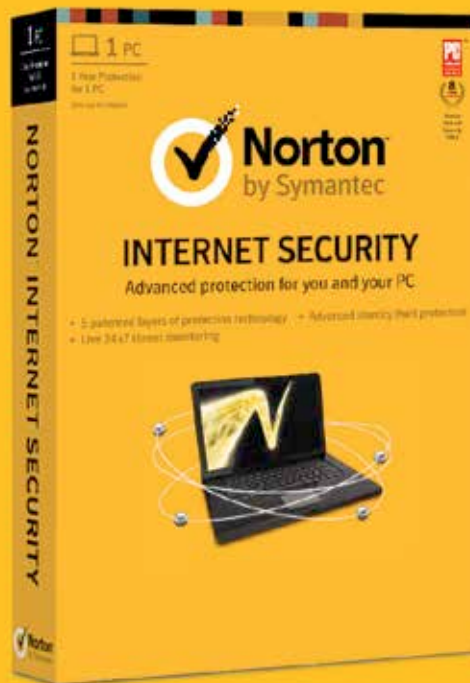
## World's First Braille Smartphone

Sumit Dagar, a National Institute of Design (NID) alumnus, claims he has always had a need to do something for those parts of society that have been neglected by the masses. To that end, Dagar is developing a smartphone that can be used by the visually challenged.

He decided to use the Braille language on the smartphone to facilitate the visually challenged to recognize numbers and words on the smartphone by merely touching it. "We have created the world's first Braille smartphone. This product is based on an innovative 'touch screen' which is capable of elevating and depressing the contents it receives to transform

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- Protects without slowing you down or getting in your way
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Hindi	1800 102 6012	Mon - Fri   9 AM - 7 PM

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### Followers for sale

Twitter followers can be bought – 1,000 for \$5-\$20. Finding legitimate sellers is another issue altogether <http://dgit.in/14aQcYJ>



### Nesting tweets

A new service called Nestivity launched its software that is entirely Twitter-based. The service will help brands create a sense of community <http://dgit.in/155ItuL>



The touchscreen Braille phone

them into ‘touchable’ patterns”, he said.

A prototype of the smartphone was developed by Dagar in collaboration with IIT Delhi. It has been in development since the past two years at LV Prasad Eye Institute in Hyderabad. The Braille smartphone is expected to roll out by the end of 2013 and will be priced around the ₹10,000 mark. The display uses ‘Shape Memory Alloy’ technology, which is based on the concept that metals remember their original shapes i.e expand and contract to their original shape after use. This screen will be capable of elevating and depressing the contents to form patterns in Braille. The phone’s ‘screen’ has a grid of pins, which will move up and down as per requirement.

### Google Releases Glass Tech Specs

In a flurry of releases, Google has revealed the specifications of the Glass hardware, elaborated on policies for third-party Glass developers and made the Mirror API documentation available along with Glassware sample code. It has also announced that Explorer Editions were being produced; launched the MyGlass companion app and added a setup and help page for Glass users.

The juiciest reveal was the announced specifications of Google Glass hardware. The AR spectacles will tout a tiny display that will deliver to the eye an apparent image equivalent to a 25-inch HD display eight feet away. Glass will also sport a 5MP camera capable of 720p video recording, and feature 16GB built-in storage space (12 GB of which is user available).

Google Glass doesn’t feature 3G/2G connectivity, so you’ll have to tether it to your Android smartphone for all carrier-based calls, data transfer, messaging, and synchronization. It does feature 802.11 b/g Wi-Fi and Bluetooth connectivity, apart from a microUSB port for transfer and charging.

Audio will be transmitted via bone conduction, and the Google Glass spectacles will be available in a one-size-fits-all design, adjustable with different nose pieces. The Glass spectacles would be compatible with Bluetooth-enabled phones, but to use all features (such as GPS and SMS) along with the MyGlass app, Android devices running on v4.0.3 Ice Cream Sandwich or higher are required.

As for Explorer Editions of Google Glass, the company



Glass cannot be used by anyone but you

has emailed the 2,000 or so developers that signed up for the Glass Explorers program, informing them that their units have begun rolling off production lines.

Google has also released the terms of service for the Google Mirror API, which includes several interesting details, the biggest of which is that there will be “No ads.” Interestingly, user data usage was also strictly controlled, with the company stating: “You may not use user data from your API Client for advertising purposes/” Developers will also not be able to “access, update, use or share API content without displaying the content or a summary to the end user.”

Google, in its Glass Explorer Edition ToS, also said: “You may not resell, loan, transfer, or give your device to any other person. If you resell, loan, transfer, or give your device to any other person without Google’s authorization, Google reserves the right to deactivate the device, and neither you nor the unauthorized person using the device will be entitled to any refund, product support, or product warranty.”

Each Google Glass sold will be associated with the user’s Google account, and that is how Google will know whether you’ve loaned or resold the Glass to anyone. If caught, Google will simply flip the switch and brick your \$1,500 toy.

### Mozilla CEO Defends Firefox OS

Mozilla CEO Gary Kovacs defended his decision to launch the Firefox Mobile OS in a market that already has established names such as iOS and

Android by stating that budget users would warm up to the idea of having a phone with a connected OS. While speaking at a Dive Into Mobile conference in New York, Kovacs said that the popularity of existing mobile operating systems was mainly because of high-end devices. The Firefox OS will target low-end phones in countries where their need is better appreciated and also

where Firefox has brand recognition.

Kovacs then spoke about the launch schedule



### Would you buy the Firefox OS?

of Firefox OS handsets with Brazil, Colombia, Hungary, Mexico, Montenegro, Poland, Serbia, Spain and Venezuela being the first few countries where it will be launched. However, Mozilla was unable to reveal the exact launch dates of the handsets.

Kovacs also reiterated the advantage held by Firefox OS because of its reliance on the open HTML5 standard. Kovacs said that improvements in HTML5 meant that developers could work with better graphics hardware, javascript performance and APIs. Kovacs also said that he was optimistic of a respectable user base forming for Firefox OS as he didn’t think only two ecosystems would be sufficient as more and more users decided to go online with their phones. **4**



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## Playboy launches app

Yes it is a playboy app. And no there will be no nudity. Go here to read more about it <http://dgit.in/Xp1OH6>

## Still Angry

Rovio has announced that its Angry Birds Friends will be out 'soon' for IOS and Android and will maintain Facebook integration and rewards. <http://dgit.in/13TSn2V>

# It's a six! Half a dozen apps to keep you enamoured by IPL

Check out this collection of cricket apps to supplement and enhance your entire IPL 6 experience this season

Jayesh Shinde

[jayesh.shinde@thinkdigit.com](mailto:jayesh.shinde@thinkdigit.com)

It's that time of the year when weekly movie releases are forgotten, politics takes a backseat, household chores get delayed, and entertainment takes on a whole new meaning. Whether you like it or not, for this cricket-mad nation of ours, IPL's all the rage at the moment. Football (EPL) and Formula 1 racing have quite a few fans, true, but none can yet match the might and ubiquity of cricket in India – certainly not the IPL for a couple of months every year. To keep you on top of every engrossing ball on the pitch, and some of the off-field histrionics, here's an assortment of apps ready to fire up on the smartphone and tablet of your choice.

## Official Pepsi IPL 2013

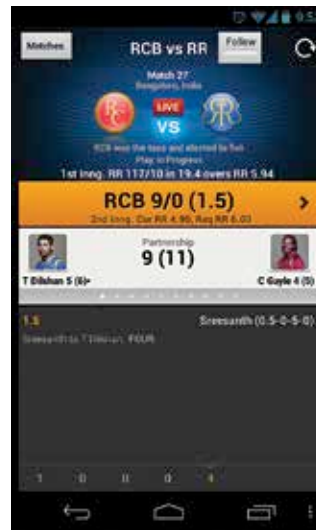
Developed by Times Internet Limited, the Official Pepsi IPL 2013 is exactly what it claims to be – the official app of the T20 cricketing bonanza. Quite simply, it's the best app of the lot giving you every information of a game before, during and after its play. The interface is easy to get around, no major issues here, and all the sections – Latest, Schedule, Teams, Points and More – are clearly demarcated along a strip running down its bottom. On a game day, you can either check the latest



update, plan ahead for a fixture that you don't want to miss, get all the jazz on the team of your choice, or check the points tally through the app's tabs. The fifth tab, 'More' lets you segregate information based on three content types: news, videos and photos. This app provides you with access to the best content, especially video, across any other apps listed here. The inclusion of social media features is also a thoughtful inclusion. Its only irritating feature is the in-app advertising, which takes away from the overall experience. Also, the app is a bit sluggish. It's available on Android, BB 10 and iOS, so do check it out.

## Yahoo! Cricket

Being a full-fledged cricket app, Yahoo! Cricket doesn't just limit itself to the ongoing IPL T20 competition, keeping



you abreast of what's new in the world of cricket (not just IPL). This app is available for free on the Windows, iOS and Android marketplaces and offers a slew of features and user-friendly interactions for the user to follow live matches, while also keeping a tab on the recent and upcoming ones.

The app is the first to offer a complete match experience in a variety of ways – with live scores, detailed ball-by-ball commentary (which can be filtered by wickets, 4s and 6s), an interactive scorecard which allows the user to browse through the batting line-up, fall of wickets and a complete chronology of how a match progressed.

With this app from Yahoo! Cricket, users can now catch all international matches on-the-go. On a non-match day, the app will connect the user

to specially created photo galleries, latest news articles on the game, player and team profiles, results of completed matches and schedules of upcoming ones. The app is minimalistically designed and performs very well. All in all, a nice addition to Yahoo's app family.

## ESPN Cricinfo

As far as covering all things cricket is concerned, no one does a better job than the folks over at ESPN Cricinfo – we've been fans of the original Cricinfo long before it was taken over by ESPN. They have a great international staff churning out quality content around the world of cricket.

And their app helps you get a taste of that magic on your tablet or smartphone. Download it on your Android, iOS or Windows Phone device and fire it up. In its Android avatar, the app



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## ASRock Triumphs with Three Consecutive Wins!

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- \* Dual-VGA : D-Sub, HDMI
- \* 7.1 CH HD Audio (ALC892)
- \* 2 SATA3 + 4 SATA2
- \* 4 USB 3.0 + 10 USB 2.0

### Z77 Extreme4

- \* ATX
- \* Socket 1155, Intel Z77 Chipset
- \* Premium Gold Caps
- \* Digi Power
- \* 8 + 4 Power Phase
- \* 4 DDR3 2800+(OC)
- \* 2 PCIe 3.0 x16
- \* AMD Quad CrossFireX, CrossFireX
- \* Multi-VGA : D-Sub, DVI-D, HDMI
- \* 7.1 CH HD Audio (ALC898)
- \* 4 SATA3 + 1 eSATA3 + 4 SATA2
- \* 6 USB 3.0 + 8 USB 2.0

### Z75 Pro3

- \* ATX
- \* Socket 1155, Intel Z75 Chipset
- \* All Solid Capacitor design
- \* Digi Power
- \* 4 DDR3 2800+(OC)
- \* 1 PCIe 3.0 x16
- \* AMD Quad CrossFireX, CrossFireX
- \* Dual-VGA : D-Sub, HDMI
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### When the music stops

BBM music will be discontinued by June 2nd as sales are low. Blackberry redirects its users to Rdio



### HIV Vaccine progress

A simpler version of HIV fighting antibodies has been found which could assist in creating a vaccine. <http://dgit.in/12yobcs>

loads up immediately. For some reason, the app is listed under the name "LIVE Cricket Scores and News" when you look it up in Google Play Store. Ensure that you click on the world map icon on the top bar to trigger a drop-down and select "IN" or India. After applying this filter, and since its IPL season here, you'll see predominantly IPL-related content. The navigation is pretty simple with main categories of Score, News, Special, and Video. Apart from ball-by-ball commentary with graphics, live game switcher, full screen mode, scores, match photos and access to tournament tables and player profiles from every international and IPL game, you can also configure push notifications to get instant alerts for wickets, batsman milestones and score updates during live matches. ESPN Cricinfo hardly puts a foot wrong and this is a great all-rounder app for the mobile cricket fan.

### IPL Cricket Fever 2013

If all the IPL action is getting too cumbersome to keep track of, maybe it's time to blow some

steam off by playing the official game of IPL 2013. Developed by Disney UTV's Indiagames, the game is fun to play on a tablet or smartphone, with very simple game mechanics. The objective is to select from three game modes and score as many runs as possible as a batsman. A combination of swiping motions across your device's screen and the hitting of the right buttons is all it takes to have fun in this addictive in-hand IPL game. A short tutorial quickly brings you up to speed with the simple playing style. We quickly found out that even at lesser difficulty levels, hitting fours and sixes isn't exactly a piece of cake as you have to be quite precise in your screen-swipe timings and direction. All this adds to the overall experience of the game, making it more awesome. The 3D graphics of the game are quite good and the resemblance of IPL teams in their virtual avatar has been well executed. There's

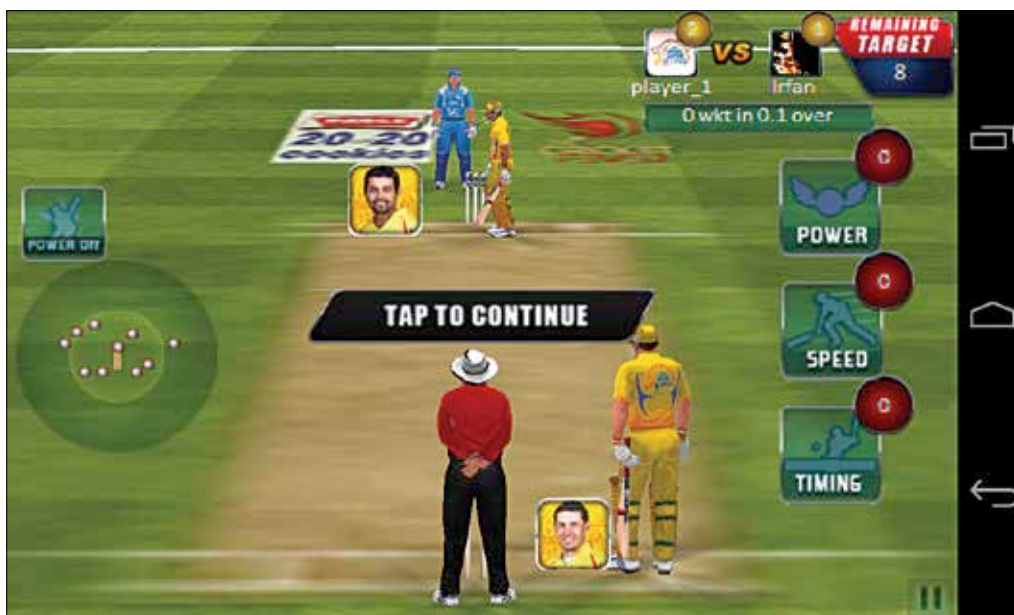
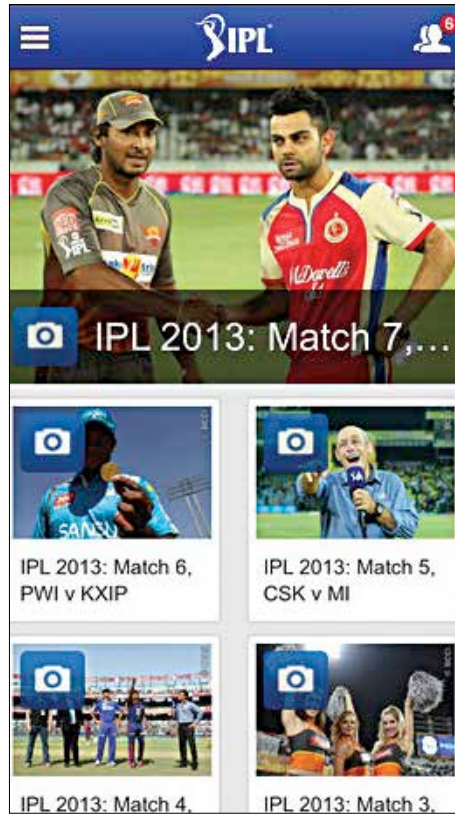
also a multi-player mode in the game which you must check out for bragging rights. The game also bundles an assortment of ad banners and in-app purchases such as dancing cheerleaders. Who doesn't want to see them at an IPL game?

your favourite team or player. Probably the most important feature of this app is its hawk-eye analysis tool, which lets you admire and scrutinize balls before being bowled in great detail the same way television broadcasters let you. If you're on iOS, don't wait and just give this app a try.

### nexGTV

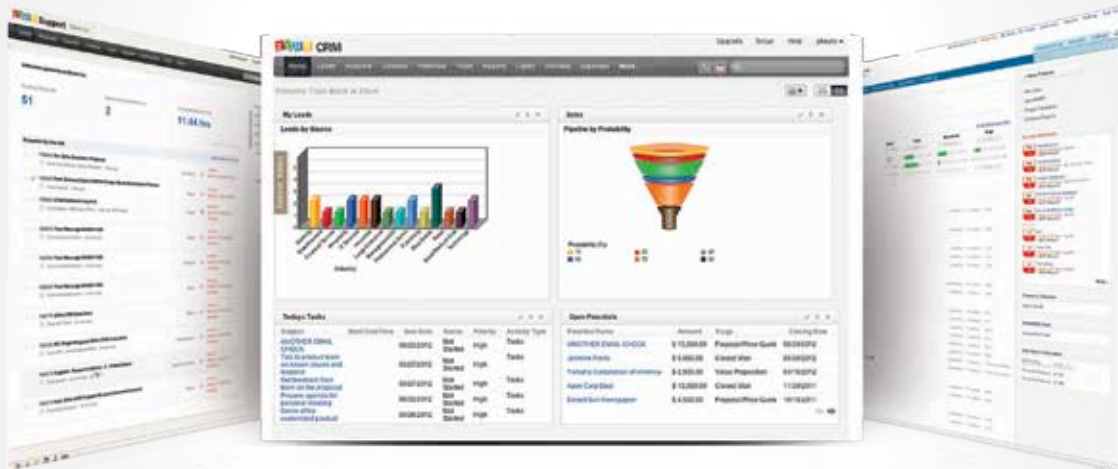
nexGTV (available on Android, iOS and Symbian) is a live TV streaming app which lets you watch a whole host of television channels on your handheld mobile device.

This app is also the official IPL partner to stream live games (yes, like the exact same feed that you see on the tele) directly on to your smartphone for a nominal price. The games' feed is just fine when viewed through a Wi-Fi or 3G connection, but video quality degrades when viewed on EDGE only.





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**Private thoughts**

Researchers have built a device that allows you to 'think' your password and be granted access <http://dgit.in/120F9jh>

**Ooh the sun**

The Solar Dynamics Observatory has been sending pictures of the sun to us for three years. Have a look <http://dgit.in/17WaMet>

# Your Dose of Paranoia

The present is becoming ever more perilous, with the potential for cyber-terrorism growing rapidly alongside global connectivity. From apps that can hijack and crash planes, to record-breaking DDoS attacks, these ominous portents are just the tip of the iceberg of paranoia

## World's Biggest DDoS Attack

A massive DDoS (Distributed Denial of Service) attack levelled against Dutch anti-spam group Spamhaus may be causing global internet speeds to plummet. A BBC report states that the DDoS attack entailed Spamhaus' servers being assaulted by 300 Gb/s of data through a technique called DNS reflection. What was considered the largest DDoS attack before this comprised a peak data rate of 100 Gb/s. While speaking to the BBC, cybersecurity expert Alan Woodward said that this massive traffic was resulting in falling internet speeds across the world.



DDoS attacks are paralyzing

The DDoS attack against Spamhaus comes in the wake of the blacklisting of Cyberbunker, a Dutch web hosting service, by the anti-spamming group. Cyberbunker, whose unofficial motto is that it will host anything that's not child pornography or terrorism-related, has now been accused by Spamhaus of colluding with Eastern-European criminal gangs to wage the DDoS attack in retaliation. Cyberbunker has rejected the accusations and said that Stophaus, an

online group formed by ISPs and users disgruntled by Spamhaus are to be blamed. Cyberbunker also criticized Spamhaus for falsely accusing many ISPs of being spammers, and blacklisting them without evidence.

Read about other accusations by Cyberbunker against Spamhaus at <http://bit.ly/14xDpyR>

## Security Analyst Develops Hijacking App for Android

A security analyst has revealed how simple it is to hack into the communication link-up between a plane and the air traffic control system, and the plane's navigation system in order to change the plane's route or even to crash it. Hugo Teso, an analyst with German IT security company N.Runs AG and a licensed commercial pilot, has developed an exploit framework called 'Simon' which is used by an Android app to deliver data that can instigate an attack against an airplane.

Teso revealed that he could exploit a plane's Automatic Dependant Surveillance-Broadcast (ADS-B) system, the system that transmits the plane's current navigation details to Air Traffic Controllers (ATC) and the Aircraft Communications Addressing and Reporting System (ACARS), a communication link between the plane and the ATC, to feed in false information and cause the plane to change course or get into an accident. Teso said that it took three years to develop the Simon



An app compromises Android

framework which uses information from Flightradar24, a free website that tracks flight paths in real-time, and publicly available Flight Management System hardware and software, both of which are very similar (but not exactly the same) as the ones used in the real world.

Fortunately, Teso's system can only be used virtually at present and a hijacker would only be able to remotely control a plane if it was within the antenna range of his hacking system. Also, if a pilot somehow was able to recognize the infiltration, he could take control of the plane manually, since Teso's system can only influence the plane when it's in autopilot mode. Teso stressed on how vulnerable the existing ACARS was and how a plane would have no way to determine if the data being transmitted through ACARS was valid. Teso says that he has been in touch with airlines to fix the vulnerabilities in the ADS-B system.

## WordPress-based Websites Under Attack

A relatively low-key, but intense attack on WordPress (WP) based sites is under way.


Hackers are trying to access WP-based servers that are using common usernames and passwords such as 'Admin', 'adm', 'test', 'password', 'password1' etc. The attack seems to originate from a botnet comprising of close to, or just over, 90,000 PCs and seems to be an attempt to gain access to a pool of servers that can be used to launch attacks in the future.

The attack itself is a very basic brute-force attack that takes advantage of our laziness by trying to guess a server's password from a bunch of commonly used passwords. The attack is currently using comparatively underpowered home



Wordpress' shield blown away

PCs with limited bandwidth, but as it gains access to more and more servers, the attack can grow in magnitude.

To protect yourself on WordPress-based websites, change your username and password to a stronger one, turn on two-factor authentication and make sure you're up-to-date on the latest version of WordPress. CloudFare, a sort of online firewall, is also offering free protection for users that use its service to protect their sites. 

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**Virtually mined**

Is Bitcoin, the virtual currency phenomenon, going to redefine the concept of money? Read on to find out



**Bitcoin millionaires**

The Winklevoss twins claim to own around \$11 million worth Bitcoin equivalent. <http://dgit.in/ZOTkIo>

**Olympus LS-100**

Even though you can find a whole host of apps for voice recording on the smartphone platform of your choice, if you're looking for great audio quality output investing in a dedicated device makes sense. And as far as audio recorders go, the LS-100 is truly a superstar device made not only for audio enthusiasts or journalists but professional musicians and broadcasters also. It's that good. Its feature list is exhaustive...

a built-in instrument tuner, multi-track recording function plus editing, direct recording to 320kbps MP3 format, 4GB memory, adjustable microphone modes, 3.5mm jack, over 12 hours of continuous recording. Phew! Hope you get the drift. Expensive but totally worth it.



**Digital gizmos that add on the convenience**



**Sena SMH10 Motorcycle Headset/Intercom**

Heavyduty bikers who just can't wait for the next signal to lift their helmet and answer a ringing phone, this one is for you. The Sena SMH10 is a Bluetooth headset which easily clamps onto the helmet's external rim with a microphone pushed near your face (inside the helmet) and earphones on either ear. What's more, you can also pair this with other similar headsets to have a four-way intercom conversation while you're riding on the road 900 metres apart – not that we recommend this practice. With this, you can get your phone's or GPS device's navigational instructions right in your ear. You're welcome!

## Nexus 7 announced

Google announced a new version of the Nexus 7 tablet, set to release in July.  
<http://dgit.in/XX5MPJ>



## Tweet for free

Pakistani mobile internet provider Mobilink won't charge customers for using Twitter.  
<http://dgit.in/17cB4sD>

Drool maal



## Logitech Touchpad T650

We know the world hasn't yet cosied up to Microsoft's latest Windows 8 operating system – including most of us – but before retracing your steps back to Windows 7, try giving this tool a shot. Similar to Apple's Magic Trackpad for the iMac, Logitech's Touchpad T650 is made for improved interactions with your Windows 8 PC or Windows RT tablet. It supports five-finger multi-touch gestures and works as a unified receiver for other wireless Logitech devices you might have lying around. It's bigger than the largest trackpads out there, and *may* help enhance your Windows 8 user experience. It also works with Windows 7.

## YotaPhone

To borrow from a popular meme, the Russians are doing it right as far as the YotaPhone is concerned. It's a dual-display smartphone with a very interesting twist. Sporting a 4.3-inch 720p LCD display on one side of its face, the YotaPhone has an e-ink display of the same dimension on its backside. The idea is to read on the e-ink display and watch videos and movies on the crisper LCD screen. Innards are pretty sweet as well with a quad-core Qualcomm Snapdragon S4 chip and Android Jelly Bean support. Start saving as this phone/reader's retail availability will begin in a couple of months.



## Sonic Screwdriver Universal Remote

Doctor Who fans, you simply have to get this gizmo – non-Doctor Who nerds, this will appeal to you as well. Resembling the fabled Sonic Screwdriver from the cult British show (or a mysterious glowing probe), this programmable universal infrared remote lets you interact with any TV with gestures. With 13 supported gestures and 3 memory banks, this device can store up to 39 remote control codes. Enough to control most Earth-based “low-tech” consumer devices, we reckon.





## NASA's Explorer Program

An international space station and a satellite for finding new planets are set to launch in 2017.  
<http://dgit.in/ZISfKW>

## EA speaks out

After being nominated the worst company in America by Consumerist.com, EA responds with fire.  
<http://dgit.in/12A5QYO>

# Virtually Mine(d)

The story of money: From precious metals to the geeky Bitcoin

Chandni Raste  
[readersletters@thinkdigit.com](mailto:readersletters@thinkdigit.com)

“When was the last time you thought about real money? Real money Aaron? When was the last time you thought of what is important for us?” The door closed behind him as he took the flight of stairs in a fit of rage. She watched the door as it slowly swung about its rickety hinges to a stop. She felt the helplessness. The hopelessness incapacitating her of reason.

So what if the currency is flawed. So what if some Rothschild in some country managed to make a grand scheme out of this thing we call money. He must have been brilliant if that's what money is all about, paying a bunch of really rich people more and more money.

But how can that matter! Can he really believe this theory? Someone needs to talk sense into him. How can he possibly give up our savings for this. For this? She hadn't been this

angry for quite a while. She sat there going over what had led to this.

A half hour back, he had tried explaining the basics of economics, as he liked to call it. It had started out as a discussion. Soon enough they were sitting in a tensed silence staring at the food on the plate. “Money as we know can make sense and a currency like the dollar or the euro can survive if there is a general acceptance of a bill of money being worth something, if it can be exchanged,” he was saying.

She'd gotten up to clear the dishes. Slowly, mutely, dutifully she cleared the table, hearing only a drone of his voice.

“What the bitcoin has done is it has got to the root of what ails the currency. It is like digging gold you know. You're trying to dig out these coins from a pool of debris. A mathematical debris that is, made especially so these coins can be mined out. That debris was designed by a genius who called himself Satoshi Nakamoto,” he must have repeated for at least the sixth time.

“I know,” she said in a flat voice, but he had missed the tone.

“How I wish I could meet that guy,” he continued. “Well no one knows if he's one person or a group, he could even be a woman. Whoever he really is, he disappeared from the Internet only a few months after he'd introduced the source code.”

“Doesn't that tell you something,” she mumbled under her breath.

“What did you say?”

“I said, doesn't that tell you something. If the creator of bitcoin decided to throw in the towel and disappear don't you think that there might be something off? If you were to write that code would you have disappeared after it started picking up, after people started recognizing it as something worth recognizing. What does that say about this whole digital virtual currency?”

“Well if I was to have made it, invented it so as to say, I would've disappeared too,” he said slowly. “If my currency started picking up and becoming what it has today - worth money, I would

## MegaSam

Samsung is set to unveil a 6.3-inch mega tablet. The tablet brings to us multi-tasking ability with an even better viewing experience. <http://dgit.in/YPUHnt>



## Anonymous journalism

Anonymous raised \$54,798 to launch its dedicated news website aimed at online independent reporters/ citizen journalists. <http://dgit.in/XR7cjS>

Feature

rather go underground. I don't want people to come bribing me into mining bitcoins for them. I don't want to be the butt of accusations and I think I would do without the blind faith some people have put in it. Selling their houses in Canada for bitcoins for crying out loud! Can you imagine? Imagine being the creator of this thing that now has everyone arguing to bits, including us!

"But you can't see how beautiful it is," he continued as if in a trance. "It has been written to remove the need of a bank. You don't need a bank to own your money. Your bitcoin is worth itself. It doesn't need to be stamped, allowed and regulated by a bank. You trust a bank more than you trust yourself. What for? Do you think they have your best interests in mind? Do you think they care? And that's the brilliance of Nakamoto. He has tried using technology to set right what we've done so terribly wrong for years. Money is the root of all our problems. It has become the reason why we live. It exists because we made it, but now, we exist because of it.

"Look, money is important," he went on. "We can't live on a barter system of course. One beer please for my watch. That can't work right. We've evolved to realize that money is the most efficient way of sharing the assets of a society. But do we realize how flawed it is? That a few people authorize its production, the way we own it and the way we earn it? A digital currency like the bitcoin can change so much. It isn't just real money in digital form. It is much more than that. It's like gold, you dig it out when you put in effort. Here your computer is putting in the effort, it's using brute-force, it's spending its processing power to dig out bitcoins that you can save in a wallet."

"It's also consuming electricity," she pointed out.

"Don't you eat and drink and burn fuel to do work? So the computer needs electricity to work. Our wallet has 133.4 bitcoins. Do you know how much money that is? 133.4 bitcoins by 266 dollars for each bitcoin, that's a little more than 35,000 dollars," he said.

"That was last week," she said.

"Yes I know," he scowled. "This week it's about 93 dollars. And that's still

money. It will fluctuate. And the design of the bitcoin will make sure the value eventually stabilizes. People are just getting the wind of this thing. They've just begun to realize what a foolproof code it is. There are a host of websites that accept payments in bitcoins now. The bitcoin is transferred using a one way SHA256 function. That stands for Secure Hash Algorithms. And that's not an encryption, it's a way of validating the data. Nakamoto figured out an essential for a currency to work."

"Look I don't need to be convinced of what a brilliant guy Nakamoto is," she said with a sigh.

"Listen to what he made possible," he continued impatiently. "Bitcoins can be transferred without another person, no one needs to know or track what you do with your money. That's what the bitcoin has to offer, anonymity. What you do with it, what you buy with it is no one's business. You don't need the financial wizards,



Understanding how Bitcoins are mined is quite interesting and complex

the know-it-alls. It is an anarchist currency. A currency that is stateless, that is free of hierarchies. A bitcoin doesn't need a regulatory authority. The bitcoin in its design makes sure it isn't being double spent. By codes. By math and algorithms. The SHA hash function is used on the

bitcoin every time there is a transfer. It ensures a one way route. The way it is designed it makes sure it isn't getting double spent. Every time you make a transaction using the bitcoin it gets signed by a hash and by a public key, which is like a digital signature. It cannot be decrypted and the transaction cannot be undone. The bitcoin is just a string of characters but it is powerful in having covered loopholes."

"I understand, but that's when you know someone who'd like to accept that bitcoin, my love," she said sarcastically.

"That's what the Mt. Gox exchange is for. It exchanges them to people who want the bitcoin. And that's how we can make money out of it," he said with a laugh.

"But you haven't really sold them either," she reminded him. "They're just stacking up in your wallet. And your wallet can be easily hacked into, your bitcoins could vanish at any point. The exchange could shut down, it could suffer from a 'denial of service' attack, right? And you're waiting for when the value is good enough for you to sell them. Isn't that speculation? Don't you think that when other bitcoin owners like you see a 100 per cent increase in value, they won't want to sell off their bitcoins too? Won't that lead to a mad rush to want them sold and then result in the prices falling again. Can't you see just how predictable all this is? It's a child's game that a lot of grown up geeks have decided to take very seriously."

"I see what you're doing here," he said. "I know exactly where you're going with this. You think the bitcoin euphoria is a bubble, that it'll burst soon enough. Do you know how bitcoin surfaced? It started with people trading illegal stuff off the deep web. They paid in bitcoins so that no government could track them. The Silk Route sound familiar? You can pay for illegal drugs, for guns and assassins on that website. And that got people curious about what people were using to trade. They were using bitcoins. Now they're thinking of internet gamblers playing with bitcoins. Because that would release them of all the legal implications of gambling. Since bitcoins don't come under any government they are free, free to be used."

"So they aren't really anything but another form of PayPal. A more sophis-



## Eyetrack

The Eye Tribe to launch its eye control technology for Android smartphones and tablets for various eye-controlled actions. <http://dgit.in/XGhiSG>

## Song track

Twitter acquired a startup named "We Are Hunted" that tracks the most popular songs on the social network at a given time

ticated form that coders are going crazy over and for once they have a control over," she said determined to win this now.

"I wouldn't say so," he said thoughtfully. "It is quite different in some obvious aspects. It isn't against some money that you mine bitcoins. You mine them through the solving capability of your circuit board. It isn't issued against money. Also PayPal is regulated. It is run by some authority. The bitcoin is peer to peer. It's open source, everyone runs it through a network of nodes. All the previous transactions are stored in a block chain and everyone has a copy of it. The transaction of each bitcoin can be verified. I would say bitcoin can be used as PayPal. But it isn't PayPal.

"An important feature of the bitcoin is that only 21 million bitcoins can ever be mined. Which means that the financial wizards cannot flood the market with them when the demand goes up, they cannot goof around with the quantity to rig the value. It is designed like a natural resource, there's only so much that exists and is available. Unlike money which is a made up asset, it's synthetic; the value and circulation of which is controlled by a few. Also, the bitcoin has been designed in a way that the difficulty of mining them will increase as more bitcoins are released from the code. The idea being that as more bitcoins are circulated and as people get to know about the currency there will be a steady increase in the demand of the coin and this demand is met by more coins that will be steadily mined because the difficulty of mining them has increased. It means that there will be a time in the future when the value of bitcoins will rationalise the cost of mining them. As more sophisticated systems are made for mining, the increasing value will offset the cost of mining them. By 2040 there won't be any new bitcoins. Already people have transitioned from processors to graphic cards and to FPGAs and now dedicated ASICs are available too."

"Just like in the gold rush, the people who supplied the tools benefitted the

most," she remarked. "So wait a minute, only the early birds benefited from this right? The guys who managed to mine bitcoins in the beginning when it was so simple to mine them? And they are the ones who're hoarding them away, waiting for the prices to plummet higher."

"Yes and we were one of the lucky ones. And that's also why we should mine more. We aren't exchanging money to mine them. We're investing. Think of it as something that we can make money out of and save for the future. It's something that's off the Internet, that we can convert to real hard cash. Right now we're part of a pool that combines the resources of several systems to make mining more profitable. It made sense then, because



A sparkling new world of tech money is upon us

we didn't know where this was heading and it if it was going to become anything at all. It made sense to become a part of the startup. They have a formula that calculates my contribution through the number of useful hashes my processor generates. Working on an ATi GPU that has a rate of 300MHashes/s the pool works fine. But we could buy an ASIC that gives me a rate of 50 GHashes/s. It'll cost us \$2500 but see where we can go from there. The bitcoin is across borders. It is beyond governments and legal controls. It is exciting, it is new and because we know so much about it we should cash in on our knowledge. We should make sure we use this information, this expertise that may not come again. Why not make use of this opportunity and

try our luck? What if it turns out to be a steady currency? What if it turns out to be something of value that we can use on a rainy day? And we'll regret we didn't get our hands on some when we could."

"You're using a currency that you think is flawed to value a virtual parallel currency. Don't you think your entire argument is flawed? And you aren't getting bitcoins out of nowhere. You are spending money to mine them too. What about that? What do you think, that some brilliant guy out of nowhere will code a few lines and solve the world of its biggest misery? That no one has ever figured out that there are loopholes in the currency and financial system as it is right now? You think that a random guy made something

so ridiculously brilliant that it can elevate us of all our problems as a society. That a digital currency can be the answer to a future?"

"Countries around the world have started digital currencies," he exclaimed. "The Canadian government has started a digital currency called MintChip. People are understanding the power and relevance of a digital currency in these times. If nothing the bitcoin can definitely still function as it initially had. As an underground currency

that can change hands anonymously, that people can use instead of money."

"Why don't you get a real job? This is a world where people don't follow ideas. They follow pieces of paper and that is the reality."

"Don't you get how important this can be, where this could take us," he pleaded.

That's when she lost her temper. That's when he gave up. When he thought he was so close to making her understand what all this was about. Just when he thought she would see what could be one of the most important inventions. And she had decided to continue in a grind, to believe in the grind that seems to have stood the test of time.

Sometimes people are just afraid of new ideas. 



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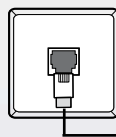
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Find out what a smart drug is, why the world is going crazy about them, and why they are also equally bizarre

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# Because **Normal Homes** just don't cut it



## What some designers have in mind for our homes

capsule is that it will maintain the exact temperature required for that specific food item and it will remain independent of anything around it. Odours or particles of food won't get mixed. So in effect you could keep a bag of chicken right next to a bag of paneer and scare the living daylight out of a vegetarian who comes to visit you, after which you would sit them down with a cup of cocoa (which they would refuse because it was also placed next to the chicken) and explain to them how awesome this fridge is. Write to us and tell us if they were convinced. The creator also claims that it can be kept vertically and horizontally (which was pretty normal) but then proceeds to claim that it can also be kept on the ceiling (to which our jaws dropped) but only in a zero-gravity situation (to which we sighed). So if your home is in some weird corner of the world where even gravity can't reach you, this is the fridge for you.

Cyril Vatteli  
[readersletters@thinkdigit.com](mailto:readersletters@thinkdigit.com)

**N**ow whenever we think of futuristic versions of well known appliances we tend to obsess over a lot of things but primarily we keep coming back to one thing: laziness. Now the battle between laziness and convenience is a battle we fight in our minds constantly to make us feel better about ourselves, and a clear winner must emerge for us to feel proud of what we have. The other factor is vanity. Well though there are a lot of justifications for it, the fact is that there is a large part of us which wants things to be shiny and good to look at- we call it aesthetics.

So, future appliances will stereotypically cater to our laziness and our need for things to be pretty. Electrolux Design Labs holds a competition every year for the

most consumer friendly, environmental friendly, and creative designs, and we have a picked some of the more interesting ones which have appeared over the years which have a chance of being more than just expensive mistakes. So have a look at what might make its way down the ramp into your kitchen soon, with photographers swarming all over them till they get into their shiny limousines and tell their chauffeur to drive off.

### The Bio-Robot Refrigerator

Beautiful isn't it? Designed by Yuriv Dmitriev, the concept here is that the fridge cools biopolymer gel through luminescence. The gel is non sticky and odourless and when a food item is 'inserted' in it, a separate pod for it is created and it will lay suspended in that gel in a capsule which gets generated every time something is inserted into it. The speciality of the



Hard to believe this is a fridge, right?



## Ok glass, bake!

Google glass may provide users the option of controlling household devices. <http://dgit.in/16My3hI>

## Aiming for braining

Zuckerberg has teamed up with a technology executives to form FWD.us - a group that will work to promote "jobs, innovation and investment"



Big shiny bouncy objects FTW!

## The Smoobo

Do you like smoothies? And do you like big shiny bouncy objects? If you do then Smoobo is for you. Designed by Roseanne de Bruin, when you bounce the Smoobo, the kinetic energy induced by the bouncing of the ball makes the blades inside the ball spin because of which all your favourite ingredients get mixed and your smoothie is made. So you could play basketball with it and by the end of the game you would have a smoothie to have. Ignore the fact that you will look deathly silly with that Smoobo especially if someone sees you with it and asks you what it is. Try to keep a straight face and tell them that it is a 'SMOOBO'.

## GAIA

Designed by Ankit Kumar, the GAIA is a wall mounted air purification system. The panels contain grass which will purify and cleanse air as it enters your room and since it doesn't require electricity it is said to be self-sustainable. It can also be used as an insulant as it also performs the function of temperature control. Since the walls are modular units they can be



The air-conditioner from future just arrived

refitted and attached so as to be compatible with rooms of different sizes while still performing its function. This is one of the appliances which is trying to pull us away from our cynicism because this might just be brilliant for a country like India where we, at least some of us, feel the pang of the impending electricity bill when we turn on the AC, and because we feel that pang we sit and sweat and try not to grumble too much. The only thing we don't understand is that will we have to water it everyday? So will we have to use a damp cloth, or a hose which will ensure that everything else in your house gets drenched as well? We don't know. Maybe there is a future-watering-machine for that.

## Cheffy

Designed by Abhinav Kumar, the Cheffy consists of two parts: a 'Gimmick' and a 'Third Eye'. The 'Gimmick' is a spoon with taste and smell sensors. Suppose you have cooked something and you want to have your friend taste it for another opinion of it but unfortunately your friend is in Andheri and you are in Panvel. In theory, the Gimmick can be used to stir the product, after which it sends the data of the food to your friend's Gimmick who can now taste and smell the food by applying his lips or tongue to his Gimmick. Sounds very interesting, but this also opens up possibilities to make your friends taste things they would never want to.

The 'Third Eye' is 'augmented reality glasses' with brain sensors and what it does is that it senses your mood and suggest the sort of food you might like and for some reason also suggest the type of music you would like to listen to while eating and cooking. With these glasses, in theory (emphasis on 'in theory') you could upload your meal preferences on your social networking page along with details like the name of the food and the rating you would like to give it. Anyone who wants to taste that recipe has to just download it and put it onto their own Gimmick. Now like we said this sounds pretty brilliant but has a few matters of concern. Who will monitor what people put up? One could dip their Gimmick in soap water, call it some French name to make it look classy, and upload it onto the internet where some sorry person




A washing machine or a black hole?

will download it onto their Gimmick to taste what French cooking tastes like only to throw up in disgust. So there will have to be a body of people monitoring the 'Gimmick data' which is being uploaded, which we suddenly realised could just be one of the worst jobs ever.

## E-Wash

E-Wash is compact washing machine designed by Levente Szabo that uses soap nuts instead of detergent. Soap nuts, or Washing Nuts or Aritha (in Hindi) are the fruits of the soap tree Sapindus which contain 'Saponin' which is a natural alternative to chemical laundry detergents. They have been used in Nepal and India for hundreds of years and are said to be highly effective and allergy free as well. When mixed with water, froth similar to soaps is generated from the soap nut. Szabo has claimed that a kilogram of soap nuts can last a year and so are efficient as well as economical. The washing machine has also been made flat so that it is space efficient.

This was our favourite as it seemed practical, did not involve zero gravity, and no immediate pranks come to mind when we think about it. It takes a simple concept which has been tried and tested and uses it in an efficient immediate way and because of this we would give it our 'Digit most practical of all the other futuristic pretty devices' award if we had such an award to give. 



### The 'Miracle Drug'

Cocaine was thought to be a wonder drug in its time, and it almost destroyed the lives of two medical revolutionaries. <http://dgit.in/XrHsIv>



### What lies beneath

A gallery of deep-sea creatures, straight out of a twisted horror movie. <http://dgit.in/YcytbF>

# One Drug to rule them all

Is a smart-drug better than a slap on the face?

Cyril Vatteli

[readersletters@thinkdigit.com](mailto:readersletters@thinkdigit.com)

**A** rush of blood to the head, followed by a shifting of the senses to overdrive. The book you have been trying to read (or maybe even write) for weeks - over in a day. Stock Exchange numbers flow out of the screen and tell you things you could never hear before, and that classmate you have been unsuccessfully trying to woo? Your extraordinary intelligence has smashed all barriers between you two. Basically, there is nothing you can't do.

This was the premise of the sci-fi film *Limitless*, a movie which has to be watched with a handful of salt. Here our hero, a failed novelist lives in a crummy apartment and watches Bruce Lee movies while stuffing himself with chips. Unable to get any work done, he stumbles onto a drug, NZT, which allows him to think clearly and focus. Suddenly, every bit of information he has been exposed to throughout his whole life organizes itself and is ready for the taking. With NZT, he finishes writing his book, gets his girlfriend back, battles ruthless business giants, and eventually stands a possibility of being elected as the President. Things do get hairy in the middle, as they would in a thriller movie, but the premise remains; take this drug and get smarter, faster, and better.

Laughable? Yes. Impossible? Maybe not. The real life answer to NZT lies in what are called 'smart drugs' or nootropics.

The brain consists of billions of neurotransmitters and synapses which govern several elements of your mind such as grasping power, intellectual performance, and even your mood. Altering the different levels of various chemicals in the



Definitely a good idea to mess around with these. Right?

brain could result in better functioning in these specific areas. In addition, a lot of nootropics also increase the blood flow in the brain, thus increasing the delivery of oxygen throughout your system which enhance recall and focus.

Nootropics, roughly translated from Greek means 'to bend the mind'. Coined in 1972 by Romanian Doctor Corneliu E. Giurgea when he synthesised *Piracetam*, the first 'smart drug', the word now refers to a large variety of smart drugs which increase cognitive functioning and awareness. But this was the first synthesis of a nootropic in a lab. Since thousands of years, the Chinese have used the extract from the *gingko biloba*, a unique species of tree native to China, which supposedly gave the consumer an enhanced state of alertness and the ability to work efficiently for long stretches of time.

So nootropics have been around for a long period of time. Right now, everyone's eyes are on the comparatively new drug, Modafinil.

### What is it?

Banned by the World Anti-Doping Agency (WADA), a body which oversees anti-doping policies in all sports worldwide, but approved by the Food and Drug Administration, Modafinil is a drug that is intended for narcolepsy (a condition marked by excessive daytime sleepiness and bouts of uncontrollable sleep 'episodes' during the day) but is being used off-label as a nootropic. Considering an ideal scenario, if you are someone who feels unmotivated, is not able to concentrate and understand things, then this drug will solve that by enhancing your cognitive senses and helping you connect things which seemed



## Unethical military testing

These are some examples of testing gone horribly wrong. Can they ever be justified? Warning: Content may be disturbing. <http://dgit.in/ZMFZsV>



## Mind reading

A researcher finds out a way to know the choice you will make before you make it - but not for evil. <http://dgit.in/ZqkFcP>

From the labs

abstract before you took the drug. Now every so often a new wonder drug comes out, which promises to make people's lives better, but in turn ends up falling flat on its face. Cocaine was thought to be the new drug to treat patients for everything ranging from morphine addiction to fatigue, and was held in high esteem and prescribed by Freud, resulting in the death of two of his patients. Amphetamines, psychostimulant addictive mood altering drugs, were introduced as a cure for daytime sleepiness and even Attention Deficit Hyperactivity Disorder (ADHD), but are now slowly being discontinued because of its dangerous rate of addiction (and the observation that its derivative methamphetamine has earned the street name 'Speed' for its murderously high rate of addiction and the associated high).

## Why is Modafinil any different?

Gamers will know that feeling you get when you have been struggling with that final boss-fight for hours and hours and you finally thrash that ugly brute, that ecstasy of completing that challenge - we owe most of that feeling to this thing called dopamine. One of dopamine's effects is to excite the pleasure centres of the brain, resulting in a rewarding feeling, and this can happen with a lot of things - food, sex, Modern Warfare, and is one of the reasons we keep going back to these activities. What cocaine does is that it increases the



Enhance me oh ginkgo biloba

amount of dopamine released, and what amphetamines do is that they slow down or block the reabsorption of dopamine after it is released. So in effect, both result in the user feeling euphoric and it extends that euphoria. When the feeling dies, the user itches to be 'euphoric' again and so uses again, and now, the person is addicted.

Modafinil, supposedly, is not like that. It does not affect reabsorption of dopamine, and it results in a very weak release of dopamine. Instead, it depends more on adrenaline action to keep you alert, which is what sets it apart. Also, it does not cause peripheral nervous system stimulation (which is a good thing because amphetamines and the like do, and one of the nasty results is that our urinary passage gets blocked). This is the biggest point for supporters of Modafinil and is the reason that it is being taken as seriously.

## Military Presence

Testing of Modafinil has been done on the US Air Force. A study by the Air Force Research Laboratory says that 'Modafinil decreased self-ratings of depression and anger, while improving ratings of vigour, alertness, and confidence. Benefits were most noticeable after 24 to 32 h of continuous wakefulness'. It further concludes that while the question of safety of increasing doses has not been answered yet, Modafinil should be considered to be given to the military to counter short-term fatigue. Now the US military has always been on the wrong side of the medical testing scene - going as far as giving their soldiers LSD without informing them to devastating effects. Amphetamines (some of the side effects of which are auditory hallucinations, paranoia, psychotic behaviour and confusion) were prescribed by flight surgeons to pilots, and in one documented incident these pilots in turn fired a laser-guided-bomb on a friendly Canadian training force killing four Canadians. So clearly, military usage is not an indicator of how safe Modafinil is.

## So who is using it?

Apparently, everybody. Students, writers, wall-street traders, coders, entrepreneurs. A quick search on the internet gives myriad testimonials of people who are



Sci-fi thriller Limitless

regular users of it. "I was an ordinary student, but the drug let me feel intermittently extraordinary", "(Modafinil) helped me break through a writer's block I was having to complete a draft proposal for the Dalai Lama Foundation."

While some users rant on endlessly about how it has changed their life, there are some people who have different views. Erowid.org, an online community where members give accounts of their experiences with drugs, has a large number of testimonials of people who have taken Modafinil, and it has some very differing ideas. One user claimed that it gave him what he calls 'tunnel vision' because of which he wasn't able to handle multiple tasks. Another claims that she hadn't felt any noticeable improvement, only a mild headache a few hours after taking it. A 35 year old recovering alcoholic also mentions that he found himself dangerously addicted to the drug, in spite of claims that Modafinil is not addictive, and points out that an addictive personality could easily fall prey to dependence on the drug. Sebastian Marshall, a self-proclaimed enthusiastic amateur, noted down the effects of taking the drug in his blog, Sebastianmarshall.com, and till now it seems to be the most un-sensationalist account of someone's experience with Modafinil. Have a look.



## Mini Surface

Microsoft working on a smaller, 7 inch version of their tablet, Surface. <http://dgit.in/155Agqu>

## Github turns five

It has been five years since Github made its first public debut. Github is where programmers come to share code and collaborate on open-source software. <http://dgit.in/Zba6ya>

## Effects of Modafinil

### Negative Effects

- Kinesthetic sense is sharper: Heightened senses also means a heightened sense of pain or injury.
- Vision is sharper: Colours are more vivid, which can also be distracting.
- Time flies: 5AM becomes 8PM without the user realising.
- Focussing on the wrong things: While it could increase focus, the target of that intense focus might be something like solving crosswords online.
- Loss of appetite: That's pretty self explanatory.
- Makes bad days worse: If the user is feeling low, it makes the user go deeper into that ill-feeling.

### Looking ahead


Fast forward ten years or so, and considering that the drug has now been tweaked to perfection, now everyone is using Modafinil, or whatever it's called, at that time. Parents are being called for meetings because it has been discovered that their child is not performing well in class and after some investigation it has been found out that the child does not take modafinil pills. Arguments will break out online about how it is important to stay with the times and progress versus how one should only move ahead naturally. Sleep will be the refuge of the slackers, the poorer section of society will be unable to procure the drug and will fall behind, while the rich will get smarter

A world of hyper-intelligent citizens racing ahead, a world where no work is mediocre. Overworked pilots will not fire missiles onto friendly forces, the novelist does not have to stare at his computer for months on end with not a word written, and lethargy will never be a reason for shoddy workmanship resulting in buildings crumbling. Fourth graders will argue about how Alice in Wonderland reveals Carroll's own repressed sexuality while on their way to a Calculus class. A rise of efficiency will occur, and this might very well be a good thing.

### So why shouldn't I run out and get some Modafinil for myself?

Well, take a break from Modafinil for a bit and consider Viagra. Viagra was thought to be the cure for erectile dysfunction, it still is for some, but it isn't as simple as it seems. It will not just give an automatic erection as mental and tactile stimulation as well as foreplay are integral parts of arousal, and the reasons for erectile dysfunction are usually lifestyle choices — overeating, alcohol, drug abuse. Modafinil could be looked at in the same way. You are probably sleep-deprived because you were awake the whole night browsing 9gag. You are unmotivated because you are not sure of what to do ahead in life and you probably need to talk to someone who will understand. You are tired and have a head-ache because all the caffeine and dopamine rushes from the endless cigarettes or cups of tea and coffee is causing you to crash. In the end, you don't say no to the drug because it hurts your work ethics, you could intelligently say no to it because you think you can do better without it, and because you don't know how it will affect you years from now.

### So, finally, is a smart drug better than a slap on the face?

Well, this is something we can't say for sure. They each have their place and whether the world decides to wake up or dope up is something that we can't decide for it. What would you rather believe in? Yourself or a drug? 10 years down the line, will you even have an option? 



Try it. It might only cause paranoia, delusions, confusion...

### Positive Effects

- Sleep obliterated: There is no need to sleep while on it, and after the drug the return to a 'normal' state does not take too long.
- No more lethargy: Tiredness is gone bringing with it a sharp and clear wakeful state.
- Connecting thoughts: Integrating creativity into logical thinking feels easier.
- Motivation: More energy and a better sense of well being.

Interestingly, two months after this post, Sebastian posted an update to his blog saying that he felt happier without Modafinil and that he feels he is not "built to work all the time".

and possibly even richer. We will be blatantly going against 'Pharmacological Calvinism' which believes that pain and suffering are integral aspects of what it means to be a human being and that drugs should only be used to treat illnesses and disease. Also, if the WADA banned the drug, why is it safe to use outside sports?

Well, that would be painting too bleak a picture, and there is no reason why we shouldn't also consider the other possibility. In this future, everyone is working at their full potential. Slacker is a term that was once used 'back in the day' and the rate of progress of everything has increased ten-fold. No-one simply occupies space on earth now - they do things.



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Surgeons in Japan use 3-D printing to help trim a liver for transplanting. <http://dgit.in/10Wb93H>

### 30 day trip

University of Washington scientists are building nuclear-fusion powered rockets allowing a trip to and fro Mars, in 30 days. <http://dgit.in/10J15x5>

# Racing Ahead to a Distant Reality

Can the new fusion driven rockets change the way we see space travel?

Cyril Vattelli

[readersletters@thinkdigit.com](mailto:readersletters@thinkdigit.com)

“Honey I’ll be back in two months” “Another business trip to Zurich?” “No baby. Mars” Yes. Travel to Mars in two months is nearing a reality. Scientists at the University of Washington have a proposal which can make travel to Mars within thirty to ninety days possible. The new nuclear Fusion powered rockets are the key. Take a break from this new system to understand why it is so important.

NASA has accomplished six successful landings on Mars: Viking I and II, Pathfinder, MER, Spirit and Opportunity, and Phoenix. But these were all unmanned missions with lighter spacecrafts due to the absence of astronauts, supplies, and fuel. Another big factor is that no one is going to really shed a tear if a robot gets stuck on Mars. So clearly, there is something stopping humans from travelling to Mars. But why is travel to mars so difficult? Mars is 150 times further away than the moon is, and that is just one thing. The immense psychological implications of being stuck in a closed environment with other people is enough to drive someone to



Biosphere 2: The return of biosphere

depression. To give an idea of how damaging this is, in September 1991, eight people, dubbed ‘biospherians’ were sealed off inside a 3.14 acre glass enclosure located in Arizona called Biosphere 2, Biosphere 1 being where we live in right now. The idea was for humans to develop and live in a self sustaining environment and was considered a parallel to living in outer space. It started

off well enough with the biospherians recycling their wastes and producing their own food while at the same time conducting ecological research. By April 1992, things had changed. Two distinct groups had emerged which had opposing views on how to live. There was some scarcity of food so the animals were slaughtered and eaten and some even ate the seeds meant for growing crops. Eventually, people even started smuggling food from the outside. A second mission was initiated in March 1994 but again failed in six months. Now consider the same scenario in space. There is no ‘fall-back’ plan of smuggling anything from the outside. Most importantly, the people in Biosphere 2 knew that they are still on Earth, albeit in a bubble, but in space there is no backing out when one can’t take any more. Feelings of isolation and boredom, the knowledge that Earth is so distant, and long periods of confinement are some of



They clearly put all their money in research, and not in their 3-D models



Will it look less grand once we are able to get there easily?



## Android Pilot

A security consultant claims that he has developed an Android App that can remotely hijack airplanes. <http://dgit.in/17sSVLZ>



## Turn it off

The new Xbox will have to be connected to the net throughout the day. This article explains why that is a bad idea. <http://dgit.in/XGLGhR>



Not so beautiful when it's all you see for four years.

the issues which plague astronauts. There were instances in a Russian cosmonaut program in which crew members refused to speak to each other for months because they had an argument. Though there are interactions with people on the ground, research has shown that sometimes these negative feelings are displaced onto ground teams, going as far as to withhold information from ground personnel in effect giving a very incomplete idea of the occurrences on the spacecraft. This, coupled with the fact that after reaching Mars the astronauts have to wait for one and half years for Mars and the Earth to re-align make the whole endeavor even more depressing. Now astronauts are made to go through a tight regime and sometimes unstable ones slip through, and so what is of concern here is not the danger of psychological problems while travelling in space but in fact the very


same strict regime we mentioned which should be tighter and better planned. Well, even after considering that, there is still the very real problem of radiation poisoning. It has been estimated that an astronaut on the International Space Station experiences radiation tantamount to 8 chest X-rays. In one day. There are also these things called galactic cosmic radiation which are made up of pieces of atoms flung off from supernovas. Due to the Earth's magnetic field, there is some protection from this. After exiting the magnetic field though, it falls with full force. Also, the affects of radiation are accumulative, so the longer you stay exposed to it, even if it is lesser, the accumulation of the radiation will result in greater damage. Because of this radiation, the astronauts can even develop cataracts which is a clouding of the lens inside the eye which can eventually lead to blindness. If that isn't enough, then you should also know that long exposure to conditions such as weightlessness in space can result in a weaker immune system, tissue loss at a rate of 1.5% loss per month, the brain forgetting how to activate the sympathetic nervous system in response to gravity, and the fact that some tests have shown that astronauts (after returning from long bouts in space) have longer reaction times.

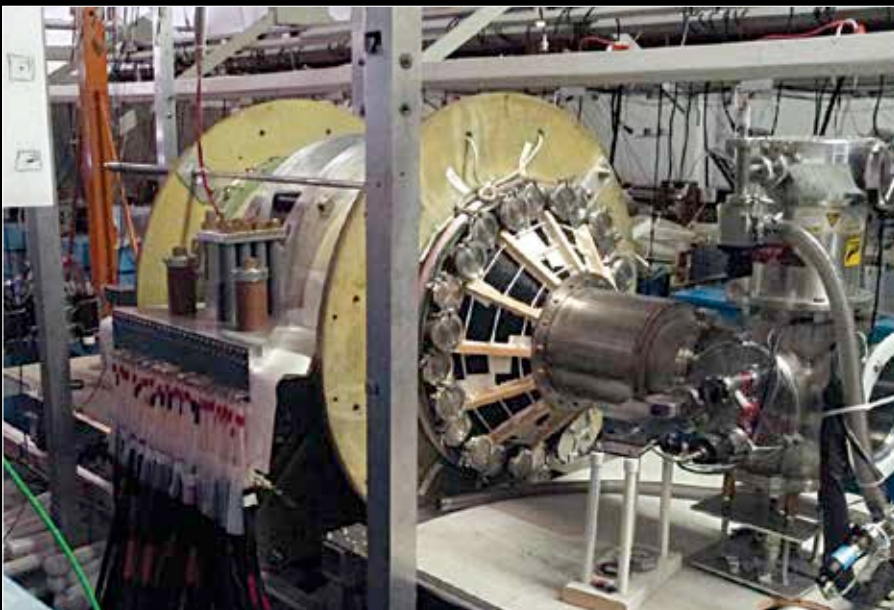
If that isn't enough, consider the logistics. To take a crew to Mars, a lot of chemical fuel is required. Along with this,

supplies are also required to sustain for four years. Because so much fuel is needed, even more fuel is needed because the fuel makes the whole setup even heavier. So that is the situation right now.

### And now, we re-introduce the nuclear fusion powered rockets.

Nuclear fusion is a nuclear reaction in which two or more atomic nuclei collide at very high speed and join to form a new type of atomic nucleus. It is the same process that powers active stars. With respect to the rocket, the scientists have created a type of plasma which consists of the hydrogen isotopes- deuterium-tritium. The flow of the plasma through the combustion chamber and towards the exhaust produces a magnetic field. This magnetic field causes the lithium rings to come together and close around this plasma resulting in an implosion. The sheer pressure of this implosion causes the fuel to compress into fusion, which causes the lithium rings to get ejected out of back of the rocket at around 70,000 miles per hour pushing the rocket ahead and hence giving it the required thrust. This process would repeat every ten seconds resulting in the rocket accelerating ahead at around 200,000 miles per hour. The analogy stated by the scientists is that one grain of sand of this new material can generate as much energy as a gallon a rocket fuel resulting in a very efficient system. Now the problem here is not the initiation of the fusion reaction, which is easy enough in itself. The difficulty lies in continuing that reaction. Fusion releases a large amount of thermal energy. To create a fusion reaction even a strong magnetic field is enough, however, to continue the reaction it is imperative that enough of the thermal energy is converted to electrical energy. This is why fusion powered rockets are still theory, however strong a theory it may be. . Currently, using traditional chemical fuel, it would take four years for a round trip to Mars, and the launch in itself will cost a massive 12 billion dollars.

With reduced time, reduced costs, and reduced chances of people killing each other due to the stress of being confined together for years, we assume that astronauts are praying for nuclear fusion powered rockets to work. If they aren't praying, well, they probably should be. 



The fusion driven rocket test chamber where all the magic happens. Theoretically



# PLUG - IN TECHNOLOGY

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\*Pen drive image is just for illustration, actual pen drive shape may vary | MRP of pen drive may vary, but you will get 8 GB pen drive



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# Switching GPU, erratic 3D, recovering data, and rejuvenating an old HDD

Just some of the SOS and Help messages sent our way during the month

**GPU swap**

Hi,  
I have an HCL Beanstalk AIO MA380 PRO ADIV0028 with 2GB DDR3 RAM, Intel HD Graphics 3000. I want to install a new GPU "gainward NVIDIA 2GB DDR3 GT610." Can I install this graphics card on my computer? Please help me

*Rahit*

All-in-ones generally come with the graphics components fused onto the board. Unlike a normal desktop PC, which has PCIe slots for cards, on the AIO, the graphics card will be fused onto the board. But just to be on the safe side, enquire with HCL regarding the same.

**Wi-Fi woes on laptop**

Dear Digit,  
Hello! I have a problem in my laptop's wireless driver. I had Windows 7 Ultimate, but after installing Windows 8 Pro I could not connect to Wi-Fi. In fact my laptop doesn't detect any available Wi-Fi signal.

System Configuration:

- Dell Inspiron n-SERIES - N5010
- Windows 8 Pro
- Intel(R) Core(TM) i3 M380 @ 2.53 GHz
- 64-bit Operating System
- 4 GB RAM

I have attached a photo of device manager in which there is a yellow triangle on Intel(R) Centrino(R) Wireless-N 1000. As shown in second photo, I have updated the driver from internet, but after that also, there is no improvement.

*Nikunj Naliyapara*

You'll need to use the drivers that came bundled with your laptop. The ones that work on Windows 7 should work on Windows 8 as well. Alternatively, call up Dell technical support as they have a very competent support network that will be able to help you out. Please do remember that Windows 8 is still having some

compatibility issues with certain hardware and if your device is unsupported, it may be some time before you get the proper drivers.

**3D Vision gone fuzzy**

Here is my configurations:

- CPU: AMD Phenom 2 x545
- RAM: 4GB DDR2
- GPU: Radeon HD 6670 2GB DDR2

I bought a new NVIDIA 3D Vision last month and connected all the cables and installed all the drivers, but an error appeared prompting me to download the latest NVIDIA graphic drivers. But I don't have an NVIDIA GPU. So what should I do? Should I buy an NVIDIA graphic card?

*Gourav Godara*

No, you can't run 3D Vision kit using an AMD card, as it requires NVIDIA cards only since the NVIDIA drivers are specifically written to communicate with the 3D Vision kit. Also what monitor do you have? Is it a 3D monitor? Check out this link (<http://dgit.in/11BsFMk>) for supported monitors and NVIDIA GPUs that can run your 3D Vision kit. Also if you plan to play 3D games, especially the latest ones, we would suggest you go for a mid-range NVIDIA GPU as stereoscopic 3D is very demanding with GTX 560Ti at the very least.



NVIDIA 3D Vision glasses

**Overclocking hassles**

Hello, TeamDigit. I am facing problems with my old PC. My brother tried to overclock my father's old PC to 3.3 GHz with the stock fan and 1 GB RAM @ 400 MHz. Now when I

**Bringing new lease of life to an old HDD**

switch on my PC it shows no signal without even the boot sequence displayed. Please, help me restore the CPU speed to 2.2 GHz. My system configurations are:

- CPU: Intel Pentium @ 2.2 GHz
- G31 chipset Biostar motherboard
- RAM: 1 GB @ 400 MHz.

*Guining Pertin*

Try clearing the CMOS and then trying again. It will set your system to stock settings.

**Wonky software uninstall**

I have Windows 7 installed on my laptop. I uninstalled Windows Media Center because it was not working properly from Control Panel > Programs and Features > Turn Windows features on or off > Media features > Windows Media Center. After uninstalling I tried to install it again in the same way. But then it says - An error has occurred. Not all features were successfully changed. To solve this problem I don't want to re-install Windows because I don't want to install all the software again. Please help.

*Joswin Concessao*

Did you select both Windows Media Centre and Windows Media Player. Deselected them under Media Features and then restart the system after applying



## Shooting them down

In light of Korea's threat, how can missiles be shot down before impact? Read on to find out. <http://dgit.in/11ZcoS2>

## Typeface designs released

TypeRelease creator Sean Mitchell has released some beautiful typeface designs. Check them out here. <http://dgit.in/16Mf5Wp>

Q&A

the changes? If yes, then you should not get this error as it implies that the Windows Media Center wasn't properly turned off. Also try the System Update Readiness Tool as well and then restart your PC. Once you restart your PC, then retry turning the Windows Media Center and Windows Media Player On.

### Q Data recovery

I had a pen drive which calculated all my LIC plans. I accidentally formatted and couldn't get files back and I tried every restore tool but failed. I borrowed a pen drive from a friend, but when I tried copying files it's showing a message that incorrect copying error. I'm struck, please help.

My PC specs:

- Motherboard: Gigabyte
- RAM: 1GB DDR2 Hyundai
- HDD: Seagate Baracudda 160GB
- OS: Windows XP SP3

Zeo

**A** Even after you delete a file from a drive, it doesn't disappear, it's still present and can be recovered. You can try out the Recuva file recovery application to recover the data that you have accidentally formatted. You can download the software from this location: <http://www.piriform.com/recuva>

So long as you have not written anything on the formatted pen drive, the utility should help you out just fine. But if you have transferred new data on the drive, then you may not get all the files that you accidentally formatted. But if you've copied new data on the drive, there's a big chance it will overwrite the previous data present in its place.

### Q Old drive, new tricks

I have an old Samsung PATA 40GB hard drive. I upgraded my system which supports SATA hard drives. How can I use my old hdd in the new configuration? I need to recover

some data from the old drive. How do I know if it's still working? I haven't used it since two years and I have kept it safe. Please suggest some solution to my grievance.

Bishal Dey

**A** If you want the PATA drive to be connected all the time to your motherboard then you will probably need an IDE to SATA adapter. But from your mail it looks like you just want to transfer your data from the IDE/PATA drive to your system. For that you will be better off using an IDE to USB adapter available at your local computer components store or just get one of these USB to IDE/SATA adapter kits online - <http://goo.gl/txy7S>

To see if your drive is still working, connect the molex power cable on your power supply and feel if the HDD is spinning, you will hear some sound when the HDD powers up. If you hear any beeps, then that drive may have gone bad. **!**

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### Go away XP

Windows will stop support for Windows XP in one year. We get the message. <http://dgit.in/XAXBxE>

### Apple, Samsung versus the court

The US Miami court accuses Apple and Samsung of using patent disputes as a business strategy. They have been given four months to streamline the case themselves. <http://dgit.in/10VOEMh>

# Start your own radio station

Are you a fan of radio shows and just can't get enough of them? Have you always dreamt of taking part in a radio show or starting up your own radio station? Well, this workshop will fulfill your dreams. Read on!

Siddhant Sharma  
[readersletters@thinkdigit.com](mailto:readersletters@thinkdigit.com)

Most of us have been listening to the radio since we could understand what it was and that is how we found our taste in music. Radio stations provide entertainment to everyone wherever one may be. Be it at home, at work, in a car or simply on a bus or train, many people like to hear their favourite tunes as well as various radio talk shows. Since the advent of the internet, we have exploited its many uses and today we'll harness its potential by learning to start and run our own online radio station and that too without spending a penny.

## What is Spreaker?

There are tons of online services which let you host music, publish podcasts and broadcast live radio. Some of them are paid and some are for free. Spreaker is one such online service or website which is like an audio platform that allows anyone to create, broadcast and share a personal live podcast across the Internet in a simple and accessible way. Spreaker offers a set of tools which include a web-based mixing console, a music and sound effects library and the ability to broadcast live audio through a widget which can be embedded across websites, social networks and blogs.

So without further ado, let's learn how to use it, as this may well be your chance to become famous!

The screenshot shows a Spreaker user profile for 'The Television Man' from Las Vegas, Nevada. The profile includes a cover image for 'Into the Night with Shaun Daily', a bio for Shaun Daily (journalist, radio talk show host, MediaBlvd Award Winner for Social Media Impact, former Conversational Marketer for BlogTalkRadio), 8,930 followers, and a list of recent episodes such as 'The Television Man In DALLAS w/Defiance' and 'The Television Man Wednesday's podcast'.

Typical view of a Spreaker user's profile page

## Prerequisites

Don't worry, you don't need to have full fledged professional recording hardware for using Spreaker. You just require a normal microphone connected to your computer. A good headset with a built-in microphone would be an ideal option to consider.

## Creating and setting up a Spreaker account

Head over to [www.spreaker.com](http://www.spreaker.com) and Signup for a Spreaker account by punching in your details, you'll be shown a list of the most talented and popular people on Spreaker. Here you will have the option to follow any of them. Next, you will see a screen which says "Introduce Yourself". Make sure that you have your microphone connected as you will need to record your voice here. Click REC > Click allow on the flash player settings popup. Once you are done recording and you think that you have done a decent job then just Click Publish. Or if you don't feel like recording your introduction just yet, then press OK! I'm done

## Broadcasting with Spreaker

Lets go on air now! Click on the green coloured Broadcast button at the top of the page. You will be given an option to either broadcast using Spreaker's recording console or upload a podcast from your computer. Choose Broadcast and give a title to your episode. For instance, "My First Broadcast" (Here you can also choose to share you Broadcast on various social networks). Click More Options > Add an appropriate Description > Add some Tags (which must relate to your show or the content on your show) > Check the Explicit content option (if your episode is for a mature audience) > Click Next > Click Allow in the Adobe Flash settings popup. Now, the console or the "DeeJay Console" (as Spreaker calls it) will open up.

## Spreaker Console

This is the place where all the magic happens. The Broadcast LIVE! option is selected here by default but you can also switch between 24/7 non-stop mode (works for premium account holders



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## GTA Radio tracks

If you remember crashing into lamp-posts while listening to V-Rock, this is going to make you very happy. <http://dgit.in/YhbRXk>

## Stay away, please

In a poll by research house Raymond James, 71 % respondents say that they would never buy a blackberry. <http://dgit.in/Zjgssr>

only) and also the Podcast mode which records your show but is not LIVE. Here you will also notice that the entire console is divided into different vertical and horizontal panels, the first panel which has the record button is for starting a broadcast, the second one is for adding a commercial break. The vertical panels below are for the Microphone, Deck 1 and Deck 2. Then you have a Playlist panel at the right, below which we have the Sound FX (sound effects) panel.

Starting a broadcast is very easy, just click on the Record button on the broadcast panel and your broadcast will be live online. Once you start a broadcast, you will then see a link at the top of the page which you can copy and share with anyone. Using this link, anyone can tune-in to your broadcast and enjoy your show. If you may have already connected your Spreaker account with Facebook, then whenever you start a broadcast, you will be given an option to publish the broadcast on your Facebook page. This will notify your friends on Facebook about your new episode and will let them listen to your show.

You can use the microphone panel from the mixing pads to control your speech volume. The microphone panel also allows for switching your speech quality between HI, MED and LOW. The two deck panels allow you to add a music track from your playlist onto it so

that you can play it in your broadcast. Each of the deck panels also have their individual volume controls and Left/Right indicators along with the Play, Stop and Monitor buttons. If you have tracks on your playlist which you might want to play, then simply drag and drop the required track on either of the two deck panels. Once you play a track on any of the decks then you will be able to see the song information and elapsed time at the top of the panel.

**Tip:** Populate your Playlist and Sounds FX panels before starting a broadcast, this will make it easier for you to sort out the tracks, jingles or effects that you may require during a LIVE broadcast.

The console also has a chat feature built into it. Your Spreaker followers can chat with you during the broadcast. If you don't want to chat with anyone but only make an announcement to your listeners, you can use the lock chat feature to do so. You will also find a symbol at the right hand bottom corner on the console, this is the log feature which stores the Log History of your broadcast. There are some indicators at the bottom left which display the CPU, memory, NET ping and NET Uplink statistics.

You can get creative and add a special touch to your broadcasts by uploading

tracks onto your playlist and adding these tracks to the deck panel. The Sound FX or Sound Effects panel allows you to add small sound effects in between your broadcasts. Spreaker provides a huge list of available sounds which you can add in your Sound FX list. If you want to take a small break in between your broadcast, you can add a commercial break too. However, you may only be able to choose a commercial break of your choice once you sign up for a premium account.

**Note:** You can broadcast for only 30 minutes if you are a free user but the best part is that there is no limit to the number of 30 minutes broadcast segments you can do within a day. You need to upgrade your account to premium if you wish to broadcast for more time per segment or episode.

## Stopping your Broadcast

You can stop your ongoing broadcast by clicking on the Stop button in the broadcast panel. Doing this saves your broadcasted episode and takes you to a page which allows you to edit details about your podcast and add your work to any of the mentioned categories such as Talk, Music, Movies, News, etc. This page also allows for sharing your podcast on various social networks and groups. You can even send invites to your friends by Email or on Facebook by connecting your Facebook account with Spreaker. Clicking on the big green Next button will take you to your Spreaker dashboard. Your broadcast will be available on your shows page in the dashboard and also on your Facebook page allowing people to listen to it anytime they want.

## Your Dashboard

The dashboard basically provides you with an overview of your entire account and allows you to manage your shows and their episodes. It also enables you to upload music to your music library which you can use during broadcasting. Here you can also delete tracks from your music library. The dashboard also displays the no. of free hours remaining. For a typical free user. The no. of hours allowed is 10 and if one wishes to have more, then he/she may simply upgrade



Spreaker's recording console or DeeJay console





### Sneaky stolen laptop

A laptop stolen from London clicks pictures of its current owners in Iran. The issue has currently been resolved. <http://dgit.in/113eBur>

### Not now.

Windows seems to be holding off and has pushed Office for iOS till late 2014. <http://dgit.in/16VcBVI>

Workshop

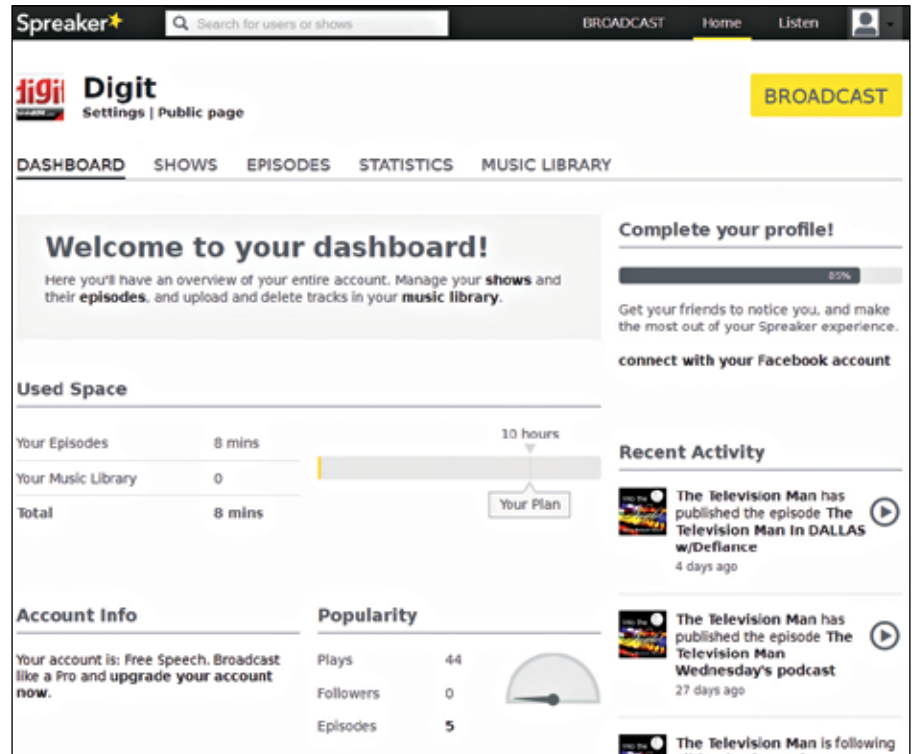
to a paid premium account. Or when you don't have enough space in your account, you can delete shows which you think are unnecessary now.

### Your Episodes

You can see a list of your episodes on the Your Episodes page with their date and time of creation. This page also displays the name of your episodes along with the show which the episode is associated to. You can edit or delete your episodes from this page too. Another feature of Spreaker is the Statistics page. This page provides an overview of your Spreaker reach as it divides your shows and episodes into categories and displays statistics about each and every show or episode individually.

### Your Shows

This page displays details such as the number of episodes in the show, number of plays and also total number of times the show has been downloaded. You can also



Your Spreaker dashboard will look like this

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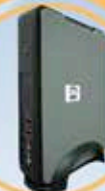
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## Guantanamo hearings paused

Due to missing sensitive legal documents, an IT ban on respective defense lawyers has brought the hearings to a halt. <http://dgit.in/ZQQBae>



## Share the story

The story behind the share button of the PS4 controller. Check it out- it was a pleasant surprise. <http://dgit.in/ZOaejk>



Spreaker on the iPad

edit your shows or create a new episode on the [Your Shows](#) page.

## Music Library

The music library in Spreaker collectively lists out your entire music collection on Spreaker. It categorically

**Tip:** You should answer all the questions in your profile and complete it 100 percent in order to let your listeners or followers know who you are, and from where you belong. Also, connect all the supported social accounts with Spreaker in order to spread news about your broadcasts to people around the world which will widen your reach and help in making you popular on Spreaker.

distinguishes between Music, Jingles, Loops, Soundtracks and Effects and lists the Name, Artist, Album, Length, Style, Filename and Status of each and every category of files or tracks in the library. You can even search for a particular file or track from its search box. Your free account has a limited amount of space which is displayed to the right side in the music library.

## Downloading episodes

Spreaker also allows you to download your episodes. Just head over to your Episodes page and click on the required episode. On the page of that particular episode, click [Download](#) and the file will be downloaded to your PC. Similarly you can also upload various audio formats to your Spreaker account for use in your broadcasts.

## Following other users

Being such a good online LIVE radio platform, Spreaker has a huge amount of popular active users who have regular radio shows on Spreaker. Depending on the type of shows you like, you can follow users of your choice by just clicking the [Follow](#) button on a user's page. On doing so, you will be notified everytime the user you are following has a new show. All of the activity of the users you are following appears in the [Recent Activity](#) section on your [Spreaker Dashboard](#) and you can directly play their episodes right from the activity section.

## Listening to others shows

Not in the mood to broadcast a show, or want to kill some time? You can listen to

shows from other Spreaker users on the [Listen](#) page. There you will see a list of shows which are currently on air.

## Sharing on SoundCloud

Since its inception, SoundCloud has been the biggest help for artists, as this audio distribution platform allows for promotion, collaboration and distribution of audio recordings amongst musicians and also amongst their followers making it the best stage to display or share your work. Your Spreaker account can be connected to SoundCloud enabling you to showcase your work to a much bigger community of artists. To do this you just need connect with SoundCloud on your [Spreaker Dashboard](#).

## Spreaker on iOS devices

Are you away from your computer when you have scheduled a new broadcast for your fans? No problem, as you can still go on air easily using the Spreaker app for your iPad or iPhone. Spreaker's iPad app is beautifully designed and the first thing you will notice is that it directly opens up into the "DeeJay" console. You can log into your account through the app and start broadcasting your show directly just by using your iOS device. The best part about this is that, the interface of the console on the app

**Tip:** Once you start your radio show on Spreaker, try to make sure that you do regular broadcasts and episodes for your show. Your followers will stick to you (provided your show is good) and may lead to an increase in the number of followers or more followers.

is very similar to the web interface so that you won't be confused about how to use it.

## Finishing up

Spreaker is a good service for those looking at starting their own online radio station. Explore all the various possibilities Spreaker provides and you may become a famous online radio jockey (RJ) one day. To find tutorials and learn more, you can visit Spreaker's YouTube channel here: <http://dgit.in/sSpreaker>

May the dashboard be with you!

## REJUVENATE YOUR SMARTPHONE

If you're in the habit of using your smartphone for practically everything these days – browsing the web, syncing files from one location to another, messaging till your fingers hurt, and then some. From unused apps to files you downloaded once from the internet, extra mobile clutter can make your phone sluggish or simply make it difficult for you to find what you are looking for. Worry no more, because it's time to give your phone a fresh start. Chances are that your phone (and ultimately you as its user) can benefit greatly by running through the following tips. Without further ado, here we go:



Rejuvenate your smartphone .....23

Lightroom 5.....24

*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.*

### Backing up your data

Running out of space in your phone to save your pictures, music and more? Can't shell out a few thousand bucks for a beefier microSD card? Upload them to the cloud or simply copy everything to an external hard drive. That way, your data will also be safely stored elsewhere in case something happens to your phone. If you don't want to manually go through the hassle of trying to sync your

phone data every single time, choose an app that does it for you. Like SugarSync (www.sugarsync.com), a file syncing service that will sync your new photos and other files to the cloud automatically.

### Drop unused apps like bad habit

If you have not used an app in the last few months, it's not likely you will use it again. Instead, the icon sits there taking up space and making it harder to find the apps you do use. Go through all your apps and see which ones you use on a daily basis – delete the rest. If not daily, at least get into the habit of combing through your phone's installed apps at least once a week.

### Move to a smarter browser

Something like the Opera Mini, if you haven't checked it out. The Opera Mini app shrinks data to as little as 10% of its original size before it lands on your phone. This speeds up the web on your phone, saving



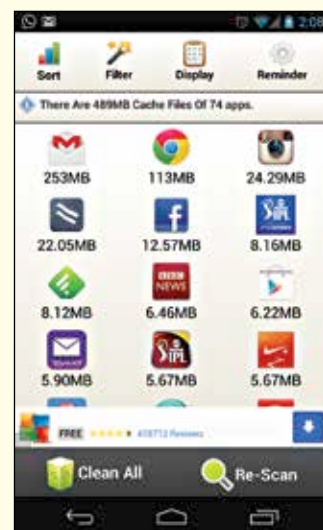
Opera Mini's a good browser

you a great deal of time – since you'll be able to open websites in the blink of an eye – as well as money and battery. That's music to one's ears, isn't it?

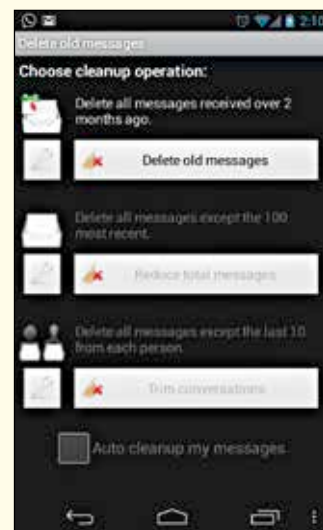
### Periodically clear cached files

Your apps and browser create temporary files that can take up space and memory. You can download an app to help you do the job, such as Easy Cache

Cleaner (for Android), which scans your phone and allows you to clear out the cache files. Once you're done, you might as well delete the app.



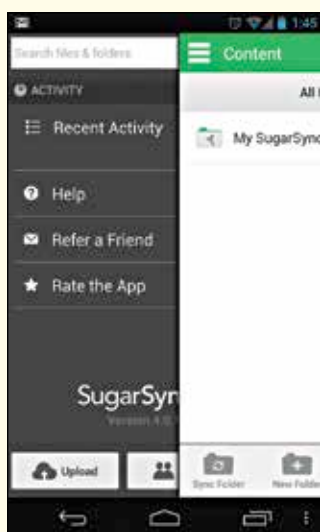
Clean your cache periodically



Delete old messages routinely

### Spruce up your message, email inbox

You'll gain space, and you are never going to read them again anyway. It only takes a few seconds to delete them all – you can even use an app like Delete Old Messages (for Android) to help you – and you'll feel refreshed after you do it. Do the same for your email inbox, and your phone's memory will love you for it.



SugarSync's perfect to sync file

## Investigate contacts list

If you cannot figure out who that person in your contacts is or where you know them from, ditch them. Also, check for duplicates on your address book, as syncing from different sources can cause double-ups. It's all about the space.



Check what's draining power

## Conserve power

If your phone drains battery, there are a few steps you can take. Close the apps you're not using, turn the mobile data, 3G, Wi-Fi and Bluetooth off when you don't need them, lower the brightness on your screen and turn the keyboard clicks off.

With these tips you will get your phone spruced up prim and proper. Even if it's working fine, following these steps will keep things from piling up on your phone, giving you more free space to use when you need it and making it easier to find what you're looking for.

## LIGHTROOM 5 BETA

Adobe announced the Lightroom 5 Beta last month and it is available as a free download. You can use for free till June 30th, after which you will have to pay to get the full version. We played around with the LR5 beta and

here are some interesting tips we came across. We will start off with the new features exclusive to LR5 and the move on to the more general tips applicable to all Lightroom 4 and up.

## Radial Filter

It is located between the graduated filter and the adjustment brush in the Develop module. Another way to bring it up is using Shift+M. The Radial Filter allows you to apply all Lightroom local attributes to a circular mask along with a feather fall-off. It helps in creating customised vignettes.

Go to Develop module and under the Histogram select the Radial Filter. Once selected just drag your mouse on your image and you will notice a circular or oval shape forming. It has a black dot in the centre and four points along the four directions, which can be used to change the size of the filter horizontally or vertically. Oval shapes can be rotated by hovering the pointer over the thin circular lines between the four directional points and dragging.

Ctrl+double click on radial filter to put a circular mask on the entire image

Shift+drag around on image, ensures that the radial shape is a proper circle

Alt+drag allows you to start the filter from the top left hand side as opposed to dragging from the centre which is the default.

Generally the area outside the radial filter gets affected with the changes, but you can also invert that by selecting the



Brush Spot removal before



Brush Spot removal after

Invert Mask radio button located just below the Feather slider.

## Brush Spot Removal

There are times when you want to remove unwanted objects from your image. At such times using the spot removal tool can be a laborious process as you have to create multiple small spots. Using a larger area spot also does not help matters, as the manipulation becomes too obvious. We were all impressed with the Content Aware Fill feature of Photoshop, and Adobe have done a similar thing with LR5. You can select a region by holding onto the mouse button and painting over it. Once you are done selecting it and release the mouse button, Lightroom will find a source area to fill up that spot. This source area can be repositioned till you get a satisfactory mask and your are successful in removing the unwanted object without making it too obvious.

## Spot Removal selection appearance

When you use the spot removal tool, you get a circle around the spot you have clicked on, and another circle from where the data has been used to duplicate on the selected spot. This allows you to easily adjust the placement of the target circle from where the spot removal data is



Spot removal selections

being duplicated. In case you don't want to view these selection circles, just hit the H button on your keyboard.

## Visualise Spot

No one wants to have an image which has unwanted spots on them. These spots can



Radial filter before



Radial filter after

Lightroom Develop module shortcuts		
Function	Windows	Mac
Go to Develop	D	D
Copy Settings...	Ctrl Shift C	Cmd Shift C
Paste Settings	Ctrl Shift V	Cmd Shift V
Paste Settings from Previous	Ctrl Alt V	Cmd Opt V
Sync Settings...	Ctrl Shift S	Cmd Shift S
Enable Develop Auto Sync	Ctrl Alt Shift A	Cmd Opt Shift A
Match Total Exposures	Ctrl Alt Shift M	Cmd Opt Shift M
Sliders Select next Basic panel slider	.	.
Select previous Basic panel slider	,	,
Increase slider value	= (or +)	= (or +)
Decrease slider value	-	-
Move slider value by larger increment	Shift + or -	Shift + or -
Auto Go to White Balance Tool	W	W
Auto White Balance	Ctrl Shift U	Cmd Shift U
Auto Tone	Ctrl U	Cmd U
Toggle Black & White	V	V
Create Snapshot	Ctrl N	Cmd N
Create Virtual Copy	Ctrl '	Cmd '
New Preset...	Ctrl Shift N	Cmd Shift N
New Preset Folder...	Ctrl Alt N	Cmd Opt N
Toggle Before/After	\	\
Left / Right	Y	Y
Top / Bottom	Alt Y	Opt Y
Split Screen	Shift Y	Shift Y
Copy After's Settings to Before	Ctrl Alt Shift left arrow	Cmd Opt Shift left arrow
Copy Before's Settings to After	Ctrl Alt Shift right arrow	Cmd Opt Shift right arrow
Swap Before and After Settings	Ctrl Alt Shift up arrow	Cmd Opt Shift up arrow
Deselect Target Adjustment Tool	Ctrl Alt Shift N	Cmd Opt Shift N
Tone Curve	Ctrl Alt Shift T	Cmd Opt Shift T
Hue	Ctrl Alt Shift H	Cmd Opt Shift H
Saturation	Ctrl Alt Shift S	Cmd Opt Shift S
Luminance	Ctrl Alt Shift L	Cmd Opt Shift L
Black & White Mix	Ctrl Alt Shift G	Cmd Opt Shift G
Show Clipping	J	J
Temporarily Show Clipping	Hold Alt while moving slider	Hold Opt while moving slider
Reset Slider	Double-click on slider label	Double-click on slider label
Reset Group of Sliders	Double-click on group name	Double-click on group name
Reset ALL Settings	Ctrl Shift R	Cmd Shift R
Go to Crop Tool	R	R
Reset Crop	Ctrl Alt R	Cmd Opt R
Crop As Shot	Ctrl Alt Shift R	Cmd Opt Shift R
Constrain Aspect Ratio	A	A
Crop to Same Aspect Ratio	Shift A	Shift A
Rotate Crop Aspect	X	X
Reset Crop to Maximum for new Aspect Ratio	Alt while changing aspect ratio	Opt while changing aspect ratio
Crop from Center of Photo	Alt while dragging	Opt while dragging
Rotation Angle Ruler	Ctrl-click on start and end points	Cmd-click on start and end points
Cycle Guide Overlay	O	O
Cycle Guide Overlay Orientation	Shift O	Shift O
Go to Spot Removal	Q	Q
Create New Circle Spot with auto source	Click	Click
Create New Circle Spot (scale from center)	Ctrl Alt while clicking	Cmd Opt while clicking
Create New Circle Spot (scale from starting point)	Ctrl Shift while clicking	Cmd Shift while clicking
Create New Circle Spot with manual source	Ctrl while click spot and drag to chosen source	Cmd while click spot and drag to chosen source
Create New Brush Spot	Click and drag	Click and drag
Create New Brush Spot (constrain to horizontal/vertical axis)	Shift and drag	Shift and drag
Edit Existing (connect existing circle spot to new spot, changing to brush spot)	Select existing circle spot then Shift and click	Select existing circle spot then Shift and click
Toggle Clone/Heal	Shift Q	Shift Q
Select new auto source	/	/
Increase circle spot size	]	]
Decrease circle spot size	[	[
Visualize Spots	A	A
Hide Spot Overlays	H	H
Delete Spot	Select Spot then Delete or hold Alt while clicking	Select Spot then Delete or hold Opt while clicking
Delete Multiple Spots	Alt and drag marquee to surround spots	Opt and drag marquee to surround spots
Show Overlay	O	O
Cycle Overlay Color	Shift O	Shift O
Hide Pins and Bounding Boxes/Lines	H	H
Duplicate Pin	Ctrl Alt while dragging pin	Cmd Opt while dragging pin



appear on the image as a result of dust on the sensor or on the lens or flash bouncing off dust or moisture in the air. Photographers still scanning film will find this tool useful as well, as a lot of film studios in India use recycled chemicals for developing film which leaves a lot of spot marks on the film surface.

Spots appear as faint dots or scratches (in case of films), which are visible at times, but

you accidentally end up removing some image detail which you may want to keep. It's a matter of one or two spots, you can just select that spot and hit the Delete key. But if you want to delete multiple spot selections in an area, then you should hold on to the Alt key and you will get a scissor icon, which you can drag along the spots you have selected to have the selections removed.



Visualise spots

majority of them might not be visible to the naked eye. Go to Develop module>Select Spot removal tool or hit Q on your keyboard. Just below the image select Visualise checkbox. This will make your image appear as a black and white mask, and the spots are emphasized against the black background. You can slide the visualisation amount slider to get a better view of the unwanted spots. You then remove these spots like you have always done in Lightroom - one click at a time.

### Removing multiple spot selections

While using the spot removal tool, there may be times when

### Perspective corrections

Unless you own one of those tilt-shift lens, it is very difficult to get tall buildings appear vertical when shot from a short distance. In LR5 you can make such perspective shift with just one click. Head to Develop Module>Lens Correction section>Basic tab. You will notice the Upright menu below which you have five buttons namely Off, Auto, Level, Vertical and Full. Play around with these buttons depending on your image to get a better perspective. You can even overlay your image with a grid (View>Loupe Overlay>Grid) to get a better idea. Sometimes the



Perspective correction before



Perspective correction after



Identity Plate changer

crop will leave white spaces around the edges, which can be avoided by keeping the Constrain Crop check box ticked.

### Crop overlays

You are all familiar with the 3x3 overlay that you get when you select the crop overlay. But this is just one of the six overlays available. Go to Tools>Crop Guide Overlay and you will be presented with the overlay options. Simpler way is just select the crop overlay tool by hitting 'R' and the toggle between different overlays using 'O' key. This is a great tool for new learners to know more about composition techniques.

### Solo Mode

You tend to spend a lot of time in the Develop module and many times it is a pain to keep scrolling up and down the various panels such as Basic, Curve, Split Toning and so on. In order to work on just one panel at a time, right click on any panel and select Solo Mode. This mode auto-collapses any panel that is not in use currently. So say you are working in the Basic panel and then want to head to Split Toning panel. In the Solo mode,

### Custom Identity Plate

In the top left hand corner of lightroom you have the Adobe Lightroom logo and branding. You can change that to any custom identity plate that you want. Click on Edit>Identity Plate Setup. Here you type in your own name, change font style and size or you can even add an image in this space. You can also change the fonts of the various modules on the right hand side.

### Custom Panel End plate

Panel end plates are present below the panels on the right hand side in each module. You will either have nothing or will have some flowery or tattooed end mark. Right clicking on the panel plate brings up a menu which looks similar to the one seen when selecting the Solo Mode tip above. There is a slight addition though - Panel End Mark. On entering it, you will see some default Panel end marks, so you can either select one from those or better still personalise it to your taste. Select Panel End Mark> Go To Panel End Marks folder. Within this folder you may have your customised designs which have a width of 235 pixels. Select the necessary custom end mark and see under your panels under each module.

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THE

GREAT  
GREEN

LIE!

Everything you thought you knew  
about green is wrong

By *Anirudh Regidi*  
*anirudh.regidi@thinkdigit.com*

Everyone thinks they know what global warming is. A simplified picture goes something like this: humans produce CO<sub>2</sub> and other greenhouse gasses, the Earth turns into a giant greenhouse, traps most of the heat it receives from the sun, this causes global temperatures to rise and suddenly

the ice caps melt, all hell breaks loose, half the planet is drowned and the other half is toasted. And what is the supposed problem? Wind and solar energy and other such “green” power are underutilized and if we can focus on them, which our dastardly governments do not, we’ll save the world and get back to the “good ol’ days” of blue skies, chirping birds and camomile tea. How much of this is really true and how much fiction is a question

that is very hard to answer. The truth is that we simply don’t know what the hell is going on with our world. It’s getting hot, it’s getting cold. There are floods in one place and drought in another. Leading scientists claim that the temperatures are rising and CO<sub>2</sub> is the cause. Others claim that CO<sub>2</sub> has nothing to do with it and that water vapour and clouds are the actual culprits and that they’re part of an inevitable natural cycle that will take



place regardless of whether we do something or not. Some believe that global warming is a myth created and perpetuated by politicians and media and part of a monstrous scaremongering campaign to generate billions of dollars for their own nefarious needs.

Who do we really believe? Everyone has, at some point, given their two cents when it comes to global warming. There are innumerable sites on the internet, blogs, news articles and pseudo-science going hand-in-hand with legitimate science. We'll do our best to help you out with these issues and try to give you the best interpretations of these facts.

### Myth#1: The Earth is actually cooling down

Nonsense! Global warming is real, very real. Agencies like NASA and Godard Institute of Space Studies (GISS) have been tracking global temperature and temperature related data for decades and regardless of what anyone might say, the Earth has been heating up, slowly and steadily. There are massive fluctuations though, temperatures go up and down by a degree or so every now and then with no apparent cause. Either way, the overall average has continued its trend upwards.

There are explanations to some spikes, such as the time when Mt. Krakatoa decided that it wanted to blow its top, but the reason for the steady global rise in temperatures is debatable and under intense scrutiny by the world in general. Given our short lifespans we might believe that the Earth is cooling or growing warmer day by day, which is true, but not on a planetary scale. Those are just spikes that occur from time to time. The global temperature chart



Even if we think that global warming isn't real, pollution is.

overleaf is one that we've compiled using data provided by GISS and it paints a very damning picture indeed.

### Myth#2: Greenhouse gasses are responsible for global warming

Again untrue. What is debatable is the cause of global warming. What is known is that global warming is a naturally occurring phenomenon that will repeat itself every 1,00,000 years or so and will last for about 5,000 years. What is also known is the fact that CO2 emissions are directly linked to global warming, but they are not the cause of global warming. Statistical data that is readily available at <http://www.giss.nasa.gov/> clearly indicates that in that 5,000 year global warming cycle, CO2 increase is not apparent for around 800 years after global warming begins. No matter how you look at it, CO2

could not have been responsible for the global warming phenomenon.

The fact that CO2 isn't responsible for starting global warming doesn't mean that you can kick off your shoes and pump smoke (CO2) into the air with abandon. Greenhouse gases don't start the process but they perpetuate it. That sudden increase in CO2 levels that is apparent 800 years after the start of global warming is from a natural source (probably from the oceans) and is directly related to the further increase in temperature. Think of it this way, suppose you have a mic in front of a speaker and that mic has a threshold of 40dB before it activates and they're both placed in a sound-proof room. Suppose you start turning up the volume slowly, when you hit that 40dB threshold, you'll literally get your ears blasted off by the intense feedback loop that is created and

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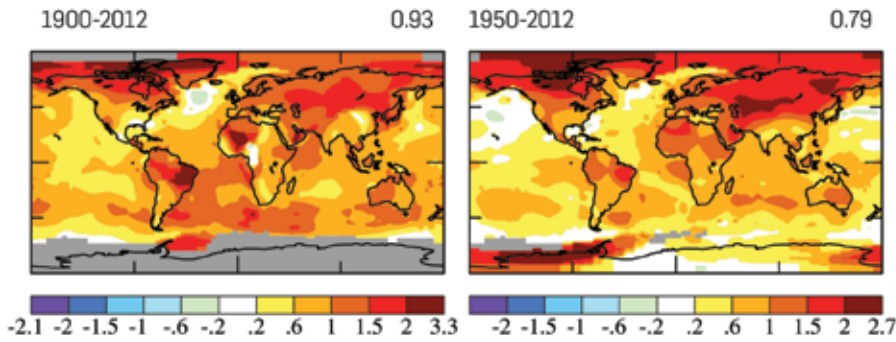
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Annual Mean Surface temperatures

if you're not careful, you'll irreparably damage your speakers as well. The mic didn't start the loop, but it did perpetuate it. Now consider that same experiment carried out in your home, or at a noisy party. The background noise will only help to accelerate the process. Oversimplifying the process to a large extent, this is how global warming works. The mic is CO<sub>2</sub> (and other greenhouse gasses of course) and the speakers represent the Earth. Even if we are not responsible for causing global warming, we are responsible for perpetuating it and that is why action must be taken as soon as humanly possible to cut down on greenhouse gas emissions.

**Carbon credits: What are they worth?**

Close to nothing. Not in terms of cash, but in terms of the environmental impact that this system has. You've all heard this term many times and many of you might already be familiar with it. To those not in the know, here is a quick summary: A carbon credit is a sort of certificate that states that an entity has the right to emit greenhouse gases that are equivalent in

impact to one tonne of CO<sub>2</sub>. The system was put into place in the Kyoto protocol and was seen as one of the first steps in cutting down greenhouse gas emissions.

The logic behind this model is that a company or entity that cannot or will not take the trouble to go "green" or at least carbon neutral will have to buy carbon credits from some other entity that has gone green so as to offset their own greenhouse gas emissions. This other entity need not necessarily be a company that has gone green; it can even be a government or a company that has heavily invested in, say, CO<sub>2</sub> sinks that will soak up CO<sub>2</sub>, or maybe even an entity that is involved in reforestation. If you've got a cattle farm of your own, you can generate carbon credits yourself by capturing and selling all that naturally produced methane. Methane is a greenhouse gas, but it's still less polluting than oil and can thus, generate carbon credits. Unfortunately, this system is inherently flawed. Carbon credits are not really enforced to the degree that they should be. Also, supposing a power station is generating a million tonnes of CO<sub>2</sub> a year and they reduce emissions

by a 100,000 tonnes. They actually get a 100,000 carbon credits rather than being penalised for still generating 900,000 tonnes of CO<sub>2</sub>. Of course, we're not saying that a power station has to be penalized for something that it's commissioned to do and sure, some motivation is better than no motivation. But the bottom line is simply this, 900,000 tonnes of CO<sub>2</sub> is still being pumped into the atmosphere and there is nothing being done about it.

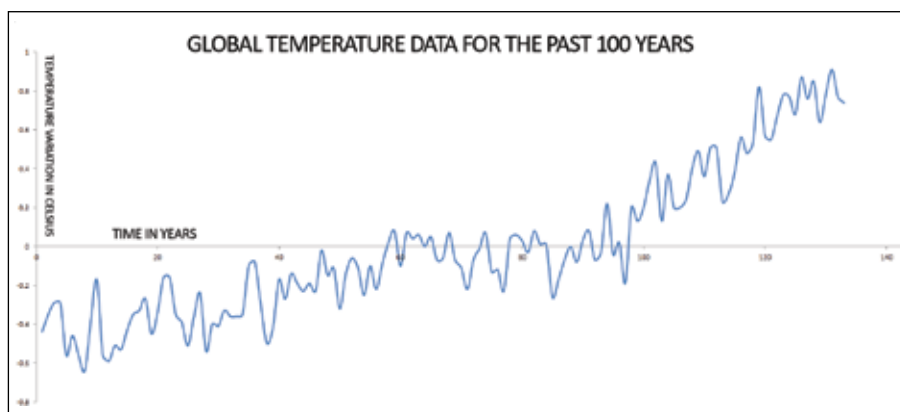
The whole system is being looked at more as a sort of stock market, the BitCoin phenomenon if you will, rather than as a legitimate means of enforcing "green" consciousness and environmental reform. Actual businesses that deal exclusively in carbon credits have erupted around this concept and at their roots, most of those businesses are no different from traditional investment firms.

The major flaw with this system is the fact that it doesn't seem to affect us, as average citizens. We're not penalized for running power hungry PCs with three monitors or leaving a torrent-box running for weeks on end. We don't see a "carbon tax" on the foodstuffs that we buy or the gadgets that we purchase. As geeks, we're probably the most polluting members of the human race in terms of the average citizen. We want our power-hungry PCs, our mobiles, tablets, gaming consoles and laptops and we don't spend a rupee on carbon credits.

The system might seem to be having an impact on the environment and as we said earlier, something really is better than nothing. But it isn't enough. It's just a very convoluted method of assuaging our collective consciences by pretending that we've done something to contribute.

**Harsh realities**

There is no magical cure to global warming. If it really is a natural phenomenon then we're just exceptionally arrogant if we think that we have the power to impact our planet in such a way. That said, we have it in our power to safeguard ourselves against the more harmful effects of this phenomenon and we're just being foolish if we don't do something about it. We've covered green energy vs. oil in parts of this cover story. Read on to find out about the true state of power in this world.





# POWER STRUGGLES

Is oil really the villain? Oil has single-handedly revolutionized our lives. When did it suddenly become the villain? Who (or what) is really to blame?

By *Anirudh Regidi*  
*anirudh.regidi@thinkdigit.com*

The birth of the universe was a truly cataclysmic event on a scale that is simply unimaginable to the mere human. The single most important consequence of the “big bang” was the birth of energy in the void. This energy is the one resource that we will ultimately run out of. One hundred billion years from now, the universe will be dead, it will simply have run out of energy and all forms of matter will just dissipate into nothingness, like the dying embers of a flame. This is inevitable and there is absolutely nothing that can be done about it. Energy is quite simply, the single most precious resource we have. We are all familiar with the law



You would never find a monkey doing this

of conservation of energy, but what we miss out is that the energy is lost forever. It's transformed, but also lost. Life on this planet is driven by a quest for energy; energy to live, to survive, to thrive as a species. Without enough energy, any living being will just die. We humans are at the top of the food chain, not because we eat the most food, but because we consume the most energy. We have a penchant for ruining our surroundings in the quest for greater power, killing off all that is beautiful in favor of all that is functional. We would rather have a road than a river, a mall over a playground. Oil (and pollution) is just a consequence of that quest. We are, quite simply, the greediest species on the planet, a species for which no amount of power is enough. There are always those who are different, but there are simply not enough of them.

### Living it up

While most animals just live to survive, as humans, we want much more from life than just survival. Animals also want more than just survival; they want a comfortable life, a food source that is rich, an absence of predators or competition, the freedom to reproduce and so on. Humans want the same things, but this is also where we differentiate ourselves from those animals. We can quantify our needs and do something about them on a much grander scale, think ahead and not rely solely on instinct. We actively strive to “improve” our surroundings to better suit

our need to survive. Unfortunately, we're also horrendously irresponsible, lazy and cannot, or will not, define a limit to the degree of survival that is acceptable. There is always someone that wants that little bit more, who will push that little bit harder and use up that little bit more for that fractional improvement in comfort. It's not that other animals are more responsible or clean. It's just that they do less harm and don't know enough to be truly greedy.

### Jevons Paradox

This paradox is the proposition that “technological progress that increases the efficiency with which a resource is used tends to increase the consumption of that resource.” Does it seem illogical? Think about the industrial revolution. Coal had been in use since long before the industrial revolution ever came about; it's just that we never saw any greater use for it other than as a fuel in a hearth to keep ourselves warm. Better methods of harnessing that power were being worked on, but it wasn't till the invention of the steam engine that we saw the true potential of coal. Suddenly, here was this super-abundant resource that could be used to power just about everything. Who needed windmills or water wheels anymore? One steam engine could replace fifty horses. You suddenly had trains, factories, power stations, massive machines, faster ships and transport. Equally as sudden was the realization that we just didn't have enough of it. It doesn't even have to be

# It's time to start counting your return gifts



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# digit



The Industrial revolution. The birth of true pollution.

that drastic in scale. Supposing someone discovers a battery that is twice as efficient as current designs, we're not going to get devices that last twice as long; we'll get devices that are twice as powerful. Screen sizes will increase; you'll start seeing 8-core or 16-core processors, 4K playback on smartphones and so on and so forth. Very few will actually consider the fact that they may not need more, that the power they have now is actually sufficient to accomplish their tasks and that maybe we should give the world a breather, maybe enjoy 48hr battery life on a four inch screen for once. The only method we are finding to deal with this increased demand is, paradoxically, by trying to find more efficiency and even more fuel somewhere. We want a fuel that is more efficient to store and transport. One that stores the largest quantity of power in the minimum amount of space and one that is also available in abundance. The only fuel that satisfies this criteria is oil. It's available in massive quantities, it's a liquid and is hence, easy to store, transport and distribute. The power output is many times greater in magnitude than any other form of energy currently at our disposal and engines that harness this power can vary in scale from the miniature ones that power model aircraft to the humungous engineering marvels that are used in the generators of power plants.

### How big is oil?

Well, this is a tough one. Oil is huge, so huge, that it's actually difficult for us to comprehend without some sort of analogy.

So here are some facts (and analogies):

- Oil, by itself, is responsible for 1/3rd of the entire world's energy supply.
- Oil effectively powers 100% of our transportation. Without oil, the world will literally grind to a halt. This includes electric cars, because a lot of power stations still use oil and fossil fuels.
- The USA spent over \$100 billion on the Iraq war, the bulk of which was the sheer cost of the oil consumed during the conflict.
- About 40% of all seaborne cargo is oil. Also, the quantity of oil passing through the world's oceans every year is greater than the entire known marine biomass. There is literally more oil than fish in the sea.
- If you take the by-products of oil drilling and purification into account as well, including natural gas, then more than half the world's energy is produced by oil.
- Oil and natural gas pipelines in the US alone can make the trip to the moon and back seven times over.
- Oil is everywhere, 2010 figures peg the daily oil production at over 80 million barrels. We are literally using it up as fast as we're getting it out of the ground and even at this alarming rate of utilization, we're still expected to have enough oil to last us decades.
- It will take the world almost a hundred years to retool itself to make use of an energy source that is not, or very dissimilar to, oil.

### A world without oil

If we were to imagine a world without oil, the first major impact will be to transportation. There is absolutely no way that we would have anything like supersonic aircraft, in fact, air travel except in something like hot air balloons, would be impossible.

The entire race to get to the skies was defined by the need for power. The Wright brothers managed to get to the air with a spindly little aircraft, but only when the power was enough to keep that aircraft in the air. NASA is experimenting with solar powered aircraft, but even now that speed is nothing, relative to what we can get from burning oil and the only possible use that can be seen for it is in terms of surveillance and maybe as a flying signal tower.

All your Ferraris and Lamborghinis would simply not exist. Sure, you've got electric cars that go at 150mph now, but where do you think that electricity is coming from? Sparing that much power for a 2hr drive would be something that billionaires would consider; it would not be an everyday occurrence.

If these above facts are not staggering enough, consider this: Given the scale at which oil has seeped into our everyday lives, any so-called "green" energy that we are working on right now, will not even make a minor dent in oil utilization and extraction. Sure, a massive solar plant will give us more power, but we'll also soak up that power as fast as it's produced. While larger countries can afford to spend some money on experimental power sources, developing nations like ours can't even imagine doing something like that. Despite the high price of oil, it's still more efficient to buy it by the millions of barrels than invest in large-scale "alternate energy" plants.

### The blame game

Are fossil fuels really to blame for this "global warming" and "environmental pollution" that we see all around us? Yes, but only indirectly. It's we who are responsible for using that much oil, that much power and as a consequence of that, generating that much CO2 and pollution. We're asking for that much power and we're taking it, but without shouldering the responsibility that that power entails.



War over oil is not such a far-fetched idea. It might even be inevitable

Uncle Ben wasn't wrong when he uttered those famous words, "With great power comes great responsibility."

The inner workings of this blame game are very simple. Say a country like the USA is claiming to have reduced its CO2 emissions by a factor of X. That reduction may be because it has reduced the



Who cares about the environment? We need oil


burning of fossil fuels, but not because it has reduced its consumption of power. Outsourcing production of something like the iPhone or Samsung Galaxy phones will have shifted to a country like China or Vietnam, which will burn up a huge amount of resources to produce those said goods. Now suddenly China is the villain, it's producing billions of tonnes of CO2 and contributing to global warming while the US takes a "holier than thou" stand claiming to be working hard to reduce its emissions while irresponsible governments remain hell-bent on wrecking the Earth's environment, without ever taking into consideration that they are the largest market for said products. Pointing fingers is just not going to solve this crisis.

Another example would be Europe. Countries like Germany and Britain are at the forefront of the "green race" and are making huge strides in the advancements in green tech and are claiming to make a

difference in the world. The reality is that they are simply running out of coal and oil reserves and desperately need power to stay relevant in the world. If they had larger reserves, they probably wouldn't even be considering green power. On the other hand, a country like Switzerland has built its power infrastructure on natural sources from the ground up (<http://dgit.in/10jq1Wc>). However, they're lucky because they're small and don't need so much power and the natural sources they have are sufficient for their needs.

### Freedom to create or destroy

Oil (and fossil fuels) has, by itself, given us an immense degree of freedom and comfort at a level that was simply unimaginable even 200 years ago. Unfortunately, that freedom comes at a price and we're somehow finding a way to ignore that price; either by burying our head in the sand, not wanting to face reality or just expecting our governments to do something about it. It's our own intense degree of short-sightedness that is ruining our environment and it's high time we did something about it.

If we continue to burn up fossil fuels at the rate we are now, global temperatures will rise and we will start to destroy our environment. As a consequence of this, we will in fact increase our dependence on oil as we will simply require an even larger quantity of energy. Why? What do you do in summer these days? As the days grow warmer you just turn up your air-conditioners, generating more heat, using up more power and generating even more CO2. This is a vicious cycle and there can be no end to this unless we stop, right now, and put in a conscious, global effort to reduce our power consumption. 



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# GREEN TECH IS DOOMED

Read on to find out how ignorance, fatalistic tendencies and irresponsibility will inevitably destroy the human race

By Anirudh Regidi  
anirudh.regidi@thinkdigit.com

We know that traditional green tech will not save the world any time soon. We can fool ourselves into thinking otherwise, but the truth is that it's just not enough. But why is green tech doomed? Wouldn't a massive global effort to restructure our entire power infrastructure have an impact? What if everyone starts using solar chargers and electric cars and public transport and the like? How will it all add up?

## The math

The answer to those above questions is yes, there will be an impact but green tech's contribution to global power production right now is so irrelevant that it just can't be enough to have a truly major impact. Just as an example, have a look at the following table indicating the contribution of solar and wind power in the U.S. in 2010 and as you can see, the shortfall is simply staggering. Without going into the nitty-gritty of things, even if the U.S. were to increase the number of generators by 200 times, the actual contribution would only be close to 1% of the total electricity production in the U.S. This is without even considering the amount of investment in terms of land, time and capital and completely ignoring

the predicted annual increase in the demand for electricity. The only relevant green power source that we actually have right now is hydroelectric power. That is one of the best examples of green energy done right; harnessing the potential energy of entire rivers to produce power for the masses. Four of the top five power generators are hydroelectric power plants and while this seems like a very good thing for green tech in general, these are not structures that one can build anywhere. They are extremely niche and are entirely dependent on luck and location. If you look at hydroelectricity as a whole, all the hydroelectric power plants in the world account for barely 16% of the world's electricity production. This is not a value that can be dramatically improved upon just because we feel like it. There can be incremental updates, improvements in efficiency, etc., but all that will do is maintain that 16% hold on world power generation. Solar and wind power are in a more woeful state. Simply put, one square kilometre of solar panels are capable of generating only 60MW of power, say you double the efficiency using some magical process that hasn't yet been discovered (or

has it?), you'll still get only around 100-150MW per square kilometre. In contrast, one square kilometre of nuclear power station can produce almost 2000MW of power. Thermal power plants are not very far behind either. Of course, coal-fed plants generate tremendous amounts of CO2, the largest of which (situated in Taichung, China) generates 40 million tonnes of CO2 annually. Of course these stations are harmful, but they also produce ridiculous amounts of power. Green tech just cannot hope to match up to that under any circumstances. For countries where space comes at a premium, even considering large-scale green energy solutions is simply out of the question. When a tiny little generator in a shop generate can generate more power than that same shop festooned with solar panels, how can any traditional green solution even hope to compete? People would rather pay triple the price for one litre of petrol than invest lakhs into a long-term solution that is entirely dependent on the whims of the weather. This brings us up very neatly to the next major issue with green energy. Traditional green energy such as wind, solar or even tidal power is entirely dependent on their location and the suitability of a region to support that kind of power. A rainy day might cause power output to drop drastically and a still night will bring entire wind farms to a halt. Reliability is not guaranteed and thus,

Power Source	Number of generators	% annual contribution
Wind	781	2.9
Solar	326	0.04

Source: Wikipedia



green energy can only be a supplementary power source. Taking the forefront in the energy race is out of the question.

### Government apathy

Now this is where the finger pointing starts. Most world governments have participated in various UNFCCC (United Nations Framework on Climate Change) summits, signed the Kyoto protocol and promised to bring down greenhouse gas emissions by at least 18%. At the same time, those very same governments have invested hundreds of billions of dollars into the hunt for sources of fossil fuels. As you must have understood from the first story, global warming is directly related to the CO2 that we produce and burning said fossil fuels will produce CO2. If any world government has any hope of achieving those environmental targets, it must, under all circumstances, stop harvesting more fossil fuels right now; literally right now. Even if the world governments decide to use only 50% of what they have currently stockpiled, global temperatures can rise by a catastrophic 4C which will send the world into one of the most severe global food shortages ever.

Four degrees might not seem like much on a global scale, but that can be the difference between solid ice and liquid water; It's the difference between wheat fields and barren grasslands. The difference is only 4C but the impact, tremendous. The world governments are in the extremely unenviable position of having to choose between satisfying their country's desperate need for power and saving the planet by sacrificing their citizen's luxuries. Either way, this is a very bold decision, politically speaking, and one that any government will hesitate to take. Regardless, no government will

willingly sacrifice all that power just like that. And anyway, if there is rationing, who decides how much fuel is burnt by whom? The Chinese will say that the whole world's economy is dependent on their production and they need more oil. The U.S. will not want to sacrifice its stranglehold on the world in general and India will say that it's a developing nation and needs all the power it can get to pull its people up from poverty. Countries with no say might not get anything. Oil is power and the distribution of that oil will determine the distribution of power.



Can you sacrifice this for the environment?

### Human apathy


We also take the "trouble" to criticize the government's decision, whatever it may be, good or bad. Unfortunately, we love our comforts as much as the next man and it's hard for us to look beyond ourselves, especially when it comes to things that we've taken for granted or think we've tried so hard to achieve. Would you be willing to sacrifice that comfort so that China can run a factory for a few more hours or an American marine can be returned home from Iraq? Forget global politics, would you be willing to sacrifice all that so that your politicians can get to that "emergency" meeting in their helicopter? Would you be willing to sacrifice all that freedom that cheap (yes, it's cheap, very cheap) power gives you for

the promise of reduced temperatures and a more sustainable ecosystem some 100 years in the future?

### The carbon-bubble

Aren't we all just waiting for that miracle solution that will just clear up the whole situation at the snap of a finger while we wallow in the irresponsibility that we love so much? It's not just our apathy in general; most of the capital that those oil companies are investing in their oil surveys (the oil kind, not online) is not just coming from governments. Many of those funds that people have invested in, are not just investing in Apple and IBM; they've got billions of dollars invested in oil and coal, hundreds of billions. These financial institutions are placing their bets based on one very important factor, the fact that they believe that governments will succumb to the need for power and just completely ignore the environment.

### Conclusion

Will we just fall back to our innate fatalism and natural resilience as a species? People do live in the heart of Africa and in the depths of the Antarctic after all. But, as a species capable of thought and creativity, it's shameful that we won't even try to do something about our (continued) existence. Didn't intelligence evolve to ensure our survival? Are we so dumb that we will just squander that so-called intelligence on pure self-indulgence? As a geek at heart, doesn't that sting at the very soul of what it is to be a geek? If things continue to spiral downwards the way they are now, green tech is doomed. Can we save it? Yes, but it will take a monumental effort and great sacrifice; an effort that might be without a tangible reward in this life time. Are we willing to make that sacrifice? 



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# Big Things Small Package...

Mirrorless interchangeable lens cameras are flooding the market and the category is ripe for consideration by first time DSLR buyers, thanks to the compact form factor and better image quality. We try to make your lives easier by pitting the best against each other

Swapnil Mathur

[swapnil.mathur@thinkdigit.com](mailto:swapnil.mathur@thinkdigit.com)

**T**he world's first mirrorless camera was the Epson R-D1 which used the Leica M mount, but it wasn't until Panasonic released the G1 – the first camera to sport the Micro Four Thirds (MFT) mount – that the mirrorless format began to be taken seriously. The MFT standard was co-developed by

Olympus and Panasonic and both the companies have released several mirrorless cameras over the years, but they had company. Major players such as Sony, Nikon, Canon, Fujifilm and even Samsung also jumped on the bandwagon and produced some great cameras. The mirrorless segment is now five years old, and the market has a fairly large

selection of mirrorless cameras, spanning a decently wide price bracket and offering performance that matches a DSLR in many respects. As a consumer, you're no longer bound to buy a DSLR in order to get the best possible image quality since these smaller mirrorless cameras often incorporate the same sensor size as their bigger counterparts.

But now the question is, which mirrorless should you be picking up? We gathered all the popular mirrorless cameras out in the market at the moment and put them through our testing regime to figure out just how well each of them performs and how much "per-capita performance" you're getting for your money.

## More TV?

Amazon's LoveFilm has hitched a deal with Warner that will allow subscribers to watch several TV shows through its on-demand Instant streaming service. <http://dgit.in/YPPxb5>



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A helpful guide to disabling in-app purchases in the iPhone. <http://dgit.in/ZMJ8ZL>

## Mirrorless Cameras Test

## FEATURES AND DESIGN

Each of the nine mirrorless cameras we tested bring something unique and awesome to the table as far as features go. The X-Pro1 has a unique hybrid viewfinder, while the NEX-6 brings on board Wi-Fi and the Panasonic GH3 has an insane 72 Mbps video bitrate.

Let's dive into the design. For some reason, most MILCs (Mirrorless Interchangeable Lens Camera) like the E-PL5 and the Panasonic GF5 and GX1 have stuck to a very point-and-shoot form factor. While we completely understand the rationale behind sticking with a simple design, we also feel that an oversimplification sort of defeats the

purpose the camera was built for. On the other hand, we have the Panasonic GH3, a mirrorless camera the size of an entry-level DSLR and built like one too. We're guessing that's due to all the circuitry inside to accommodate for that insane video bit-rate. And then, we have the rangefinder-style camera, the Fujifilm X-Pro1, X-E1 and the Sony NEX-6. We love the soft leather finish and the left-edged viewfinder (in old rangefinder fashion). The three cameras also provide real physical dials for various settings and just enough buttons to make the back of the camera not look like a 1000-piece jigsaw puzzle. For the most part, the feature-set is consistent throughout our



Fujifilm GH3

entire selection of MILCs. All of them, save for the Panasonic GF5 and the Samsung NX1000

have a 16 megapixel sensor, with the sensor itself either being 4/3 inches or 1.5 inches. What does

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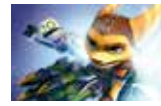
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**HOW WE TESTED**

The goal of our test this time was to determine which camera would give the best image quality not only at varying ISOs, but also at varying apertures. In DSLR lenses, the common notion is that a lens isn't delivering optimum sharpness at the widest aperture and therefore, requires the lens to be stopped down by almost a stop to get to that sweet spot of ultimate sharpness. We wanted to see whether the same would apply to the lenses of mirrorless cameras as well. As a camera that's going to go everywhere with you, we also wanted to make sure the

video features on these shooters was up to the task of documenting all your precious moments.

We divided our tests into three parts: two for stills and one for video. One set of tests involved shooting a simulated test target in controlled light to measure color depth/accuracy, white balance accuracy and lens sharpness in the corners and center. It also helps determine the ISO performance of a camera. We also devised our test target to measure dynamic range by including



Test image used for studio shots

pure black, pure white and neutral grey areas which would effectively measure the sensor's ability to capture various levels of illumination. All test target shots were taken in Aperture Priority mode with the Aperture set to f/8 to ensure optimum depth of field.

The second phase of the test involved getting outside the studio and shooting with each of the cameras in a real world scenario. We included several kinds of still life, lots of landscape, some

macro along with the usual people shots. For our low light testing, we resorted to taking a lot of street shots at generally high ISO and wide apertures. For this, we replaced the kit lenses with a fast aperture prime lens to make sure we were able to capture the shots we needed without worrying about slow apertures, which makes shooting at night quite difficult. This was also done to check whether the lens line-up in a particular mirrorless camera system was of good quality.

Video performance was tested both, indoors and outdoors and while the outdoor filming allowed us to gauge the dynamic range and audio prowess of each of the cameras, the indoor tests allowed us to have a true measure of how well the sensor can curtail and snub noise. We also tested how well the cameras could maintain and track focus using some very energetic children.

All cameras were tested using a 6GB Sandisk Extreme Pro SDXC UHS-I card to ensure no write speed delays in Burst mode test.

stand out are things like a better ISO range, a higher number of white balance presents, better bracketing capabilities etc. This is where the Olympus cameras outshone the competition, with the OM-D E-M5 offering the most of everything. We have upto seven bracketed frames in 1/3 EV steps and three bracketed frames in 2 or 6 steps for white balance in either of the color directions. This little guy also comes with 12 built-in white balance presets, eliminating the need to custom white balance in most situations.

**BUILD AND ERGONOMICS**

This section has always been quite a controversial one, given how subjective ergonomics can be. So, for our peace of mind,

we had three different people handle each camera; a child, a woman with agreeably small hands and one large burly gentleman with hands as big as an Xbox 360 controller. Then, of course, this reviewer also spent

a considerable amount of time playing with each camera.

When we look at the build quality of a camera, we want to make sure that the camera doesn't feel flimsy or like it's made of cheap plastic. Thank-

fully, none of the cameras in our shootout felt like they'd been made from leftovers. In fact, the Fujifilm X-E1 and X-Pro1 felt like solid hunks of metal that can at any given time double up as a weapon of self-defense. Other cameras, though made of mostly plastic, had a build quality so good that we walked around with a certain mental satisfaction that if we did drop the camera, no harm would come to it (no, we didn't test this theory).

However, we wish we could say the same about the kit lenses these cameras came with. Now, the Fujifilm kit lens (18-55mm) is a solid tank, made with full metal construction. We had no worries there. But the lens on the Sony NEX-6 (the 16-50mm f/3.5-5.6 PZ lens) for example had us worried as it extends outwards



Fujifilm X-E1

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Quick Heal Technologies (P) Ltd.

Brand	Fujifilm		Olympus	
Model	X-Pro1	X-E1	OM-D E -M5	PEN E-PL5
Price (₹)	1,04,999	92,698	77,990	44,990
Features (Out of 20)	13.24	13.56	14.44	13.02
Still Image Performance (Out of 40)	33.22	33.66	29.72	29.2
Video Performance (Out of 30)	21.75	22.14	23.19	20.7
Build Quality (Out of 5)	4.63	4.63	4.25	3.75
Ergonomics and usability (Out of 5)	4.4	4.45	4	3.85
Grand Total (Out of 100)	77.24	78.44	75.6	70.52
<b>Specifications</b>				
Sensor resolution (megapixel)	16	16	16	16
Sensor size (mm)/Type	1.5-inch/X-Trans CMOS	1.5-inch/X-Trans CMOS	4/3-inch/CMOS	4/3-inch/CMOS
Image Processor	EXR Pro	EXR Pro	TruePic VI	-
Viewfinder type	OVF/EVF	EVF	EVF	Optional
ISO low/high/Hi-Mode	200/6400/25600	200/6400/25600	200/25600/-	200/25600/-
Auto Focus system	Contrast Detect AF	Contrast Detect AF	Contrast Detect AF	Contrast Detect AF
Manual Focus (Y/N)	Y	Y	Y	Y
Focal Length Multiplier	1.5x	1.5x	2x	2x
White balance presets	7	7	12	8
Built-in Flash (Y/N)	N	Y	N	N
External Flash provision	Y	Y	Y	Y
Flash Sync Speed	1/180 sec	1/180 sec	1/250 sec	1/250 sec
Exposure Compensation Range	±2 (at 1/3 EV steps)	±2 (at 1/3 EV steps)	±3 (at 1/3 EV, 1/2 EV, 1 EV steps)	±3 (at 1/3 EV, 1/2 EV, 1 EV steps)
Metering Modes	Multi, average, Spot	Multi, average, Spot	Multi, Center Weighted, Spot	Multi, Center Weighted, Spot
Aperture/Shutter priority (Y/N)	Y/Y	Y/Y	Y/Y	Y/Y
AE Bracketing (Y/N)	(at 1/3 EV, 2/3 EV, 1 EV steps)	(at 1/3 EV, 2/3 EV, 1 EV steps)	(2, 3, 5, 7 frames at 1/3 EV, 1/2 EV, 2/3 EV, 1 EV steps)	(2, 3 frames at 1/3 EV, 1/2 EV, 2/3 EV, 1 EV steps)
WB Bracketing (Y/N)	No	No	Yes (3 frames in 2, 4, 6 steps selectable in either blue/amber or magenta/green axis)	Yes (3 frames in 2, 4, 6 steps selectable in either blue/amber or magenta/green axis)
Continuous Drive (frames per second)(at max resolution)	6	6	9	8
LCD size (inches)/LCD Resolution (dots)	3-inch/1,230,00	2.8-inch/460,000	3-inch/610,000	3-inch/460,000
LCD Articulated/LCD Touchscreen(Y/N)	N/N	N/N	N/Y	N/Y
Microphone type	Stereo	Stereo	Stereo	Stereo
Max Video capture resolution	1920x1080	1920x1080	1920x1080	1920x1080
Battery Type (AA, Li-ion)	Li-ion	Li-ion	Li-ion	Li-ion
Battery Life (Manuf rated no. of shots)	300	350	360	360
Memory cards used	SDXC	SDXC	SDXC	SDXC
Body dimensions (in mm)	140 x 82 x 43 mm	129 x 75 x 38 mm	122 x 89 x 43 mm	111 x 64 x 38 mm
Weight (in grams)	240	350	392	194
<b>Performance ISO</b>				
<b>Toy Fibers</b>				
ISO 1600	9	9	8	8
ISO 3200	9	9	7	7
<b>Labels</b>				
ISO 1600	9	9	8	8
ISO 3200	9	9	7	7
<b>Scene Test</b>				
Dynamic Range	8.5	9	7.5	7.5
Color Saturation	8.5	9	8.5	7.5
Contrast	7	8	8	8
Central Sharpness	8.5	8.5	7.5	8
Corner Sharpness	7	7	6.5	7
<b>Video Quality</b>				
HD Indoor focussing/Noise Supression	7 / 8	7 / 8	8 / 8	6 / 7
HD Outdoor shoot Dynamic Range	8	8	7	7
HD Outdoor shoot Saturation	6	8	8	8
HD Outdoor shoot Subject Tracking	6	7	8	7
HD Outdoor shoot Audio Quality	6	6	7	7



Sony	Panasonic			Samsung
NEX-6	GH3	GX1	GF5	NX1000
<b>49,990</b>	<b>1,59,990</b>	<b>49,990</b>	<b>49,990</b>	<b>41,900</b>
13.35	14.52	12.68	12.3	12.96
31.36	29.12	28.92	28.56	29.96
23.25	24.66	21.24	21.24	19.8
4.25	3.25	3.75	3.75	2.75
4.45	3.6	3.95	3.95	4.15
76.66	75.15	70.54	69.8	69.62
16	16	16	12	20
1.5-inch/CMOS	4/3-inch/CMOS	4/3-inch/CMOS	4/3-inch/CMOS	1.5-inch/CMOS
Bionz	Venus Engine VII FHD	Venus Engine FHD	Venus Engine FHD	-
EVF	EVF	optional	none	none
100/25600/-	200/12800/-	160/12800/-	160/12800/-	100/12800/-
Contrast/Phase Detect AF	Contrast Detect AF	Contrast Detect AF	Contrast Detect AF	Contrast Detect AF
Y	Y	Y	Y	Y
1.5x	2x	2x	2x	1.5x
6	5	5	5	8
Y	Y	Y	Y	N
Y	Y	Y	N	Y
1/160 sec	1/160 sec	1/160 sec	1/160 sec	1/160 sec
±5 (at 1/3 EV steps)	±5 (at 1/3 EV steps)	±5 (at 1/3 EV steps)	±3 (at 1/3 EV steps)	±3 (at 1/3 EV steps)
Multi, Center Weighted, Spot	Multi, Center Weighted, Spot	Multi, Center-Weighted	Multi, Center Weighted, Spot	Multi, Center Weighted, Spot
Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
(at 1/3 EV steps)	±1 (3, 5, 7 frames at 1/3 EV, 2/3 EV, 1 EV steps)	±2 (3, 5, 7 frames at 1/3 EV, 2/3 EV steps)	±2 (3, 5 frames at 1/3 EV, 2/3 EV steps)	±3 (3 frames at 1/3 EV, 1/2 EV steps)
No	Yes (3 frames in either blue/amber or magenta/green axis)	Yes (3 frames in either blue/amber or magenta/green axis)	Yes (3 frames in either blue/amber or magenta/green axis)	Yes (3 frames from +/-1 to +/-3 in either blue/amber or magenta/green axis)
10	6	4.2	4	8
3-inch/921,000	3-inch/614,000	3-inch/460,000	3-inch/920,000	3-inch/920,000
N/N	Y/Y	N/Y	N/Y	N/N
Stereo	Stereo	Stereo	Stereo	Stereo
1920x1080	1920x1080	1920x1080	1920x1080	1920x1081
Li-ion	Li-ion	Li-ion	Li-ion	Li-ion
360	540	310	360	320
SDXC	SDXC	SDXC	SDXC	SDXC
120 x 67 x 43 mm	133 x 93 x 82 mm	116 x 68 x 39 mm	108 x 67 x 37 mm	114 x 63 x 37 mm
298	534	213	240	222
7	7	8	8	8
8	8	7	7	8
7	7	8	8	8
8	8	7	7	7.5
8.5	8	7.5	7.5	7
8	7	7.5	7	8
8	7.5	8	7.5	7
8	7.5	8	7.5	7
7	6.5	7	6.5	6
7 / 8	8 / 9	7 / 8	7 / 8	7 / 7
8	8.5	7	7	6
8	8.5	7	7	7
8	7	7	7	6
8	8	6	6	6



## Anime backdrops

Have a look at some of the more beautiful anime backdrops with the characters removed. You might be surprised <http://dgit.in/YOOKFI>

## Poor Apple

A slideshow illuminating 5 reasons Wall Street hates Apple. <http://dgit.in/141hdgT>



Samsung NX1000

quite significantly when turned on. If the camera accidentally gets turned on while it's in your bag, the lens is most likely to get damaged. However, that wasn't nearly as bad as the kit glass on the Samsung NX1000. While the camera itself feels as sturdy as the Galaxy Camera, the lens feels very poorly built. Many a time, the lens would creek under the gentle push of our fingers and sometimes it felt like the internals were rubbing together while zooming. This is behavior you DO NOT want in your camera lens.

The ergonomics of each camera were rather distinct, not just between brands, but within each camera too. The Olympus OM-D E-M5 and the Olympus PEN- E-PL5, though coming from the same manufacturer, had a different button layout. Each of these will take a little getting used to, but we loved how most of them provided a configurable "fn" button. In fact, a configurable "fn" button is extremely important to allow quick access to features. We scored favorably for cameras that provided at least one such

button, along with a physical exposure compensation dial. A viewfinder also was favorable, but the most number of points went to ease of access to each of the functions of the camera.

## IMAGE PERFORMANCE

The studio tests for ISO performance were limited strictly to native ISOs, which by default is ISO 6400. The reason for this is that ISOs higher than 6400 are classified as "expanded ISO" which means they're software enhanced and don't strictly adhere to the ISO standard. In our studio tests, the cameras with the larger sensor had an obvious advantage over the ones with a 4/3-inch silicon chip. Here, up to ISO 1600, all cameras maintained a very clean, noise-free image. Upon moving up to ISO 3200, we started seeing the smaller sensors of the Olympus and Panasonics show signs of noise, particularly with the shadows getting blocked up noticeably so. The Fujifilm X-E1 and X-Pro1 maintained a very fine grain, which was only

discernable once the image was zoomed in at 100 percent. The Sony NEX-6 also managed to keep noise levels low, but not as low as the Fujifilm. In fact, while the Fujifilm noise was a very fine grain, the noise pattern on the NEX-6 was more noticeable, something very similar to a salt-and-pepper noise pattern. Even when looking at the dynamic range and contrast rendition, the Sony NEX-6 and the Fujifilm cameras stood at par with each other, but ahead of the competition.

We also wanted to measure center and edge sharpness using our test target, so we placed a soft toy with a lot of fibers on one edge of the target while the center had text-based targets. Shooting at lower ISOs with modern day cameras doesn't really do much, so we bumped up our testing standards and checked for sharpness and readability at ISO 1600, 3200 and 6400. So from our tests, the X-E1 and X-Pro1 maintained a strong lead due to a solid combination of excellent optics projecting the light onto a large sensor designed to capture more detail. The Sony NEX-6 was a close second with the OM-D E-M5 being a close third.

For real world testing, we found a few nice shrubs and flowers to shoot for our macro test and some bright spots with plenty of trees to check for real world contrast and dynamic range. In our test, we found that on neutral settings, the Olympus OM-D E-M5 produced some nice colours but the contrast levels weren't quite there. Also, we found the Olympus lenses to be susceptible to a lot of purple fringing when shooting in strong contrast lighting. The Panasonic GX1 and GF5 had a tendency to capture muted colours and therefore had a flat contrast curve also. Their lenses were a little better at handling chromatic aberrations (CA), but fell prey to some bad distortion and softness at the edges.

Where we found ourselves incredibly impressed was while using the Fujifilm duo. The X-Trans sensor is a proprietary design by Fujifilm and employs a magical arrangement of pixels which eliminates the need for an optical low pass filter and allows the camera to capture more colour information than a conventional sensor. The result was images with very good saturation levels (especially the greens) along with a



Olympus PEN E-PL5



## Korg's analog synth series

Korg added three new mini analog synths, Volca Beat, Volca Bass and Volca Keys. <http://dgit.in/120qq87v>

## Don't use Bing

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contrast curve that would be pleasing to most. We noticed absolutely no CA, minimal distortion and a surprisingly good corner sharpness.

The Panasonic GH3 was somewhat of a shocker. Throughout our test, the camera consistently produced images with a blue overtone, most likely due to the auto white balance consistently cooling the image down excessively. We could have set the white balance manually, but the point of our test was also to see whether each of the cameras could render colours accurately. While the GH3 went all blue on our images, the GF5 and the GX1 didn't suffer from this issue. The two cameras infact had a nice warm tone to their images – landscape photogra-

light, but the Panasonic GH3 here took the cake without any competition. While most cameras had a maximum recording bitrate of 25 Mbps, the GH3 almost triples that to 72 Mbps. The footage from this camera is incredibly good, but it all breaks down to optics. Now if only we could pair those tasty Fujinon lenses with the Panasonic GH3!

The Sony NEX-6 and the Olympus OM-D E-M5 both did a great job at capturing footage that any casual owner would be more than happy with. Again, the Sony NEX-6 took a hit because of the kit lens not being very sharp, but the M. Zuiko lenses that Olympus ships its cameras with are quite good by themselves. The Fujifilm was by far the most disappointing in the



Sony NEX-6


used to shoot whatever it is you may want to shoot.

## VERDICT

Picking the best of the nine cameras tested here was exceptionally difficult. We've got cameras here that are amazing in their own respect, so we feel torn when the task of picking a winner comes up.

If we look at just pure performance, then the **Best Performer** award would definitely go to the **Fujifilm X-E1**. The Fujifilm X-E1 is packed with an amazing APS-C sensor, which is utilised to the max thanks to the incredibly sharp Fujinon lenses that come as a standard with the X-Series. The Fujifilm X-E1 gave us consistently jaw-dropping image quality, but also supplemented it with excellent autofocus, which managed to nail the focus nine out of ten times. What also helped was the ability to change the size of the AF point in various steps, for precise focusing. The EVF on this thing is also amazing and does not distort or succumb to colour cast in any light condition.

Standing at about ₹93,000 the Fujifilm X-E1 isn't priced for everyone, which is why we have the Best Buy award. The Best Buy award is given to the camera whose performance and price arrive at a good balance, making it a pocket-friendly purchase. In this case, the **Best Buy** award would definitely go to the **Olympus PEN E-PL5**. It may not perform as well as the X-E1, but it's still a very good performer. When doing a "performance-and-features-per-rupee" analysis, the E-PL5 takes the cake.

The NEX-6 had us impressed across every test and specification, not feeling like it had been compromised in any way. The **Sony NEX-6** performs almost as well as the Fujifilm X-E1, but loses out to the E-PL5 due to its price, which is why we gave it the **Editor's Choice** award. It has a large sensor that handles high ISOs very well and an AF system that can keep up with almost any kind of lighting condition thanks to its AF illuminator. The built-in flash is also quite good with its tilting head that provides a nice fill light. 



Fujifilm X-Pro1

phers would love this. Speaking of white balance, we felt that the Olympus E-PL5 was by far the most accurate.

## VIDEO PERFORMANCE

Each MILC was subjected to gruelling video tests. We used the same standards we would normally subject a DSLR to. Here, the Sony NEX-6 showed great prowess when it came to focusing, especially in low

video area, not because of lack of clarity, but mostly because the Video mode on both the X-series mirrorless cameras is completely automatic. It gives absolutely zero control over filming, which is slightly disappointing seeing how the lenses have an aperture dial built onto them, but when filming, the camera wouldn't allow any changes to be made. Despite that, if you do manage to nail the exposure right, the Fujis can definitely be

**India Rising**

Vserv, the mobile advertising firm released some statistics which say India is an "App Superpower" <http://dgit.in/10pkqC4>

**ASUS's mini Graphics Card**

ASUS launches the GeForce GTX 670 DirectCU Mini graphics card for mini ITX/micro ATX PCs <http://dgit.in/YxLsrR>



# For your Viewing Pleasure...

Out to buy a new full HD monitor for your rig? Confused about the options? Let us make things easier and help you in deciding the best monitor for your budget

Nimish Sawant

[nimish.sawant@thinkdigit.com](mailto:nimish.sawant@thinkdigit.com)

**M**onitors are an important component of your rig and each year we see a flood of new monitors. With each passing year, we are witnessing a steady move towards full HD panels, as that is the only way we can justify the media we consume. Unless you are on a strict budget, it does not make sense to go for monitors which are not full HD.

Not only did we receive full HD monitors, but there were a few which went beyond the humble 1920x1080 pixel count. We got a couple of monitors which scaled the 2560x1440 pixel mark. We also saw a

lot of variety in terms of the panels being used. We had the twisted neumatic (TN), in-plane switching (IPS) as well as the vertical alignment (VA) panels. This year we decided to keep the minimum size of the monitors at 21.5-inches (22-inches) as anything under that does not make sense for home use unless you are on the strictest of budgets. A monitor's shelf life is around four to five years, so you should make sure that it counts.

## 23-INCHES AND UNDER Features

Here we have five monitors each from a different brand

with three 21.5-inches and two 23-inchers. Dell S2240L is the only monitor which has a glossy screen and an edge-to-edge glass design. For a 21.5-inch monitor, that is quite interesting as the other monitors: BenQ GW 2250, Philips 227E3QPHSU, NEC E231W and ASUS VS 238H have the standard matte finish on the screens. The Dell S2240L has eight preset modes including multimedia, movie, text and so on. It has an Energy Use bar atop the OSD menu, which shows you power consumption. On turning on the Energy Smart option, the monitor will keep the power low by adjusting

the backlighting levels, so that you can actually notice the backlight adjustment as you work on the monitor.

The Philips 227E3QPHSU also has a power-saving feature called Power Sensor, which reduces the monitor's brightness if it senses that there is no one sitting in front of the monitor. It ensures that by infrared communication – the two IR sensors on the monitor's front face transmit and receive IR signals to ensure the monitor is not lying idle. Thanks to its IPS panel, the viewing angles are really good. It also features a Smart Contrast option which dynamically adjusts the contrast

## Google+ full size photos

Flickr and 500px beware! Full-sized photo uploads now compatible with Google+ <http://dgit.in/Z7d0a1>



## PS4 announcement ahoy!

Sony will finally reveal the PlayStation 4 early this month. Lets hope we see more than the controller this time

Monitors Test

## HOW WE TESTED

We called for only LED backlit LCD monitors having full HD resolutions and were 21.5-inches and over and meant for home use. We did however receive a couple of 3D gaming monitors and three professional grade monitors. Since there weren't enough numbers, we decided to divide the monitors based on their screen sizes. Professional monitors were grouped together as they are more feature rich as compared to other monitors and are meant for imaging professionals. Since a majority of the monitors were meant for home use, we thought it would not be fair to mix the two categories.

As far as features went, we logged all the physical specifications on the monitors including details of the panel, connectivity options, swiveling options, USB ports, etc. Build Quality was evaluated and scored accordingly. We also evaluated the on-screen display options and its ease of use.

Our test bed comprised of the following components:

- Processor: Intel Core i5-2500K
- Motherboard: ASRock Z68 Extreme4
- RAM: Kingston 8 GB DDR3 RAM @ 1333MHz
- SSD: Kingmax 128 SSD
- Graphics Card: NVIDIA GTX 460 (with the NVIDIA 3D Vision 2 kit for 3D monitors)

Before testing any monitor, we reset it to its factory settings to ensure uniformity. We used Spyder 3 Elite colorimeter to calibrate each display and also to give us the real contrast ratio and luminance value. Manufacturer's specified contrast ratios are determined under certain conditions and at specific brightness and contrast levels. While the luminance is calculated at 100 percent brightness, we noticed that it was not the correct level for calculating Contrast ratio, as some monitors showed heavy backlight bleeding on maximum brightness. So to calculate contrast ratio with the Spyder 3 Elite colorimeter, we calculated Contrast ratios with brightness levels at 100 percent and 50 percent and contrast fixed at 75, as most use cases will have the brightness within this limit. All monitors were tested on Standard Mode with User Colour feature activated for us to be able to tweak each of the RGB sliders. All enhancement options were disabled.

The calibrated monitors (at 50 percent brightness level) were then subjected to Lagom.nl tests which basically involves checking the black and white gradients where you check for smooth transition from black to white levels and also look for any colour tinging. This was followed by the black level test (on a black background)

and white level (on a white background) where you check the monitor's ability to separate the different shades of of black and white against a pure black and pure white backgrounds. Pixel walk (inversion) consists of varying moire patterns occupying the screen (there are as many as 11 variations), and you look at the flicker control of the monitor.

We then moved on to movie quality testing. We used three full HD movies such as Avataar, Skyfall and The Human Centipede. In each movie we looked at around 5 or 6 specific scenes. We evaluated the monitor's ability to control noise or dithering, its contrast levels, detailing in certain scenes, control of ghosting in fast action scenes, resistance to backlight bleeding, looking at colour renditions, skin-tones and so on. These data points were then averaged out for each movie.

Viewing angles were also evaluated for text, movie and game display. PixPerAn was used to evaluate how well the monitor could enable readability of scrolling text.

After finishing the above tests, we again set the monitor to its factory settings. Since most monitors come with preset modes, we decided to check the contrast ratios in the most commonly used presets such as movie/theatre mode and multimedia/photo mode.

of the monitor. The NEC E231W is targetted more towards business users, so a lot of stress is laid on the two Eco modes - one corresponding to Energy Star settings and the other to 40 percent energy savings. It makes sense for larger organisations who want to increase their green

quotient. Features such as auto-brightness and auto-contrast where the monitor dynamically adjusts both helps further. You can also adjust the LED brightness levels. It has four colour settings whose RGB sliders can be adjusted along with a Native and sRGB option where you

cannot tweak the RGB settings. BenQ GW2250 is the only VA panel sporting monitor in this category. Navigating the OSD using the buttons is very easy and it also has options to manipulate the RGB sliders but only in the Standard picture mode. The ASUS VS238H has a com-

paratively better design than the BenQ GW2250. We quite liked the non-recessed ports and the circular base of the monitor will ensure that the DVI or D-Sub cable connecting the the VS238H has enough breathing space. It has the preset modes which it calls Splendid modes,



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## LucasArts shuts down

Developers of The Secret of Monkey Island close. Star Wars 1313 destined to be stuck in limbo <http://digit.in/16rzQXj>



## Click click duh

Is the internet making us dumber? This infographic tells us why, and offers some possible solutions <http://digit.in/12yfVt3>

but they are your normal modes such as Standard, Theatre, game, Scenery, Night view and sRGB. It not only allows colour temperature adjustment but there is even a skin tone adjustment option which can make the skin appear reddish, natural or yellowish.

## Build Quality

In terms of pure build quality though, the NEC E231W leaves the rest of the competition far behind. It is the heaviest monitor of the lot though. The dedicated hollow space on the top rear side to easily lift the monitor is a thoughtful addition. The other monitor which we felt had a good build quality was the Dell S2240L with its sturdy stand and the ability to remain relatively stable on mild tapping. The only annoying aspect of the Dell S2240L is the recessed display ports on the rear side, which make it a task attaching the D-Sub or HDMI ports. The stand on the Philips 227E3QPHSU has a very slim design as compared to other monitors and it has a comparatively stiffer tilt mechanism. The disadvantage of the slimmer stand is that it tends to wobble a lot on mid tapping.

The display-menu control buttons on the NEC E231W are the best of the lot and you also have a joy pad like four-way navigational key to toggle horizontally and vertically in the OSD menu. The ones on the ASUS VS238H require a comparatively harder press than those on the Dell S2240L and BenQ

GW 2250. Philips 227E3QPHSU was the only monitor with touch-screen menu control buttons. The operation is quite subjective, we for instance didn't like it much, but others may like it.

## Performance

Starting off with the contrast ratios we measured using the Spyder 3 Elite colorimeter, the BenQ GW 2250 thanks to its VA panel scored the highest. It gave a contrast ratio of 888:1 at 50 per cent brightness levels. The Philips 227E3QPHSU came in second with a great contrast ratio of 759:1.



BenQ GW 2250

In the Lagom.nl tests, the Black levels on most of the monitors were good enough, but when it came to the White levels, we weren't so impressed with the Philips monitor which tended to merge two rows of blocks. In the gradient banding test, Dell S2240L gave smooth transitions but we noticed green colour tinging. ASUS VS238H was the smoothest transition from black to white. The NEC E231W did not flicker in any of the Pixel walk tests, which was quite impressive. Movie watching experience was the best on the BenQ GW 2250. We noticed that the movie preset modes, tended to boost up the blue colour levels and you

are much better off watching movies in the standard mode after proper calibration.

## 24-INCHES Features

The BenQ RL 2455HM looks similar to the XL 2720T and for a while we assumed it to be from the XL series. The design philosophy of using red accents, the triangular shaped front portion of the base stand pay homage to the XL series monitors. It has two HDMI ports, so you can also connect your console to the monitor if you so desire, which leaves the other HDMI port free. BenQ XL2411T is the only 3D gaming monitor with a refresh rate of 120Hz in this category. The BenQ GL 2450 is a regular monitor with nothing out of the ordinary so to speak.

The operational menus of both the RL2455HM and the XL2411T are quite similar. There is a Black Equaliser setting which allows you to adjust black levels in games such that darker portions are illuminated without completely washing out the brighter parts in the scene. You can have upto three Gamer profiles, so you do not need to adjust your controls for different games. There are two RTS presets in the RL2455HM and two FPS and one RTS preset in the XL 2411T. The Display mode option allows you to select a variety of display sizes and aspect ratios.

The Acer S240HL has a slimmer profile as compared to the other monitors in this category. It has a small oval base and there is a translucent power button which protrudes out from the front face. In terms of the OSD options, there isn't much to speak of other than the Acer colour management mode which has modes such as standard, movie, graphics,

eco and user. Even in terms of colour management there is just the warm, cool and user presets.

The NEC EA243WM is the only monitor with a resolution of 1920x1200 in this category with an aspect ratio of 16:10. It has a slimmer profile than the E231W and houses touch-sensitive buttons for operating the OSD menu which go along the horizontal and vertical bottom right hand corners. Just like the E231W, it has two Eco modes, three auto-brightness levels as well as auto-contrast option. Apart from the ambient light sensor, it also has a human sensor which tends to dim the monitor when there is no one at the desk. You can set the distance between the monitor and the user beyond which the monitor should start dimming to save power. Additionally the NEC EA243WM also has the carbon footprint meter and the carbon savings meter. These features make a lot of sense in an office environment, where power saving is important.

## Build Quality

The NEC EA243WM has the best build quality, closely followed by the RL2455HM and XL2411T. The NEC monitor has a solid base with rubber feet atop which lies another base which is connected to the stand. While swivelling, the entire base also follows suit. We really missed the buttons on the OSD menu though - the touch sensitive buttons are not the best to use when you have so many menus to toggle through. But quality of bezel, ability to resist wobbling on mild tapping is very good on the EA243WM. The RL2455HM has a sturdy base and stand, but the monitor tends to wobble on mild tapping. The XL2411T is much more stable than the RL2455HM thanks to

## Galaxy Win unveiled

It will be a mid-range device with 1.2GHz quad core processor. No mention of price yet <http://dgit.in/14YPCga>



## EA speaks out

In the wake of being nominated as the worst company in America, EA responds with fire <http://dgit.in/12A5QYO>

Monitors Test

a larger square base. The BenQ GL2450 and the Acer S240HL have decent build qualities but nothing stands out as such. The navigational buttons on the GL2450 and RL2455HM are placed on the right hand side which is ergonomically much better than placing them under the base of the bezel as is seen in XL2411T and Acer S240HL.

## Performance

In the Lagom.nl tests, BenQ RL2455HM and Acer S240HL performed poorly in the contrast test where we noticed that green, red, pink, yellow and white colours merged in the last two blocks. Again in the white saturation tests, the RL2455HM performed poorly and tended to merge two out of three rows of the white-coloured blocks. BenQ XL2411T performed well in the most Lagom.nl tests. Viewing angles were pretty decent for most monitors considering all of them have a TN panel. The NEC EZ243WM gave the best contrast ratio in this category with the monitor touching 717:1 at 100 per cent brightness and 686:1 at 50 per cent brightness. Barring the BenQ XL2411T, the calibrated black luminance levels of all monitors were around the 0.2 mark which was pretty good. With the BenQ XL2411T we noticed minor backlight bleeding.

## 3D GAMING EXPERIENCE

We received only two 3D gaming monitors for the test and both were from BenQ. So in order to check out the 3D gaming experience we set up NVIDIA 3D Vision 2 on our rig, running 2 x GTX 650 Ti Boost in SLI. We did a side-by-side comparison of the BenQ XL2411T and BenQ XL2720T. We played Trackmania Nations Forever and ran Unigine Heaven in 3D mode. We also used NVIDIA 3D Vision preview pack to accurately check out the difference between static 3D images. The factors considered during testing were the depth, colour quality, shadows, light details, clarity and of course the overall experience. We also kept the 3D depth between 20 to 25 percent beyond which we actually didn't find any major difference except a lot of crosstalk. While playing Trackmania, we found that the game looked beautiful on both the screens. The car especially had a lot of detail when we played using the default camera mode as we could easily see a lot of depth. The rear wing of the car looked brilliant and the engine intake looked very realistic, so did other layers of depth. The track also had a lot of shadow detail but we saw that both the monitors had some crosstalk when we looked at the shadows. Light looked like static spots but that was actually synonymous with most 3D enabled games we tested. Unigine Heaven gave an accurate representation of layers but it must



BenQ XL2720T

still be noted that reflections on metal surfaces looked very unnatural on both the panels. BenQ XL2720T had much detailed 3D depth. NVIDIA 3D vision preview pack gave us mixed results as both the screens looked amazing but in some images the BenQ XL2720T was good and in some colour rich images, the BenQ XL2411T shined. In terms of overall quality, the BenQ XL2720T had much deeper blacks and had a warm tint but provided a better overall 3D experience. The BenQ XL2411T on the other hand was very bright because of which the colours looked great. The 3D quality was good, but not better than the XL2720T

## 27-INCHES AND OVER

This category was the most exciting, not only because it had large screen monitors, but there was a lot of innovation on display in terms of resolution and features offered. Let us start with the most unique monitors we came across - the LG 29EA93P. This is a 29-inch monitor with wide aspect ratio of 21:9, the only

one of its kind in this comparison test. The wide aspect ratio clears out the black-bars when you are watching a wide aspect ratio movie, plus it also gives you ample screen real estate to work simultaneously. Productivity gets a boost thanks to the four-screen splitter utility which arranges the multiple windows into a variety of orientations which adaptively

resize themselves. The screen splitter utility provided with the monitor needs to be installed for that. The design aesthetics are quite good, something that we have seen in the past from LG monitors. The 29EA93P has an edge-to-edge glass design with a very thin bezel. It has touch-sensitive OSD control buttons. It has a lot of menus for setting



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	23-INCHES AND UNDER					24-INCHES		
BRAND	BenQ	Dell	Philips	NEC	ASUS	BenQ	BenQ	
Model	GW 2250	S2240L	227E3QPHSU	E231W	VS238H	RL 2455HM	GL 2450	
MRP Price (₹)	9,000	10,000	9,990	36,000	12,100	13,990	12,000	
MOP Price (₹)	8,500	8,900	9,000	30,600	10,850+tax	12,750	11,750	
Features (Out of 40)	15.08	12.32	15.04	23.8	18.64	21.2	18.64	
Build Quality (Out of 10)	6.11	6.62	5.45	7.57	6.1	6.89	6.19	
Performance (Out of 50)	38.37	33.59	34.61	35.47	34.93	33.01	33.69	
Grand Total (Out of 100)	59.56	52.53	55.10	66.84	59.67	61.10	58.52	
<b>Features</b>								
Display Size (inches)	21.5	21.5	21.5	23	23	24	24	
Panel Technology (TN / IPS / MVA etc)	VA	IPS	IPS	TN	TN	TN	TN	
Native Resolution (HxV pixels)	1920x1080	1920x1080	1920x1080	1920x1080	1920x1080	1920x1080	1920x1080	
Screen Aspect Ratio	16:9	16:9	16:9	16:9	16:9	16:9	16:9	
Type of Panel (Matte / Glossy)	Matte	Glossy	Matte	Matte	Matte	Matte	Matte	
USB Hub (Y/N) / No of USB ports	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	
Card Reader (Y/N)	N	N	N	N	N	N	N	
Built-in Speakers	N	N	N	N	N	Y	N	
VESA Wall Mount	Y	N	N	Y	Y	Y	Y	
Swivel/Tilt/Height Adjustment	N/Y/N	N/Y/N	N/Y/N	Y/Y/Y	N/Y/N	N/Y/N	N/Y/N	
HDMI Ports	0	1	Y	0	1	2	1	
DVI Ports	1	0	Y	1	1	1	1	
D-Sub Ports	1	1	Y	1	1	1	1	
DisplayPort	0	0	N	1	0	0	0	
Audio Connects	N	N	N	Y	Y	Y	Y	
3D Y/N	N	N	N	N	N	N	N	
3D Glasses Y/N	N	N	N	N	N	N	N	
<b>Miscellaneous (So 10)</b>								
Bezel Quality	6	8	7	8	7	8	7	
Quality of moving parts	7	8	6	9	7	8	7	
OSD Usability and Layout	8	8	6	9	8	8	8	
Menu Buttons	8	7	0	9	7.5	8	7	
Touch Response (in case of no buttons)	0	0	7	0	0	0	0	
Stability on mild tapping	6	6	5	8	5	7	6	
<b>Performance</b>								
<b>Lagom.nl Tests</b>								
Contrast Test	8	8	7	7	7	5	8	
Black Level	7	7	7	7	8	7	7	
White Saturation (merged)	8	8.5	5	8	7	5	7	
Gradient Banding	7	6	5	7	8	6	8	
<b>Inversion (Pixel Walk) (flickering)</b>								
1/2a/2b/3	N/Y/N/N	N/N/Y/Y	N/Y/N/N	N/N/N/N	N/Y/Y/N	N/N/Y/N	N/Y/Y/N	
4a/4b/5	Y/N/N	Y/Y/N	Y/Y/N	N/N/N	N/N/N	N/Y/N	Y/Y/N	
6a/6b/7a/7b	N/N/N/N	N/N/Y/Y	N/N/N/Y	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/Y	
<b>Viewing angles check if image goes into reverse/negative coloring</b>								
LHS/RHS/Up/Down	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/Y	N/N/N/Y	N/N/N/Y	N/N/N/Y	
PixperAn Readability test (out of 20)	10	10	10	11	9	10	10	
<b>At Brightness 50, Contrast 75 (Standard)</b>								
Luminance before calibration	165.3	110.8	132.8	113.9	113.6	151.9	118.4	
White level after calibration	151	106.8	129.1	101	108.7	150.5	118.2	
Black Level after calibration	0.17	0.2	0.17	0.17	0.18	0.29	0.23	
Contrast Ratio	888.23:1	534:1	759.41:1	594.11:1	603.88:1	519:1	513.92:1	
<b>At Brightness 100, Contrast 75 (Standard)</b>								
Luminance before calibration	246.3	221.3	213	217.8	189.23	234.4	196.4	
White level after calibration	221.25	214.6	205	189.4	180.1	231.1	188.7	
Black Level after calibration	0.25	0.39	0.27	0.31	0.28	0.44	0.37	
Contrast Ratio	885:1	550.26:1	759.28:1	610.96:1	643.21:1	525.27:1	510:1	
Movie mode (default) Contrast Ratio	597:1	419.75:1	NA	425.33:1	730.37:1	448.78:1	392.95:1	
Photo Mode (default) Contrast Ratio	589.3:1	492.85:1	NA	220.82:1	754.28:1	446.82:1	487.71:1	
HD Clip 1 (The Human Centipede) avg score	7.67	6.83	7.58	7.5	6.92	7.17	6.83	
HD Clip 2 (Avataar) avg score	7.75	6.88	7.88	7.75	7.25	7.5	7.5	
HD Clip 3 (Skyfall) avg score	8.1	6.9	7.5	7.5	7.3	7.6	7.4	





			27-INCHES AND OVER						PROFESSIONAL MONITORS		
BenQ	Acer	NEC	BenQ	BenQ	Dell	Viewsonic	LG	ASUS	NEC	Viewsonic	
<b>XL 2411T</b>	<b>S240HL</b>	<b>EA243WM</b>	<b>XL-2720T</b>	<b>GW 2760HS</b>	<b>S2740L</b>	<b>VX2770smh</b>	<b>29EA93-P</b>	<b>PA246Q</b>	<b>PA271W</b>	<b>VP2770</b>	
<b>24,000</b>	<b>10,500</b>	<b>45,000</b>	<b>35,000</b>	<b>20,000</b>	<b>30,500</b>	<b>24,000</b>	<b>38,000</b>	<b>38,540</b>	<b>1,15,000</b>	<b>64,000</b>	
23,500	9,500+VAT	39,000	33,990	19,500	23,000	21,500	-	34,700+tax	98,000	59,000	
25.84	15.04	27.08	28.88	27.36	20.64	16.96	24.64	18.64	25.28	19.92	
6.66	6.11	7.16	7.33	7.45	6.36	6.77	7.92	5.65	6.67	7.34	
35.22	34.71	36.95	35.19	35.12	38.70	37.07	36.62	35.98	35.22	37.99	
67.72	55.86	71.19	71.40	69.93	65.70	60.80	69.18	60.27	67.17	65.25	
24	24	24	27	27	27	27	29	24	27	27	
TN	TN	TN	TN	VA	IPS	IPS	IPS	P-IPS	IPS	IPS	
1920x1080	1920x1080	1920x1200	1920x1080	1920x1080	1920x1080	1920x1080	2560x1080	1920x1200	2560x1440	2560x1440	
16:9	16:9	16:10	16:9	16:9	16:9	16:9	21:9	16:10	16:9	16:9	
Matte	Matte	Matte	Matte	Matte	Glossy	Matte	Matte	Matte	Matte	Matte	
N / NA	N / NA	Y / 4	Y / 2	N / NA	Y / 2	N / NA	Y / 3	Y / 2	Y / 3	Y / 4	
N	N	N	N	N	N	N	N	Y	N	N	
N	N	Y	N	Y	N	Y	Y	N	Y	N	
Y	N	Y	Y	Y	Y	N	N	Y	Y	N	
Y/Y/Y	N/Y/N	Y/Y/Y	Y/Y/Y	N/Y/N	N/Y/N	N/Y/N	N/Y/N	Y/Y/Y	Y/Y/Y	Y/Y/Y	
1	1	1	1	1	1	1	2	1	0	1	
1	1	1	1	1	1	1	1	1	2	1	
1	1	1	1	1	1	1	0	1	0	1	
0	0	1	1	0	0	0	1	1	1	1	
Y	N	Y	Y	Y	N	Y	Y	Y	N	Y	
Y	N	N	Y	N	N	N	N	N	N	N	
N	N	N	Y	N	N	N	N	N	N	N	
8	6	8	8	8	8	8	8	8	9	8	
7	7	9	9	7	8	6	8.5	8	9	9	
8	8	9	9	8	8	6	9	8	9	6	
8	8	0	0	8	0	0	0	9	9	0	
0	0	7	8	0	7	7	8	0	0	6	
7	6	8	8	5	7	5	8	8	9	8	
7	6	8	8	8	8	6	8	8	8	8	
7	8	7	7	7	7.5	8	8	8	7	7	
7	6	6	7	6	9	8	8	7.5	8	6	
8	7	7	6	8	7	7	8.5	7.5	8	7	
N/Y/Y/N	N/N/Y/N	N/Y/Y/N	N/N/N/Y	N/N/N/N	N/Y/N/N	N/N/N/N	N/N/N/N	N/Y/N/N	N/N/N/N	N/N/N/N	
Y/N/N	Y/N/N	Y/Y/N	N/N/N	N/N/N	Y/N/N	N/N/N	N/N/N	Y/N/N	N/N/N	N/N/N	
N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/Y	
N/N/N/Y	N/N/N/Y	N/N/N/Y	N/N/N/Y	N/N/N/Y	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/N	N/N/N/N	
10	9	9	9	11	11	10	10	11	10	9	
275.7	134.4	142.8	183.6	188.5	156.6	163.5	187.7	209.6	201.3	176.5	
264.4	133	137.2	181.2	187.4	153.3	156.3	183.4	209.7	174.9	175.4	
0.4	0.25	0.2	0.25	0.14	0.23	0.3	0.33	0.43	0.36	0.32	
661:1	532:1	686:1	724.8:1	1338.57:1	666.52:1	521:1	555.75:1	487.67	485.83	548.13	
406.3	217.3	275.5	267.8	291.6	241.6	269.6	265.9	273.4	334.5	267.8	
381.5	209.3	265.4	263.3	288.6	229.7	255.9	259.6	261.9	289	265.2	
0.57	0.41	0.37	0.36	0.22	0.35	0.5	0.46	0.53	0.55	0.48	
669.29:1	510.48:1	717.29:1	731.38:1	1311.81:1	656.28:1	511.8:1	564.34:1	494.15:1	525.45:1	552.5:1	
402.88:1	550.96:1	713.88:1	697.2:1	1299.09:1	581.29:1	NA	501.6:1	527.14:1	NA	NA	
398.4:1	550:1	738.28:1	724.16:1	925.23:1	583.54:1	NA	510.62:1	NA	NA	NA	
7.67	7.25	7.33	7.83	7.67	7.33	7.25	7.5	7.67	7.42	7	
7.75	7.75	7.88	7.38	7.75	7.38	7.25	7.75	7.88	8	7.75	
7.6	7.7	7.6	7.7	7.6	7.3	7.9	7.5	7.7	7.4	7.6	

## Texting can kill

A text-messaging-pilot has been found to be the reason for a helicopter crash in Missouri. <http://dgit.in/YIsFu9>



## Even faster Thunderbolt

Thunderbolt data transfer rate to jump from 10Gbps to 20Gbps <http://dgit.in/10JrkK6>

colours, adjusting black levels, setting picture-in-picture, picture modes and so on. You can even attach video signals from two different sources thereby allowing the monitor to work in dual-link mode – works great as a collaboration tool in meetings. It also bundles in a microUSB to HDMI cable, with which you can connect LG smartphones to the monitor. The Dell S2740L is similar in appearance to its 21.5-inch cousin the S2240L having the same glossy screen, edge-to-edge glass screen, exact same rear design and similar touch-screen controls and OSD menu options. BenQ had two monitors namely XL-2720T and GW2760S. The VA panel sporting GW 2760S is the elder cousin of the GW 2250. We like the thin bezel and the slim profile of the monitor. The OSD menu options are similar to the ones seen on the GW 2250, but the OSD buttons are arranged on the bottom right hand corner on the rear side, which makes operations relatively easier.

XL-2720T is the flagship 3D gaming monitor from BenQ and it is backed with impressive design. The stand has a rectangular metal handle on top of it for easy lifting of the monitor and just behind the stand is a red coloured extension for holding your headphones – thoughtful. It comes with an S-switch – a mouse-like device which allows you to easily navigate the OSD menu. The OSD options are similar to the ones seen on the XL 2411T. It bundles 3D Vision 2 glasses and supports light boost technology. See ‘3D Gaming Experience’ box.

Viewsonic VX2770SMH is the final monitor in this category and it has a very unconventional design. It has an edge-to-edge glass design with a very thin bezel. It has touch controls, but their placement is

very unergonomic, as in you have to tilt the monitor up to be able to operate the controls smoothly.

## Build Quality

BenQ XL2720T has the best build quality among all the monitors followed closely by the LG 29EA93. Both these monitors have a very sturdy base and stand. BenQ GW 2760HS and Viewsonic VX2770smh tend to wobble a lot on mild tapping. We didn't like the ergonomics of the VX2770smh as it was difficult to reach the OSD touch buttons without tilting the monitor. It is even difficult to attach the display cables on the rear side of the VX2770smh. The Dell S2740L was another monitor whose recessed ports were annoying when it came to attaching display cables.

## Performance

We will start with the Lagom.nl tests. In the colour contrast test all monitors performed well except the Viewsonic VX2770smh, in which the last two blocks of pink and red colours merged. In the rest of the monitors, each colour block was clearly distinguishable. We were quite impressed with Dell S2740L's performance in the white saturation test, where each white block was clearly distinguishable from the white background – a feat achieved by no other monitor in the entire test. The Pixel walk test performance was impressive in this category, with BenQ GW 2760HS, LG 29EA93P and ViewSonic VX2770smh giving a flicker-free output in all the 11 patterns. Barring the BenQ mon-



BenQ GW 2760HS

itors, all other monitors gave brilliant viewing angles from all directions. With the BenQ GW2760HS and XL2720T, we noticed major colour shifting when we viewed the monitor scene from the bottom up.

Coming to the Spyder 3 Elite tests, we got the best contrast ratio on the BenQ GW 2760HS - a whopping 1338.57:1 at 50 per cent brightness levels and 1311.81:1 at 100 per cent brightness levels. The XL2720T followed this with an impressive 724.8:1 at 50 percent brightness levels. The black levels on the BenQ GW 2760HS were brilliant with a black luminance value of just 0.14



LG 29EA93-P

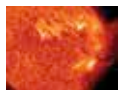
whereas the black level on the LG 29EA93P was around 0.33. The Viewsonic VX2770smh registered the lowest contrast ratio in this segment.

The high contrast ratio on the BenQ monitors was retitrated when we were watching HD movies on these monitors. The level of detailing was quite impressive in Avatar and colours appeared natural. Only in the movie modes of these monitors did we experience a higher bias towards blue. The LG 29EA93P will show vertical black bars, on the side of a full HD movie which is in a 16:9 aspect ratio, but since we had a wide aspect ratio version of Skyfall, the entire screen real estate of the 29EA93P was filled with the movie. The fast action scenes looked really good and we didn't find any sort of noise or banding in scenes involving solid colour backgrounds. Even while playing games, the wide-screen of the LG monitor gives a wonderful experience, specially in car racing games and third person shooters. In ambient light, Dell S2740L's glossy screen becomes like a mirror whenever there is a dark scene but it does maintain detail and manages fast action scenes quite well. Viewsonic VX2770smh also performed quite well with the HD movies.



## Olé!

Does Red Bull give you wings, or kidney failure? <http://dgit.in/YKYe6p>



## Solar Flares 'Extinguished'

An article explains why Solar Flares need not mean the end of the world and debunks some more popular myths <http://dgit.in/14WZwPd>

## PROFESSIONAL MONITORS

This category of monitors is meant for use by imaging and video professionals for whom getting the right colours is of prime importance. The amount of tweaks offered by these monitors, is much higher than your regular everyday use monitors, and they are also priced quite high.

### Features

The ASUS ProArt PA246Q comes with a CCFL backlit LCD monitor having a resolution of 1920x1200. You will notice ruler-like markings around the monitor on the bezel but there are no numbers around it. The monitor has a QuickFit button which overlays the screen with centimetre or inches grid or an alignment grid. Apart from these you also get various photo and paper size overlays. The OSD of the PA246Q is similar to the one seen on VS238H but it has some additional features such as Advanced settings which can only be accessed under the Splendid mode named User Settings. Under Advanced settings you can tweak six-axis hue, six-axis saturation levels as well as RGB gain and offset levels, which provides imaging professionals a wider leeway to manipulate colours. It's also the only monitor supporting an SD card reader.

The NEC PA271W also has a CCFL backlight and it is quite hefty in appearance. The OSD menu though is packed to the gills with features. There are shortcut buttons for input port selection and picture-in-picture modes. Surprisingly, it lacks an HDMI port though. You can adjust the black level of the monitor, and can tweak red, yellow, green, cyan, blue and magenta colours under Hue, Saturation and Offset menus. Finally, you have all your eco-friendly set-

tings which also have a carbon footprint calculator. It has an in-built light sensor which adjusts the backlight depending on the brightness of the ambient lighting conditions.

The ViewSonic VP2770 was an interesting monitor in the sense that it supports a 2560x1440 pixel resolution and has a WLED backlighting. Its OSD menu is very similar to the one seen on the VX2770smh. The OSD navigation is using touchscreen buttons on the bottom right corner and they lack any backlight. The OSD menu options are quite basic for a professional grade monitor, specially when you put it beside the in-depth OSD offered by the NEC PA271W and the ASUS PA246Q. For instance in the user colour option under Color Adjust, you just have RGB sliders. It does not have an ambient light sensor.

### Build Quality

As far as professional monitors go, the build quality is expected to be top-notch. All three monitors occupy a decent amount of desk space, but we found that Viewsonic VP2770 tends to occupy a much larger base area than the other two monitors thanks to its V-shaped stand. NEC PA271W is the only monitor which has a provision to grip and lift the monitor, but it's also too heavy to be lifted by one hand. Viewsonic VP2770 is the slimmer of the lot thanks to its WLED backlighting as opposed to the CCFL backlighting on the ASUS and NEC monitor. The height adjustment, tilt, swivel, pivot mechanisms on all the monitors is very good. We were surprised to find touch sensitive buttons on the Viewsonic VP2770 and its operational experience isn't as great as the other two monitors.



ASUS PA246Q

### Performance

The contrast ratios of the ASUS and NEC monitors was lower than that of the Viewsonic VP2770. This can be attributed to the backlighting – CCFL on the ASUS and NEC monitors and WLED on the Viewsonic one (which allowed it to get a better black luminance levels). The Lagom.nl test results for all the monitors were quite good. The black and white saturation level tests were particularly impressive. In the pixel walk test, only the NEC monitor gave a flicker-free response on all 11 patterns. None of the monitors had any colour shifting issues when viewed from any direction. For HD movie viewing, the ASUS monitor gave the highest score followed by NEC and Viewsonic monitors.

## VERDICT 23-inches and under

This segment saw interesting monitors and we were particularly impressed with the NEC E231W which scored highest overall thanks to its impressive feature set, but considering its pricing was prohibitively high for this category, the Best Buy was awarded to BenQ GW 2250. Not only does it cost the lowest, but it had the best performance in this category as well.

### 24-inches

This category saw the most variety in terms of brands and monitor types. For pure value proposition the award for the Best Buy went to Acer S240HL for its economical pricing whereas it was the third best performer. If pure performance is what you are looking at when considering a 24-inch monitor, the BenQ XL2411T is the monitor to go for if you are interested in gaming.

### 27-inches and over

The Best Performer was awarded to BenQ GW 2760HS for its very impressive performance scores across all the tests. The contrast ratio offered by this monitor was the best of the lot and it also held its own when it came to HD movie viewing and the battery of Lagom.nl tests we had subjected it to. Since most of the monitors in this category were priced higher than the GW 2760HS, it also ended up winning the Best Buy, as all other monitors gave lower value proposition. LG 29EA93P bagged the Editor's Pick award for its impressive performance, innovative design, in-depth OSD features and for bringing something new to the table in the comparison test. It was also the second best performer in this segment. ■

# 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



**Extremely poor product.**  
Keep away!



**Strictly OK.**  
Not recommended



**Decent product.**  
Go for it, but there may be better products out there.



**Very good product.**  
Highly recommended.



**Ground-breaking product.**  
We've never seen anything like it before.  
A definite must buy!

▶ Page 84  
Sony DSC RX1



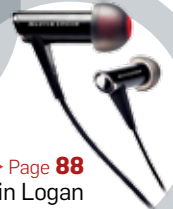
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Mikros 70



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Olympus  
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mini-shootout



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& MORE...



### Lumix DMC-LF1 compact

Panasonic has unveiled its 12-megapixel Lumix DMC-LF1 compact. Rumors say that it may cost \$500. <http://dgit.in/XW06bT>



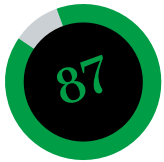
### Circle Pad Pro

The Nintendo Circle Pad Pro has arrived for the 3DS XL in the US for \$20. <http://dgit.in/XWdLj5>

Bazaar

# Fujifilm X100s

## The new-age Leica



- Features ..... 90
- Performance..... 90
- Build Quality ..... 90
- Value for money..... 75

**Sensor:** 16 megapixels APS-C; **Lens:** Fujinon 35mm f/2.0 lens (35mm equivalent); **Movie Resolution:** 1920x1080 at 60, 30fps

**Contact**  
Fujifilm India  
Phone: 124-4325500  
e-mail: [contact@fujifilmindia.com](mailto:contact@fujifilmindia.com)

The X100 was loved by many, but it didn't come without its quirks. In comes the Fujifilm X100s, the second iteration of the camera, bringing with it everything we've loved about the X100, addressing most of the quirks we had and also throwing in a few extra goodies to keep us happy.

The X100s comes with a new 16megapixel X-Trans II sensor which finds the company of a new EXR II processor chip. Together they achieve a slightly faster 6 fps burst mode, but that isn't all. The EXR II chip is designed to apply real time correction for any kind of vignette and aberration that might be generated by the Fujinon 23mm f/2.0 lens. Besides having impeccable image quality, thanks



Price ₹74,999 (body only)

to the BSI nature of the X-Trans II sensor, it also incorporates Phase Detection pixels on sensor. This in conjunction with the contrast detect AF module allows the camera to lock focus in unbelievably difficult conditions at blazing speeds. We showed up to a super shady venue

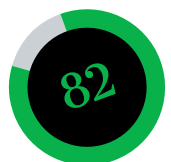
with no lights for an underground gig and the X100s locked focus on 9 out of 10 shots. Shooting this gig at ISO 3200 and above, we found our images to be clean and quite sharp.

All in all, the Fujifilm X100s is an incredible point and shoot camera for the enthusiast, with image quality matching that of most high end DSLRs. The images are incredibly sharp even at f/2.0 and the colours are extremely well balanced.

Swapnil Mathur

# ASUS RT-AC66U

## Best performing 802.11ac router so far



Picking up from where ASUS left off with its high performing RT-N66U router, the RT-AC66U is a freshened up dual-band, gigabit ethernet router which introduces the new wireless 802.11ac specification to the market. Apart from being well-designed, the router also comes with three external, detachable antennas and also a vertical mounting stand. Using a Broadcom wireless controller, the RT-AC66U supports up to 1300 Mbps on the 5GHz band and 450 Mbps on the 2.4GHz band. The router was very easy to setup and its user interface is one of the most sophisticated we've seen to date. Tamosoft gave us a throughput average of around 72 Mbps on the 2.4GHz band from a distance of approximately 12 feet which is stellar,

but that is not the end of the story. In 802.11ac mode, the throughput we went into triple digits, averaging at about 126 Mbps at a distance of 15 feet. This 802.11ac based router outshines other routers we tested previously when we compare its range as we could still get a throughput of about 75 Mbps at a distance of approximately 40-45 feet. We especially liked its *Download master* utility which allows you to download files from the web directly to a connected storage device, bypassing the PC. Included cloud features such as ASUS AiCloud are a nice addition. Priced at a premium you may get this product at a best buy price of ₹16,500, but it's still too expensive for the masses and so something cheaper is recommended.



Price ₹18,000

Siddbant Sharma

- Features ..... 87
- Performance..... 89
- Build Quality ..... 85
- Value for money..... 68

### Specifications

**Dimensions:** 207 x 148.8 x 35.5 mm (WxDxH); **Weight:** 450g; **Ports:** 1x WAN, 5 x LAN, 2 x USB 2.0; **Wireless connectivity:** 802.11a/b/g/n/ac; **Operating Frequency:** 2.4GHz / 5GHz at a total speed of 1.75Gbps; **Encryption:** WEP, WPA2-PSK, WPA-PSK, WPA-Enterprise, WPA2-Enterprise

### Contact

ASUS Technology Pvt.Ltd  
Phone: 18002090365  
Email: [reachus@asus.com](mailto:reachus@asus.com)  
Website: [www.asus.in](http://www.asus.in)



### Typeface designs released

At \$45, the BeagleBone Black, a single board computer, can also boot linux in 10 seconds but with more perks. Check it out. <http://dgit.in/YOp7mu>

### Bigger doesn't matter

A larger 5" screen for the iPhone isn't going to happen anytime in the future because of trade offs like resolution and power. <http://dgit.in/17WIWzU>

# Sony DSC-RX1

## Point and shoot goes Full-Frame

The Sony DSC-RX1 is the world's first point and shoot camera to incorporate a full frame 35mm sensor. Let that sink in for a minute. It's got a solid magnesium alloy build and raises expectations like no other.

The RX1 is a deceptively small camera that delivers impressive performance thanks to its 24 megapixel full frame sensor paired up with the BIONZ processor. The camera can shoot up to 6 frames per second in full resolution RAW and when paired with a fast memory card like the Sandisk Extreme Pro SDXC UHS-I (95 MB/s write speed), we found that the camera could continue shooting off about 15 full resolution RAW files before it slowed down.

The 35mm Zeiss lens that adorns the front of the RX1 is where the magic hap-



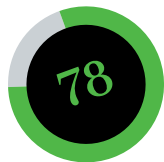
**Price**  
₹1,79,990  
(body only)

pens. The lens has a ring on the front that allows the focus range to be switched between a macro range and a regular range. When shooting in the macro range, the lens tends to exhibit some distortion, which can look bad if you're shooting straight lines or faces. In the regular focus range, the lens is quite sharp, but tends to fall prey to severe purple fringing when shooting in strong light.

Despite the fringing, the RX1 produces incredibly good images regardless of the shooting condition. The AF is a little slow, but the camera almost always locks focus, even in low light thanks to the AF illuminator. Speaking of low light, as can be expected from a full frame sensor, the RX1's image quality at high ISOs is just as good as that of a full frame DSLR. We shot a few events and concerts with the RX1 with the ISO turned up to 6400 and found that the noise was so well controlled that in the worst case, it only looked like grain.

The only real significant downside to the RX1 is its price, a cool ₹1,79,990. That's also the price of Sony's full-frame DSLR, the A-99.

*Swapnil Mathur*



- Features .....80
- Performance.....90
- Build Quality .....80
- Value for money.....60

### Specifications

**Sensor:** 24 megapixels Full Frame;  
**Lens:** Carl Zeiss T\* 35mm f/2.0;  
**Movie Resolution:** 1920x1080 at 60, 24fps

### Contact

**Sony India**  
**Phone:** 1800 103 7799  
**Website:** www.sony.co.in

# Antec C40

Average performer !



**Price**  
₹2,990

The C40 from Antec has a thick 7.5mm all copper base with four copper heat pipes each of which are 6mm thick and are joined to the heatsink. It comes with a PWM controlled blue LED fan with rubber mounts for easy installation. It's simple to fit inside most cabinets. The installation process is simple, but time consuming. While testing the Antec C40, our Core i5 2500K hit temperatures of 36 deg C when idle and shot up to 55 deg C on full load, so it's strictly an average performer and is not meant for overclocking. At a street price of ₹2,340 for the Antec C40, a better alternative to it will be the cheaper Cooler Master Hyper TX3 Evo.



- Features .....82
- Performance.....57
- Build Quality .....81
- Value for money.....57

### Specifications

**CPU Support:** Intel Socket LGA 1366/1155/1156/775  
AMD Socket FM1/AM2/AM2+/AM3;  
**Dimensions:** 76(L) x 101(W) x 131(H);  
**Weight:** 600 grams; **Fan Speed:** 800 - 1600RPM; **Power Consumption:**   
**Warranty:** 2 years

### Contact

**Antec Inc**  
**Phone:** 9820613274  
**Email:** indiainfo@antec.com  
**Website:** www.antecindia.co.in

# Rapoo E6100

On a low-cal diet !



**Price**  
₹4,349

The E6100 is a wireless keyboard and is one of the slimmest keyboards we've seen to date, as the keyboard is 5.6mm at its thinnest. Available in two colours - black and white. Its keys are well laid out, have a matte finish to them and big enough for people with thicker fingers. To conserve space, the keyboard includes a "Function" (Fn) key pre-mapped with other keys such as multimedia keys. The backside of the keyboard is pretty solid as it's made of brushed stainless steel. Tactile feedback while typing on it was good but will take some time getting used to. The wireless range was spot-on up to 10 metres. All in all its a decent keyboard at a higher price point.



- Features .....68
- Build Quality .....84
- Value for money.....71

### Specifications

**Compatibility:** Android 3.0 and up, iOS, notebooks and desktops;  
**Connectivity:** Bluetooth 3.0 (receiver not needed); **Key Type:** Membrane keys; **Dimensions:** 288mm x 110mm; **Range:** Upto 10 metres; **Battery type:** 2 x AAA alkaline batteries (included); **Warranty:** 2 years

### Contact

**Rapoo Technologies Ltd**  
**Phone:** +919899994802  
**Email:** sunil.srivastava@rapoo.com  
**Website:** www.rapoo.com



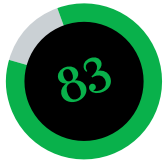
## Sigma breaking boundaries

Sigma has announced the 18-35mm f/1.8 APS-C zoom thus breaking the f/2.0 barrier. Expect a price of around \$2000 or more. <http://dgit.in/Y3wLhK>

## Inhon Blade 13 Carbon

Weighing at 1.9-pounds and measuring 10.7mm thick, the Taiwanese laptop can be yours for \$1,350. Soon. <http://dgit.in/ZMeReG>

Bazaar



# Xolo X1000

### A beauty and a beast

- Features ..... 80
- Performance..... 80
- Build Quality ..... 80
- Value for money ..... 90

### Specifications

**Operating System:** Android 4.0 ICS; **Screen size:** 4.7-inch at 1280x720 pixel; **Built-in Storage:** 8GB; **MicroSD card support:** 32GB RAM: 1GB; **Camera in MP:** 8; **Wi-Fi** 802.11 b/g/n, **Bluetooth** 2.1; **Battery:** 1900mAh. **Processor:** 2 GHz Intel Atom with Hyper Threading, **Chipset:** Intel Atom Processor Z2480

### Contact

**Xolo India**  
**e-mail:** care@xolo.in  
**Phone:** 1800 30 100 104

The Xolo X1000 has a unibody design, which means that you don't have access to the battery. The bottom panel does pop out though, giving you access to the SIM card and microSD card slot. The rear of the smartphone has a rubberised finish, which not only adds to the grip but the elegant looks of the device as well.

The front of the device is covered by a glass sheet that, with its curved edges, is very reminiscent of the Nexus 4. The display is vibrant and very good to use. Consuming multimedia content on the display is a treat. The call quality from the X100 too is good.

The Camera on the X1000 is an 8MP shooter. The performance however isn't the best. Noise is very evident even in well-lit scenes and the images don't look that good when blown up.



Price ₹19,999

What is unique about the X1000 is the 2 GHz Atom Z2480 processor which has a hyper-threaded single core. The CPU is quite capable and even graphically intensive games such as *Dead Trigger* run well.

The on-board speaker is quite decent as well and while we expected more from it, it's at least on par with the competition.

It's easy to recommend the Xolo X1000 at ₹20,000 for the features on offer. The only downside of the device is that it runs on Android 4.0 ICS but an update is expected soon. You get a device that is extremely well built, has a display to die for and the curve glass feels sexy in ones hands. To add to that, you have the distinction of using one of the few Intel-based phones available

Sameer Mitha

# Bose SoundLink Air

### Pristine sound quality but a limited feature set

We quite like Bose's policy of not allowing users to tweak their sound. Some speakers do need tweaking, but the SoundLink Air is one of the few, natural sounding speakers and we would rather not have someone mess with them. The surprise with the SoundLink Air is that it has a lot more bass impact than most speakers of this size, including its siblings. The vocals are very crisp, but retain an amount of softness that is comfortable for the ears. This speaker is equally at ease playing back a variety of music. However, the virtual ceiling is pretty much reached with the volume around 80 per cent, because post that, distortion is very evident in the lower frequencies.

The setup will be a tad confusing for most users, because you first need to download a utility on the desktop, connect the SoundLink Air to it via a bundled cable and get it to access the Wi-Fi hotspot that the Airplay device (iPod Touch, in this

case) is connected to. The optional battery pack is a good add-on, but that will cost more money.

The SoundLink is well-built and the minimalism is sprinkled well with certain thoughtful elements such as the wall adapter

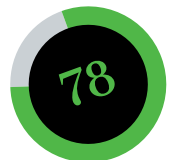
having a groove for the cable. Above the speaker grille are

the LEDs for Air Play connectivity, volume mute and AUX connectivity. The remote is fairly simple – you surely cannot get lost in this one.

Visbal Matbur



Price ₹22,384



- Features ..... 70
- Performance..... 75
- Build Quality ..... 85
- Value for money ..... 80

### Specifications

**Type:** Portable music system; **Connectivity:** AirPlay and AUX-in; **Battery:** Optional; **Weight:** 2.1 kg

### Contact

**Bose India**  
**Phone:** 1-800-11-2673  
**Email:** <https://www.boseindia.com/corporate/bose-contact.aspx?cmd=Contact>

## Churnalism

A new browser engine and an extension called 'Churnalism' has been launched which checks websites for plagiarised content. <http://dgit.in/XWev7T>



## Archos' Smartphone

Archos has announced Android based smartphones featuring IPS display, Qualcomm CPU, and dual SIM cards, costing \$100 to \$250. <http://dgit.in/17hTk2Y>

# Corsair H100i

It's getting cold in here

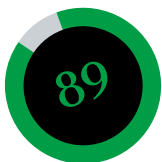


The new H100i from Corsair is a new contender in the enthusiast-grade liquid cooling ring. It's an upgraded, albeit newer version of Corsair's H100 CPU cooler. This CPU cooler comes well packaged with most of the accessories provided for installing it. Thermal paste comes pre-applied on the all-copper CPU cold plate. Powered by a SATA power connector, the pump unit is well designed with an

RGB LED backlit Corsair logo at the center. Tubing is flexible, thick and of good quality. Heat dissipation takes place via the 240mm radiator which has two fan mounts on either side. Two SP120L static pressure fans are bundled with the H100i. A magnetic mounting bracket makes installation of this cooler effortless.

Testing it on our Core i7 3960X, we were surprised by the performance of this cooler as it kept the processor at 26 deg C when idle and at 49 deg C under full load. This is an excellent choice for overclocking as it achieved a clock speed of 4.5GHz and at only 63 deg C load temperature. The fans were audible but not too loud under full load. Corsair LINK software allows monitoring and control over the cooling unit, fan RPMs, LED colour and also lets you upgrade the firmware of H100i. Though it's priced on the higher side, its features and performance justify its price and you may be able to get this cooler at a best buy price of ₹7,800. Before buying this cooler make sure that your cabinet supports a 240mm radiator.

Siddbant Sharma



Features .....	94
Performance.....	90
Build Quality .....	92
Value for money.....	79

### Specifications

**CPU Support:** Intel Socket LGA 2011 / 1366 / 1156 / 1155; AMD Socket FM1 / FM2 / AM3 / AM2; **Fan Speed:** 2700 +/- 10 %; **Cold Plate Material:** Copper; **Radiator Material:** Aluminium; **Radiator dimensions:** 120 x 275 x 27 mm; **Warranty:** 5 years

### Contact

**Corsair Memory**  
**Phone:** 9845651608  
**Email:** [indiaservice@corsair.com](mailto:indiaservice@corsair.com)  
**Website:** [www.corsair.com](http://www.corsair.com)

# Lava E-Tab Xtron

A good performing entry-level tablet



At a sub 7k price point, the Lava E-Tab Xtron is an impressive tablet. The overall performance is good, especially considering the price you pay. It does compromise on Bluetooth and the on-board speakers are a bit soft. The tablet does lag while running heavy games and multi-tasking. On the bright side, the display is great for reading books, browsing the web and consuming multi-media content. With an average battery life about 3hrs when watching video, this is definitely a tablet you can consider, especially at this price.



Features .....	70
Performance.....	70
Build Quality .....	70
Value for money.....	80

### Specifications

**Display:** 7-inch IPS display with 1024x600 resolution, **Processor:** 1.5Ghz dual-core processor, **RAM:** 1GB RAM, **Built-in storage:** 8GB expandable up to 32GB via a microSD card, **Camera:** 2MP front camera, **OS:** Android 4.1, **Battery:** 3500mAh

### Contact

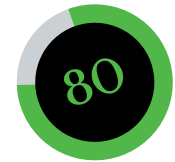
**Lava International**  
**Email:** [care@lavainternational.in](mailto:care@lavainternational.in)  
**Phone:** +91-120-4637100

# Corsair H60

Right On



Corsair has another member to their line of all-in-one liquid coolers with the H60. The H60 is easy to install. It comes with a single, static pressure fan belonging to Corsair's SP120L lineup and also with a thin film of thermal paste pre-applied on its cold plate. The performance was very similar to the CM Seidon 120M we tested earlier. This cooler gives a good amount of overclocking headroom because our Intel 3960X had an idle temperature of 28 deg C and load temperatures of 52 deg C. You can choose either the CM Seidon 120M or the H60 as they're both excellent options.



Features .....	84
Performance.....	75
Build Quality .....	88
Value for money.....	73

### Specifications

**CPU Support:** Intel Socket LGA 2011 / 1366 / 1156 / 1155 AMD Socket FM1 / FM2 / AM2 / AM3; **Fan Speed:** 2000 RPM; **Cold Plate Material:** Copper; **Radiator Material:** Aluminium; **Radiator dimensions:** 120mm x 152mm x 27mm; **Warranty:** 5 years

### Contact

**Corsair Memory**  
**Phone:** 9845651608  
**Email:** [indiaservice@corsair.com](mailto:indiaservice@corsair.com)  
**Website:** [www.corsair.com](http://www.corsair.com)





## Google Fiber for IOS

Google Fiber is now available on the App Store for the iPad. We like how Google doesn't snub its evil cousin. <http://dgit.in/13u7n3i>



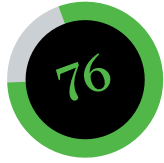
## Get swyped

Swype, the mind blowing swipe-to-type Android keyboard hits the Google Play store for the first time for an introductory price of 99 cents. <http://dgit.in/XWa8cS>

**Bazaar**

# Toshiba Portege Z930

## A worthy successor



- Features ..... 80
- Performance..... 75
- Build Quality ..... 78
- Value for money ..... 70

### Specifications

**Processor:** Intel Core i5 3427U @ 1.8GHz; **RAM:** 6GB; **Graphics:** Intel HD 4000; **Display:** 13.3-inch; **Storage:** 128GB SSD; **Connectivity:** 1 USB 3.0, 2 USB 2.0, HDMI, SD card slot; **OS:** Windows 8 (64-bit)

### Contact

**Toshiba India**  
**website:** [www.toshiba-india.com](http://www.toshiba-india.com)

The family resemblance is very much present, since the Z930 is carrying forward almost all the design elements from the Z830. The magnesium alloy chassis lends a lot of strength to the overall design of the machine. But, port placement – most of them are still behind the display – is still an issue that cannot be overlooked. You will probably forgive that for the slimmer profile and the lightweight nature of the ultrabook though.

Updated with Windows 8 and the third generation Intel Core-i processor, the Z930 does improve on the consistent performance of the Z830. The benchmark tests put it on almost the same level as the Fujitsu Lifebook U772. Battery life is good enough to get you through around 6 hours of a typical day at work, on a single



Price ₹ 96,250

charge. The best part about the Z930 is the crisp and non-reflective display. For those who spend a lot of time looking at the screen for various reasons, this is a huge boon.

The keyboard is comfortable to use, but we would have preferred a little sharper response to every key press.

But the price does make you wonder if it is worth this much. Honestly, it is pretty much like any ultrabook in this price range,

with no real add-on that makes this stand out in the crowd. This is one of those run-of-the-mill designs that you see

scattered about everywhere and can't recall where you saw it. If you want something more formal, spending a little extra on the Lenovo X1 Carbon makes sense. Else, the Yoga 13, for all its flexibility, is a good option!

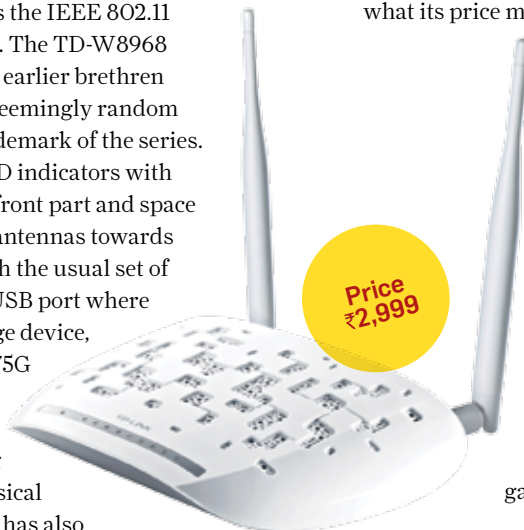
*Vishal Mathur*

# TP-Link TD-W8968

## A budget friendly performer !

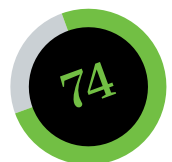
The TD-W8968 is an affordable 300Mbps wireless N based router from TP-LINK with ADSL2+ modem functionality as well. Running on a single 2.4GHz band, this router supports the IEEE 802.11 b/g/n specifications. The TD-W8968 is reminiscent of its earlier brethren as it has the same, seemingly random pattern that is a trademark of the series. There are green LED indicators with symbols at the top-front part and space for two detachable antennas towards the back. Along with the usual set of ports, it also has a USB port where can connect a storage device, a printer or a 3G/3.75G USB modem for increased functionality by sharing the network. A physical Wi-Fi on/off switch has also

been provided at its back for ease of use. The device comes bundled with all the requisite accessories but we found that the included network cable was too short. This router performed better than what its price might make indicate, a trend that is apparent across the whole of TP-LINK's line-up, as it not only gave an average throughput of 55 Mbps from a distance of 15 feet but also 47 Mbps at 45 feet. Its performance dropped only when we stepped out of our office and measured the performance from a distant staircase. Given this degree of performance, this router can easily find a home in a house or small business setup. At a probable street price of ₹2,600, this is a real steal and a real bargain given the performance.



Price ₹2,999

*Siddhant Sharma*



- Features ..... 61
- Performance..... 74
- Build Quality ..... 77
- Value for money ..... 82

### Specifications

**Dimensions:** 195x130x36 mm; **Ports:** 4 x RJ45 Ports, 1 x RJ11 Port, 1 x USB 2.0 Port; **Wireless connectivity:** 802.11b/g/n; **Operating Frequency:** 2.400-2.4835GHz; **Encryption:** 64/128 bit WEP, WPA-PSK/WPA2-PSK, Wireless MAC filtering; **Warranty:** 3 years

### Contact

**TP-LINK India Pvt. Ltd.**  
**Phone:** 250-6634909  
**Email:** [sales.in@tp-link.com](mailto:sales.in@tp-link.com)  
**Website:** [www.tp-link.in](http://www.tp-link.in)



### Swiss Army Goggles

The DEV-50V has 3-D capture implemented into it, and costs \$2000. Someday we will get our hands on it. Some day. <http://dgit.in/11Nqwu7>

### How we tested

Please note that the expectations from a pure AV software are different from that of a complete security suite. Hence the rating system will vary.

# Martin Logan: Mikros 70

Almost perfect

When we received Martin Logan's Mikros 70 in-ear headset, we didn't know what to expect. This was, for us at least, a brand that we were unfamiliar with. However, given the performance of its bigger brother, the Mikros 90 that was featured in our headphones test last month, we were hoping for something really special.

We weren't disappointed. These in-ears are simply superb, their aural prowess is unmatched by any similar set that we have tried in recent memory and while they are on the expensive side (₹10,000 is not cheap no matter how you look at it), the audio quality on offer is easily at audiophile grade. The bass is excellent, not boomy as with most sets and the rest of the tonal range is also excellent. The highs are a little harsh but that is



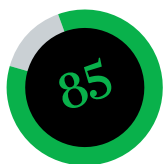
something we've come to expect from all in-ear headsets as it seems to be a by-product of their design. The harshness from this set is the mildest we've heard.

For our testing, we used an ASUS Xonar Phoebus as well as an iPad. Tracks included Massive Attack's *Angel*, Pink Floyd's *Pulse* album and a few miscellaneous tracks from artists such as Adele. This set impressed on all fronts, precisely rendering voices and notes and even the faint little background noises that really make a track what it is.

The set itself is well-designed and we really liked the colour-coded tips that will enable you to just pop them into your ears without hunting for the elusive L and R indicators. Bundled ear-buds aside, Martin Logan also took the trouble to include a nice pouch to go with them.

You might remember the Sony XBA3 that was reviewed last year, we can definitively say that this set is slightly better, but then again, they are slightly more expensive as well.

Anirudb Regidi



Features .....	90
Performance.....	89
Build Quality .....	85
Value for Money .....	75

### Specifications

Driver diameter: 6.6mm;  
Frequency response: 8-19000Hz;  
Impedance: 22ohms; Cord: 1.2m;  
Sensitivity: 98dB

### Contact

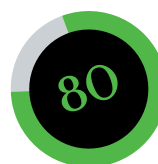
Kripa Electronics (India) Pvt. Ltd.  
Phone no.: 022-26051781  
Website: [www.kripaindia.com](http://www.kripaindia.com)

# Bitdefender Antivirus Plus 2013

The return of a champion



Despite the innumerable suites we've tested in the past, Bitdefender's UI manages to stand out from the crowd. It isn't all just about looks though, the suite has some pretty compelling features at this price and they work. In some ways, the suite may even be too efficient, spotting and deleting viruses the moment they are found, be they on a network or on your PC. The ID Theft protector is also excellent and does a good job of identifying and isolating banking websites and secure gateways. This is an excellent suite and barring the free version of Avast!, our favourite suite so far.



Features .....	80
Usability.....	85
Internet Security .....	70
Value for money.....	85

### Specifications

Antivirus; Antispyware; Privacy Guardian; ID Theft protection

### Contact

Bitdefender Antivirus  
Website: <http://www.bitdefender.com/support/contact-us.html>

# ESET Smart Security 6

A little smarter



The Smart Security suite has received a minor upgrade from its previous iteration; an upgrade that is not drastic, but enough to warrant a second glance. The interface is as we remember it and still as functional. In terms of features, the biggest addition is the anti-theft feature. A nifty little tool that will let you access your PC even when stolen and will get you screenshots, location and even mugshots via the webcam. Invasion of privacy or extended security, you decide. There are other options out there but at this price, this isn't a bad suite by any means.



Features .....	75
Usability.....	75
Internet Security .....	75
Value for money.....	70

### Specifications

Anti-theft; Location tracking; Remote monitor; Anti-Virus; Anti-Phishing; Parental controls; Firewall and more.

### Contact

ESET India  
Email: [support@esetindia.com](mailto:support@esetindia.com)  
Ph. No.: 1800-209-1999



## SanDisk Cruiser Orbit

SanDisk launched its Cruiser Orbit USB flash drive which has a 360° swivel design, and is available in capacities upto 32GB. <http://dgit.in/sancruorb>

## Toshiba's new ultrabook

Toshiba announced its 13-inch KIRAbook with an impressive 2560x1440 (221 ppi) panel making it the first non-Apple laptop to offer such high resolution. <http://dgit.in/10fSYuq>

Bazaar

# Circle Attitude 2.1

## Not enough attitude



Features	65
Performance	45
Build Quality	65
Value for money	35

### Specifications

2.1 Channel speakers;  
Wireless control pod;  
detailed specifications: NA

### Contact

Circle Infotech Pvt. Ltd.  
Ph. No.: 02266711234  
e-mail: [completecare@entercircle.com](mailto:completecare@entercircle.com)  
Website: [www.circlect.com](http://www.circlect.com)

When it comes to Circle products, one thing that almost always stands out is the aesthetically pleasing design, coupled with just about average quality. The Attitude 2.1 speaker set that we got for review are no different in this regard. The speakers do look elegant and seem to have large drivers which promise a higher quality of sound than the average speaker. You also get a handy Bluetooth remote that is functional enough for us to wish that almost all PC speakers come with something like that. They do serve to alleviate the cable hassles that most PC users are plagued with.

The real meat of any set of speakers is in their aural prowess and unfortunately, this is where



these speakers fall flat, literally. The satellites by themselves are decent, and in fact, slightly better than our reference F&D F680s.

However, the woofer is just plain bad. It can't handle bass heavy tracks such as Massive Attack's *Angel* and even our "Heavy Drum" test track brought about the deficiencies in the woofer design. The only way to extract even a modicum of listening pleasure is if you turn the volume below 30 per cent. Are these speakers worth

the asking price, or even the market price?

No, unless you have some tone-deaf artist buddies that you would like to entertain on a budget. A better woofer would have gone a long way in making this a decent and possibly recommended speaker set. For now, the F680 will suffice.

Anirudh Regidi

# Olympus STYLUS XZ-2

## Wonderful successor to the XZ-1

The XZ-2 is the flagship point and shoot camera from Olympus's new STYLUS series and an upgrade to the impressive XZ-1. The XZ-2 has a metallic build, detachable rubber grip on the front and the thumb-rest on the rear side which give it a solid feel and it fits well in your hand. The camera is on a comparatively bulkier side thanks to the presence of a tilting LCD screen. The ring around the lens found on the XZ-1 is also present on the XZ-2 and has a decent click-stop mechanism which becomes a smooth zoom ring, when the Fn2 button in the front is pressed.

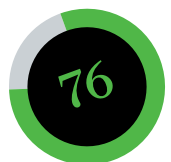
One of the strong points about Olympus high end cameras is the AF speed. Locking the focus in under a second in most daylight situations and not hunting for focus under low light is

the USP of the XZ-2. One thing we did not like about the XZ-2 is that the 35-point focus area arranged in the 7x5 grid is centre-heavy. In our studio tests, we noticed that the XZ-2 performed flawlessly between ISO 100 and ISO 800. Image quality starts deteriorating from ISO 3200 onwards. The STYLUS XZ-2 is blessed with a fast lens going from f/1.8 at the widest to f/2.5 at the telephoto end. These numbers ensured that we got impressive photographs even under low light conditions without having to ramp

up the ISO settings.

The biggest threat to the Olympus XZ-2 is the Sony RX100 whose larger sensor size puts it at an immediate advantage. So would we recommend the Olympus STYLUS XZ-2? Absolutely. A sub-30k pricing will be ideal.

Nimish Sawant



Features	80
Performance	75
Build Quality	80
Value for money	70

### Specifications

Sensor: 12.1MP BSI CMOS;  
Image Processor: TruePic VI; Optical zoom: 4x; Focal length: 28-112mm (35mm equivalent); Screen: 3-inch 920k-dot LCD; ISO range: 100-12800

### Contact

Olympus Imaging India Pvt Ltd  
Phone: +91 22 6142 0400  
Email: [oimi\\_customerservice@olympus.in](mailto:oimi_customerservice@olympus.in)  
Website: [www.olympus-imaging.co.in](http://www.olympus-imaging.co.in)



### AMD Radeon HD 7990

More info on the new \$999 graphics card. It claims to handle all games at 4K- we'll see. <http://dgit.in/ZO9yus>



### HTC Unlocked

An unlocked version of the HTC One can be yours for \$574. Don't worry- HTC is selling them. <http://dgit.in/12fBH1B>

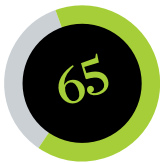
## NVIDIA GTX 650Ti BOOST

Reference card bringing boost clock to GTX 650Ti



Price ₹14,000

**N**VIDIA GTX 650Ti BOOST brings boost clock to the table, which is not found in the GTX 650Ti. Design wise it is similar to the GTX 660 reference design. It has an SLI connector as well. In terms of performance, it scored at par with other GTX 650Ti BOOST cards in the synthetic tests as well as in most real life tests. It scored 1935 in *3D Mark 11* in Extreme mode and gave 28.8 FPS in *Unigine Heaven 3* at 1080p max settings. Only in *Dirt3* we found it to be slower than other 650Ti BOOST cards. It did tend to heat up a lot with load temperatures hitting 82 degree Celcius.



Features .....	75
Performance.....	60
Build Quality .....	60
Value for money.....	65

### Specifications

GPU: GK106; CUDA Cores: 768; Core clock: 980 MHz; Boost clock: 1033; Memory bus: 192-bit; Memory: 2048 MB; Raster Operators: 24; Display ports: 2x DVI, 1x HDMI, 1x DisplayPort

### Contact

NVIDIA GRAPHICS PVT LTD  
Email: NA  
Phone: +91 22 4376 4567  
Website: www.nvidia.com

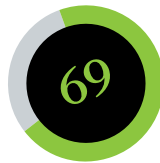
## ZOTAC GTX 650Ti BOOST

Decent performer at a good price



Price ₹11,999

**Z**OTAC GTX 650Ti BOOST has a dual-fan setup along with two heat pipes coming out of the card. In terms of performance scores, both synthetic and real world performance was at par with other GTX 650Ti BOOST cards. In some tests such as *3D Mark 11*, *Unigine 3* and *Resident Evil 5* we noted a performance below the reference NVIDIA card. Although a minor difference, it was still surprising considering the 13MHz factory overclock on the ZOTAC card. It performs better 15 percent better than NVIDIA GTX 650Ti. At ₹11,999 it offers better value and performance than the ZOTAC GTX 650Ti AMP Edition.



Features .....	75
Performance.....	60
Build Quality .....	70
Value for money.....	70

### Specifications

GPU: GK106; CUDA Cores: 768; Core clock: 993 MHz; Boost clock: 1059; Memory bus: 192-bit; Memory: 2048 MB; Raster Operators: 24; Display ports: 2x DVI, 1x HDMI, 1x DisplayPort

### Contact

ADITYA INFOTECH LTD.  
Email: response\_it@adityagroup.com  
Phone: +91 22 2674 1595  
Website: www.zotac.com

## ASUS GTX 650Ti BOOST DC2 OC

Best performing GTX 650Ti BOOST card so far



Price ₹14,000

**A**SUS GTX 650Ti BOOST DirectCU II OC comes with the traditional DC2 cooler design and it boasts of a respectable 40MHz factory overclock on the core clock. As expected the performance speeds past the reference 650Ti BOOST cards as well as the ZOTAC 650Ti BOOST. It manages to keep the load temperature under 65 degrees Celcius. It gave a 7 per cent higher overall performance than the ZOTAC GTX 650Ti BOOST. At ₹14,000 it is certainly priced on the higher side, but the performance justifies the pricing.



Features .....	75
Performance.....	65
Build Quality .....	75
Value for money.....	65

### Specifications

GPU: GK106; CUDA Cores: 768; Core clock: 1020 MHz; Boost clock: 1085MHz; Memory bus: 192-bit; Memory: 2048 MB; Raster Operators: 24; Display ports: 2x DVI, 1x HDMI, 1x DisplayPort

### Contact

ASUS Technology Pvt. Ltd.  
Email: reachus@asus.com  
Phone: 1800 209 0365  
Website: www.asus.in

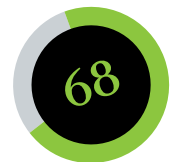
## Galaxy GTX 650Ti BOOST

Economical card with decent performance



Price ₹11,500

**G**alaxy GTX 650Ti BOOST has a single-fan design with a comparatively smaller length. It is clocked at reference settings and has a flimsy plastic shroud around the fan. We were disappointed to see a D-Sub input port when the reference card has two DVI ports. In terms of performance, there's not much variation from other GTX 650Ti BOOST cards on this page except the ASUS GTX 65Ti BOOST DirectCU II edition. Load temperature was 75 degree Celcius which is better than the reference card. At a market operating price of ₹11,500 it is a decent buy.



Features .....	75
Performance.....	60
Build Quality .....	70
Value for money.....	65

### Specifications

GPU: GK106; CUDA Cores: 768; Core clock: 980 MHz; Boost clock: 1033MHz; Memory bus: 192-bit; Memory: 2048 MB; Raster Operators: 24; Display ports: 1x DVI, 1x HDMI, 1x D-Sub

### Contact

TECHNOLOGY AND GADGETS (TAG)  
Email: info@technologyandgadgets.com  
Phone: +91 22 2382 3331  
Website: www.technologyandgadgets.com/



## Nokia announces Asha 210

With a dedicated Whatsapp button, the dual sim Asha 210 is a budget phone which isn't shy of colour. Assumed price: less than Rs. 4000. <http://dgit.in/Z0d3RE>



## Spill Defence

Logitech's FabricSkin keyboard folio for iPad, for \$149 will now also defend against beverage spills. <http://dgit.in/11jMdmF>

Bazaar

# Cowon EM1

Could very well be the next EP-630



**C**owon's EM1 set has been doing the rounds for more than a year now and has been largely ignored. Lost in ignominy and overtaken by "bigger" names such as Creative, Sony or SoundMagic. Even when we got this set for review, it lay around unnoticed till we started scrounging around for some good in-ears for general use.

The set itself turned out to be surprisingly good. We tried out many of our favourite tracks, including *Porcupine Tree* and *John Mayer* and we found the overall sound signature to be on the warmer side with

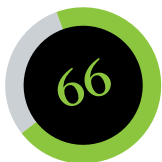
mellow bass. The reproduction isn't very precise and does lack detail, but what the headphone lacks in terms of precision, it more than makes up for in comfort and isolation. The fit and isolation is among the best that we've experienced and if you really want to cut the ambient noise out during your daily commute, these are the plugs for you. As for the audio performance, they're not bad.

The asking price of ₹1,200 is a little bit on the higher side and we really wouldn't give these a great value rating. However, a quick search revealed that this set can be had for as little as ₹800. If you do get them at that price, you've got the successor to the infamous EP630 on your hands.

This is a very good set at this price and in a market that seems to be lacking in cheap sets that offer good quality, the Cowon EM1 is an ideal option. When it comes to the average listener, this fits the bill perfectly. A reasonable price, excellent isolation and comfort coupled with acceptable music quality are its USP.

Don't expect to curl up in bed with some nice music blasting in your ears, but you can expect a satisfactory travel companion.

Siddharth Parwatay



Features .....	70
Build Quality .....	65
Performance.....	65
Value for money.....	65

### Specifications

Driver diameter: 10mm; Impedance: 16ohm; Sensitivity: 103dB/mW; Frequency Response: 20-22000Hz; Maximum input power: 20mW; Headphone jack: 3.5mm; Cord length: 1.2m

### Contact

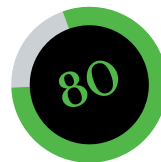
Lipap Systems Pvt.Ltd  
Phone: 022-29271307  
Email: sonu.rawat619@gmail.com  
Website: www.cowonindia.in

# Rapoo 6080 Wireless mouse

Portable excellence



**A**n excellent mouse this, it somehow manages to walk that fine line between ergonomics and size. The mouse is small, but comfortable and the accuracy is spot on. The range is excellent and we did not notice any drops even up to 10 feet away. This is not a true gaming mouse per se, but is an excellent all-rounder and a good deal at this price. The only other wireless mouse that we ever liked was the Razer Orochi, but it retails for twice the price of this one. The only slight niggle is the minor amount of stutter that is introduced when used on shiny surfaces.



Features .....	70
Build Quality .....	85
Value for money.....	85

### Specifications

Bluetooth 3.0 support; 2 year warranty; 10m range; 1000dpi; 2 buttons + scroll wheel; 6 month battery life;

### Contact

RAPOO technologies limited  
e-mail: sunil.srivastava@rapoo.com  
Website: www.rapoo.com  
Phone: 9899994802

# Simmtronics X-Pad- X-801

For someone on a desperately tight budget



**W**hat can we say? This is one of the worst tablet we've ever tested. Sure, it's only ₹8,500, but that is 8,500 you're better off spending on something else. If Simmtronics is trying to woo users with this dismal display and pitiful performance, they've failed, and badly at that. We could not find even one redeeming feature on this device other than the fact that it exists. Even the performance is well below par for a device that is supposedly running on an A8 @ 1.2GHz. In fact, benchmarks peg the device as running at 1GHz.



Features .....	60
Performance.....	40
Build Quality.....	55
Value for money.....	20

### Specifications

CPU: ARMv8 @ 1200MHz; Display: 800x564; RAM: 512MB; 2MP rear camera, VGA front camera; 4000mAh battery

### Contact

Simmtronics Semiconductors Pvt. Ltd.  
Ph. No.: 18001026677  
e-mail: sales@simmtronics.com  
Website: www.simmtronics.com

**Price Watch**

It's fresh prices for graphics cards this time. The latest chipsets from the AMD and NVIDIA stables covered

**Killer Rigs**

We tell you which components to go for if you want to build the perfect PC; be it budget, basic, mid-range or ultra-highend



# Agent 001 goes GPU Hunting

Have a budget of ₹25,000, but don't know which card to get? Let Agent001 help you out

Agent 001

agent001@thinkdigit.com

His demeanor was menacing, I told him not to push that far, told him to stop right there, explained that overconfidence takes its toll on everything and everyone, but would he listen? Of course not! Then there was some smoke and the smell of something burning and I knew what it was and so did he. I looked at him and saw that he was in a stupor, he realised his mistake. Yup, my friend had accidentally burnt a particular component in his computer and not just any component but his old, yet faithful, GTX 275 graphics card while overclocking.

His parents took his case on this matter and this added to his misery, as they wouldn't listen to him, when he was trying to explain to them that no one at home can use the PC without a discrete graphics card as his motherboard did not have onboard graphics. He decided to purchase a new GPU, funded by himself of course, after what had happened. He wanted to go for something in the higher mid-range section as he could afford a budget of not more than 25k.

On the other hand, my nephew had his birthday coming up in a few days and I wanted to gift him something good. He's 12 and is into games. Racing games such as NFS, GRID and the likes are his territory. I decided to go for a mid-range GPU for him.

I was also contemplating getting a new graphics card as I intended to make



an HTPC/download rig from my old PC's components. So I had more than enough motivation to accompany my friend when he called me up for his quarterly trip to the Mumbai electronics haven.

Lamington Road was swarming with people as usual. We set ourselves in hyperdrive mode and went in a couple of shops to check out GPUs. Since the current crop of graphics cards from both AMD and NVIDIA have been in the market for quite some time, the prices we got were synonymous with most of the shops. I saw a familiar shop and we went in instantaneously. I asked for a GTX 660 Ti and for a Radeon HD 7870 for my friend and we saw a bunch of cards from ASUS, Palit and ZOTAC (for NVIDIA) and Sapphire, HIS and ASUS (for AMD). A regular GTX 660 Ti from ZOTAC was priced at ₹21,800 as well as a factory overclocked version – the ZOTAC GTX 660 Ti AMP! edition was around ₹24,000. We decided to get the **ZOTAC GTX 660 Ti** as my friend really didn't care for the small performance bump the overclocked version offered at the price and the performance difference between the HD 7870 and GTX 660 Ti, largely depended on games and hence was a subjective choice. His choice was finally made, and my glum-faced friend finally looked happy and at peace.

I still needed to buy two more cards, one for me and the other for my nephew. I knew for sure that the young lad will try to push stuff to its limits once I gave him

a GPU, so I decided to do a balancing act by going for a card which would not only run racing games easily but also other resource-heavy titles such as *FarCry 3* and *Crysis 3* at medium to high settings. The GPUs selected at the price were the GTX 650 Ti and the Radeon HD 7850. The shopkeeper showed us the MSI Radeon HD R7850 Power Edition 2GD5/OC and Palit GTX 650 Ti priced at ₹15,500 and ₹10,200 respectively. Other choice was the newer GTX 650 Ti BOOST from brands such as Galaxy, ASUS and ZOTAC. Cards from ASUS and ZOTAC were priced upwards of ₹13,000 while the 2 GB version of **Galaxy GTX 650 Ti Boost** costed ₹12,000 and we opted for that as the MSI Radeon HD 7850 was priced at a higher price.

Now remained a card for my incomplete HTPC and I knew that there were quite a lot of choices from AMD in the low-range price bracket. The AMD Radeon HD 7770 and HD 7750 were prime candidates, I settled upon the HD 7750 because of its price. The card I bought was the **ASUS Radeon HD 7750** at a decent bargained price of ₹7,500.

At the end of the entire ordeal, the shopkeeper somehow thought that me and my friend were big spenders and insisted on showing us the **Asus GTX TITAN**. He jubilantly quoted a whopping ₹67,500 for the card, looking at which me and my friend were quite dazed and we had to storm out of the shop as I was also getting late for my nephew's party. **■**



## Print a gun

3-D printed guns are a very real thing, and Defense Distributed's Cody Wilson argues that they are here to stay. <http://dgit.in/ZIi42f>

Agent 001



ba11

Your eyeball view.  
Our technology new.

## Portable hard drive

I love learning new things about technology and that's why I love reading Digit. I am planning to buy a brand new portable hard disk (1TB) this summer. My budget for the product is around 4 - 5.5K. Both my machines are running out of space which is causing a lot of issues when it comes to data storage.

Will there be any antivirus which will be installed on it for security purpose? Would having any kind of security programs be a drawback? The drive should have a fast data transfer speed with USB 3.0.

Ganesh G

**A** You can check out Seagate Backup Plus 1 TB external hard drive. Not only is it a fast USB 3.0 external drive, but it also allows you the option to backup your photos from Flickr and Facebook and videos from YouTube. So in a way you have the content you share on your social networks backed up. It comes for around ₹5,300.



ADATA HD710

If you are not interested in the backup feature much, then you can check out Western Digital My Passport external 1 TB drive which is priced around ₹5,150 or ADATA DashDrive HD710 at ₹5,300 which is a rugged drive. Anti-virus if offered with portable drives, is a trial version. But as long as you have a working anti-virus on your system and you scan your portable drive regularly there shouldn't be any issue.

## 2.1 Speaker set

I'm on the lookout for a good 2.1 speaker system. I'm going to the US a couple of weeks later, so I thought I should pick it up there. My budget is about USD 100, based on which I have shortlisted Cyber Acoustics A3602 and Logitech Z623. I plan to put them in a 140 sq foot room. Do you think it makes a difference which speaker I buy as my room size is small and I don't listen to my music very loudly. Also is there a better speaker system in this budget range.

Ram Chaitanya



F&D 680

**A** Thanks for writing in. The only other alternative we can think of is the Altec Lansing MX6021 which is better than the Logitech Z623. However the speaker set is a little difficult to procure and is not always in stock. In fact, so is the Z623 and both are well over your USD 100 budget.

For your room size you really don't need 200 W of power. Any speaker will do. If you can carry one to the States, we'd recommend this one: <http://goo.gl/Fmqju>

## Gaming rig

I want to assemble a PC with a decent configuration and a budget between ₹25,000 to ₹35,000. I want a processor with dedicated graphics, Core i5 or i7 (3rd generation) processor along with 4 GB of RAM, a soundcard and 500GB or 1TB HDD. I will be using it for gaming and multimedia.

Navendu Bharadwaj

**A** Your budget is upto ₹35,000 so it will be difficult to get an Intel Core i7 rig in that price. Also a sound card does not make sense within this budget specially since you are not doing any audio related work. The onboard audio chips are more than enough to handle gaming sounds. Here is our rig suggestion:

- Processor: Intel Core i5-3450 (₹11,400)
- Motherboard: Gigabyte GA-B75M-D3H (₹4,200)
- RAM: Corsair Vengeance 4GB (₹1,775)
- HDD: Seagate 500GB 7200.12 (₹3,290)
- Monitor: Viewsonic VA2038WM (₹6,200)
- Graphics card: ASUS Radeon HD 6670 (₹5,600)
- Cabinet: Huntkey T-91 (₹1,450)
- PSU: Corsair VS450 (₹2,200)
- Keyboard/Mouse bundle: Zebronics Judwaa 5 (₹465)
- Total: ₹36,580



C12.0

- 1.3M pixels (Interpolated 12M pixels still image & 2M pixels video resolution)
  - High quality 5G wide angle lens
- 6 LEDs for night vision, with brightness controller
  - Built-in high sensitive USB microphone
  - Snapshot button for still image capture
- 4X Digital zoom and Auto Face Tracking Function



[www.iBall.co.in](http://www.iBall.co.in) | Over 30 million iBall products sold

Best IT World (India) Pvt. Ltd.: Email: [sales@iball.co.in](mailto:sales@iball.co.in)  
Mumbai - 022 - 6774 5100 / 3081 5100 / 9820723393,  
Ahmedabad - 079-2746 1049, Bangalore - 080-4124 3646/ 9609,  
Bhubaneswar - 0674- 329 7372, Cochin - 0484- 220 7141,  
Chennai - 044- 4216 8561, Dehradun - 0135- 324 4481,  
Guwahati - 94357 31462, Goa - 80070 35766, Hubli - 0836- 2272801 / 802,  
Haryana / Himachal - 0124- 225 0478, Indore - 0731- 404 2509,  
Jaipur - 0141- 313 0340, Kolkata - 8017518545,  
New Delhi - 8860080580, Lucknow - 0522- 400 5840,  
Ludhiana - 09316065255, Nagpur - 0712-302 3811,  
Nashik - 98605 39199, Pune - 093723 37752, Patna - 0612- 326 0947,  
Raipur - 0771- 329 3674, Ranchi - 0651- 324 4199,  
Secunderabad - 040- 2789 4847.



## Obsidian 900D released

A system builder's dream, the Corsair Obsidian 900D was released recently and is expected to arrive in India soon

## S/W dev myths busted

Do you think that writing code and developing software are the same thing? Have a look at this video if you do <http://dgit.in/10yLUtc>

# SPEND SMART

In the market for a new Graphics Card? Check out their prices and details here...



## GRAPHICS CARDS - NVIDIA

Brand	Model	Core Clock	Memory Clock	CUDA Cores	VRAM	Memory Type	DirectX Version	Warranty	Price
ASUS	GeForce EN210	589 MHz	1200 MHz	16	1 GB	GDDR3	10.1	3 years	1956
ASUS	GeForce GT640	901 MHz	1782 MHz	384	2 GB	GDDR3	11	3 years	6705
ASUS	GeForce GTX650-E-2GD5	1071 MHz	5000 MHz	384	2 GB	GDDR5	11.1	3 years	9500
ASUS	GeForce GTX650TI-DC2T-1GD5	980 MHz	6008 MHz	768	1 GB	GDDR5	11.1	3 years	13000
ASUS	GeForce GTX680	1058 MHz	6008 MHz	1536	2 GB	GDDR5	11	3 years	38467
ASUS	GeForce GTX690	915 MHz	6008 MHz	3072	4 GB	GDDR5	11	3 years	69300
eVGA	GeForce GT640	901 MHz	1782 MHz	384	2 GB	GDDR3	11	3 years	7750
eVGA	GeForce GTX560	810 MHz	4008 MHz	336	1 GB	GDDR5	11	3 years	14495
Gainward	GeForce GT610	810 MHz	535 MHz	48	2 GB	GDDR3	11	3 years	2700
Gainward	GeForce GT620	700 MHz	535 MHz	96	2 GB	GDDR3	11	3 years	3900
Gainward	GeForce GT630	780 MHz	535 MHz	96	2 GB	GDDR3	11	3 years	4000
Gainward	GeForce GTX 650	1058 MHz	2500 MHz	384	1 GB	GDDR5	11.1	3 years	7500
Galaxy	GeForce GTX 650 Ti Boost	980 MHz	5000 MHz	768	1 GB	GDDR5	11.1	3 years	15000
Galaxy	GeForce GTX 670	954 MHz	6008 MHz	1344	1 GB	GDDR5	11.1	3 years	27000
Gigabyte	GeForce GTX650 GV-N650OC-2GI	1058 MHz	5000 MHz	384	2 GB	GDDR5	11	3 years	9587
Gigabyte	GeForce GTX660 GV-N660OC-2GD	980 MHz	6008 MHz	960	2 GB	GDDR5	11	3 years	15486
MSI	GeForce N660Ti PE 2GD5/OC	1019 MHz	6008 MHz	1344	2 GB	GDDR5	11	3 years	21307
MSI	GeForce N680GTX Twin Frozr III OC	1058 MHz	6008 MHz	1536	2 GB	GDDR5	11	3 years	36312
Palit	GeForce GTX 650Ti	928 MHz	2700 MHz	768	1 GB	GDDR5	11.1	3 years	9898
Palit	GeForce GTX 660Ti JET-STREAM	1006 MHz	3054 MHz	1344	2 GB	GDDR5	11.1	3 years	20685
ZOTAC	GeForce GT620 Synergy Edition	700 MHz	1066 MHz	96	2 GB	GDDR3	11	2 years	3999
ZOTAC	GeForce GT630 Synergy Edition	810 MHz	1066 MHz	96	4 GB	GDDR3	11	2 years	4849
ZOTAC	GeForce GT640	900 MHz	1600 MHz	384	2 GB	GDDR3	11	5 years	6777
ZOTAC	GeForce GTX660 Ti AMP! Edition	1033 MHz	6608 MHz	1344	2 GB	GDDR5	11	5 years	24100
ZOTAC	GeForce GTX 670 (ZT-60304-10P)	954 MHz	6008 MHz	1344	2 GB	GDDR5	11	5 years	28642
ZOTAC	GeForce GTX TITAN	837 MHz	5000 MHz	2688	6 GB	GDDR5	11.1	2 years	68000
ZOTAC	GeForce GTX 690 (ZT-60701-10P)	915 MHz	6008 MHz	3072	4 GB	GDDR5	11	3 years	69000



## Free Video Access

The NYT now allows free viewing of it's videos, a big step considering it is known for keeping news behind a defined paywall



## Build a charger

Check out this guide to build a cable-managed, battery-powered, multi-gadget charger. <http://dgit.in/XVYONV>

Price Watch



# GRAPHICS CARDS - AMD

Brand	Model	Core Clock	Memory Clock	Stream Processors	VRAM	Memory Type	DirectX Version	Warranty	Price (in ₹)
ASUS	AMD Radeon HD 6570	650 GHz	1800 MHz	480	1 GB	GDDR3	11	3 years	4000
ASUS	AMD Radeon HD 7750	820 GHz	4600 MHz	512	1 GB	GDDR5	11	3 years	8350
ASUS	AMD Radeon HD 7770	1020 GHz	4600 MHz	640	2 GB	GDDR5	11	3 years	9550
ASUS	AMD Radeon HD 7850	870 MHz	4840 MHz	1024	2 GB	GDDR5	11	3 years	17036
ASUS	AMD Radeon HD 7950	900 MHz	5000 MHz	1792	3 GB	GDDR5	11	3 years	23557
ASUS	AMD Radeon HD 7870	1010 MHz	4840 MHz	1280	2 GB	GDDR5	11	3 years	25043
HIS	AMD Radeon HD 5450	650 MHz	1000 MHz	80	1 GB	GDDR3	11	3 years	1962
HIS	AMD Radeon HD 6450	625 MHz	1000 MHz	160	2 GB	GDDR3	11	3 years	3152
HIS	AMD Radeon HD 6570	650 MHz	1000 MHz	480	2 GB	GDDR3	11	3 years	4463
HIS	AMDRadeon HD 6670	800 MHz	4000 MHz	480	1 GB	GDDR3	11	3 years	5014
HIS	AMD Radeon HD 7750	800MHz	4500 MHz	512	1 GB	GDDR5	11	3 years	7533
HIS	AMD Radeon H777F1G2M	1000 MHz	4500 MHz	640	1 GB	GDDR5	11	3 years	8859
HIS	AMD Radeon H787Q2G2M	1000 MHz	4800 MHz	1280	2 GB	GDDR5	11	3 years	17164
HIS	AMD Radeon HD 7970 IceQ X	925 MHz	5500 MHz	2048	3 GB	GDDR5	11	3 years	36065
MSI	AMD Radeon HD 7750 Power Edition	900 MHz	4500 MHz	512	1 GB	GDDR5	11	3 years	7500
MSI	AMD Radeon HD R7770 Power Edition 1GD5/OC	1100 MHz	4500 MHz	640	1 GB	GDDR5	11	3 years	9457
MSI	AMD Radeon HD R7850 Power Edition 2GD5/OC	950 MHz	4800 MHz	1024	2 GB	GDDR5	11	3 years	15379
PowerColor	AMD Radeon HD 5570	650 MHz	1800 MHz	400	1 GB	GDDR3	11	3 years	3500
PowerColor	AMD Radeon HD 6670	800 MHz	900 MHz	480	2 GB	GDDR3	11	3 years	5069
PowerColor	AMD Radeon HD 6870	900 MHz	1050 MHz	1120	1 GB	GDDR5	11	3 years	12900
PowerColor	AMD Radeon HD 7750	800 MHz	4500 MHz	512	1 GB	GDDR5	11.1	3 years	7490
PowerColor	AMD Radeon HD 7770	1000 MHz	4500 MHz	640	1 GB	GDDR5	11.1	3 years	9390
PowerColor	AMD Radeon HD 7850	860 MHz	4800 MHz	1024	2 GB	GDDR5	11.1	3 years	13700
PowerColor	AMD Radeon HD 7950	800 MHz	5000 MHz	1792	3 GB	GDDR5	11.1	3 years	23000
Sapphire	AMD Radeon HD 7750	800 MHz	4500 MHz	512	1 GB	GDDR5	11	3 years	7420
Sapphire	AMD Radeon HD 7770	1000 MHz	4500 MHz	640	1 GB	GDDR5	11	3 years	9147
Sapphire	AMD Radeon HD 7850 HDMI OC Edition	920 MHz	5000 MHz	1024	2 GB	GDDR5	11	3 years	16127
Sapphire	AMD Radeon HD 7870 Flex Edition	1000 MHz	5000 MHz	1280	2 GB	GDDR5	11	3 years	18743
Sapphire	AMD Radeon HD 7950	810 MHz	5000 MHz	1792	3 GB	GDDR5	11	3 years	24350
Sapphire	AMD Radeon HD 7970 Vapor-X	1000 MHz	6000 MHz	2048	3 GB	GDDR5	11	3 years	34223
Sapphire	AMD Radeon HD 7970 Vapor-X OC Edition	1000 MHz	6000 MHz	2048	6 GB	GDDR5	11	3 years	42647
XFX	AMD Radeon HD 6850	775 MHz	4000 MHz	960	1 GB	GDDR5	11	2 years	8900
XFX	AMD Radeon HD 7970 Core Edition	925 MHz	5500 MHz	2048	3 GB	GDDR5	11	2 years	40000

# digit KILLER RIGS

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

■ Basic rig = ₹24,780 ■ HTPC = ₹25,235 ■ Entry-level gaming = ₹39,240 ■ Mid-range Compact System = ₹57,289 ■ Mid-range gaming = ₹63,249 ■ Ultra high-end = ₹1,79,766

## BASIC RIG

Processor	Intel Pentium G840	4100
Motherboard	Asus P8H61-M LX3	3100
RAM	Corsair 2GB DDR3 1333MHz	1100
HDD	Seagate 500GB 7200.12	3290
Monitor	ViewSonic VA2038WM	6500
Graphics Card	None	0
Cabinet	Huntkey T-91	1500
PSU	Corsair VS450	2500
Speaker (2.1)	Altec Classic Audio BXR1221	1200
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Amkette Ash Black (Bundle)	540
Keyboard	Amkette Ash Black (Bundle)	0
Sound Card	None	0
<b>Total</b>		<b>24,780</b>

## HTPC

Processor	AMD A6-3650	6450
Motherboard	ASRock A75M	4500
RAM	Kingston 2GB DDR3 1333MHz	1100
HDD	Western Digital WD20EZRX 2TB	5700
Monitor	None (your TV)	0
Graphics Card	None (HD6530D onboard)	0
Cabinet	Cooler Master Elite 120 Advanced	2799
PSU	Antec Basiq BP350 - 350 Watts	1836
Speaker	None	0
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Microsoft Desktop 2000 wireless combo	1900
Keyboard	Bundled	0
Sound Card	None	0
<b>Total</b>		<b>25,235</b>

## ENTRY-LEVEL GAMING

Processor	AMD A10-5800K	8600
Motherboard	ASUS F2A85-M Pro	8700
RAM	G-skill F3-10600CL9S-4GBNT	2400
HDD	Seagate 1 TB ST2000DL001	4900
Monitor	BenQ G2222HD	7000
Graphics Card	None	0
Cabinet	Huntkey T-91	1450
PSU	Corsair VS450	2500
Speaker	Altec Lansing V2621	2200
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Amkette Ash Black (Bundle)	0
Keyboard	Amkette Ash Black (Bundle)	540
Sound Card	None	0
<b>Total</b>		<b>39,240</b>

## MID-RANGE COMPACT SYSTEM

Processor	Intel Core i5-3570K	14900
Motherboard	ZOTAC Z77X-ITX A-E	10100
RAM	Corsair Vengeance 8GB DDR3 1600	4290
HDD	Seagate Barracuda 2 TB	5950
Monitor	Your TV	0
Graphics Card	ASUS GTX 650 Ti DC2T-1GD5	13000
Cabinet	Cooler Master Elite 120 Advanced	2799
PSU	Cooler Master Thunder 500W	3400
Speaker	None	0
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Microsoft Desktop 2000 wireless combo	1900
Keyboard	Bundled	0
Sound Card	NA	0
<b>Total</b>		<b>57,289</b>

## MID-RANGE GAMING

Processor	Intel Core i5-3450	11500
Motherboard	Gigabyte GA-B75M-D3H	4200
RAM	Corsair Vengeance 4 GB	2500
HDD	Toshiba 1TB + Kingston V100 64GB	7430
Monitor	BenQ G2420HD	9769
Graphics Card	MSI R7850 PE 2GD5/OC	14500
Cabinet	Antec One - S3	3000
PSU	Corsair GS 600	4800
Speaker	Altec Lansing V2621	2200
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Razer Abyssus (bundled)	0
Keyboard	Razer Abyssus (Bundled)	2400
Sound Card	None	0
<b>Total</b>		<b>63,249</b>

## ULTRA HIGH-END GAMING

Processor	Intel Core i7-3770K	20800
Motherboard	ASRock Fatal1ty Z77 Professional	16000
RAM	Corsair Vengeance 8GB (2x4GB) DDR3 1600	4290
HDD	WD WD30EZRX 3TB + Corsair Neutron 120 GB	16115
Monitor	BenQ XL2420T	23200
Graphics Card	ZOTAC GTX 680 2 GB	34000
Cabinet	Cooler Master HAF - XM	9500
PSU	Cooler Master Real Power Pro 850W	11044
Speaker	Logitech Z906 5.1	18200
Optical Drive	LG Blu-ray WH14NS40 RW	6997
Mouse	Roccat Kone XTD	4750
Keyboard	Thermaltake eSports Challenger Pro	4370
Sound Card	ASUS Xonar Phoebus	10500
<b>Total</b>		<b>1,79,766</b>

# worldview

OUR PICK OF THE BEST TECH ARTICLES FROM AROUND THE GLOBE

## (MUST READS)



### MICROSOFT EXCEL: CONTRIBUTING TO ECONOMIC DOWNTURN?

Could an erroneously applied Excel formula have contributed to the global economic downturn? A team of researchers from University of Massachusetts is punching holes into a widely circulated 2010 Paper by two economists

<http://dgit.in/11210LR>

### THE CHAMPIONS OF TECH INNOVATION

Check out this memorable and elegant tribute to some of the best minds and visionaries of the tech world. Tech titans discuss what it takes to get it right and their take on their achievements

<http://dgit.in/Zz6Nqr>

### FINDING LOST PHONES

Despite its greatness, Android misses a feature as simple as finding and locating your lost device. Why?

<http://dgit.in/17FIXqJ>

### OF CAMERA OPTICS AND SMARTPHONES

AnandTech's Brian Klug discusses the optics involved in cameras these days and how it's affecting smartphone photography in an informative and easy-to-understand presentation

<http://dgit.in/11c2qvE>

(Mashable Corner)

### DATA MINING: HOW CELLULAR OPERATORS TRACK AND MONETIZE YOU



Moving beyond the mere purview of effective marketing and data planning, cellular operators are leaving no stone unturned to conduct deep-dive customer analysis and aggregate anonymous data on usage patterns to take business intelligence and revenue streams to a whole new (scary) level <http://dgit.in/17Fu47M>



#### New tech keeps space satellites off collision course

A DARPA funded project by a team of Estonian programmers has resulted in Sharemind, a special software that will allow countries or private space entities to effectively regulate satellite traffic in space without giving away secrets <http://dgit.in/XQtSkm>



#### Nanostructures significantly increase battery life

To solve the problem of modern battery efficiency and longevity, Stanford researchers are deep-diving into the basic building blocks of a battery's complex chemical makeup to create formidable nanostructures <http://dgit.in/11rbMU9>



#### PC sales dip: Don't blame Windows 8

In the wake of IDC's recent report on disastrous PC sales worldwide, Lance Ulanoff (Mashable's editor-in-chief) tries to justify how everything that's wrong with the PC market shouldn't just be blamed on Windows 8 <http://dgit.in/14uPKyh>

### FIRST APP-CONTROLLED BIONIC HAND



A bionic arm that goes by the name of i-Limb

Ultra Revolution is hailed as the first-of-its-kind to be controlled via the comfort of a smartphone app, with the tap of a button. Great way to give muscle power a break <http://dgit.in/ZqdPYT>

### WINDOWS IS DEAD



Following an IDC report on the worst sales period

for the PC segment, a point of view that pegs the blame fairly on Windows 8 and its lacklustre appeal among consumers. But is Windows as we know it truly dead? <http://dgit.in/15ePLfx>

### FOLLOWERS: LOOKING BEYOND THE NUMBERS



What was once the gold standard for measuring your

success on social media – a.k.a your follower count on Twitter, Facebook, Instagram and others – the internet is now closely scrutinizing the quality of your following <http://dgit.in/Z2AE5i>

### 80S TECH DEFINES TODAY'S DIGITAL AGE



You'd be surprised just how many of today's gadgets

and gizmos date back to tech breakthroughs achieved in the 1980s. Sift through this list and see if you possess any of these 'tech marvels' <http://dgit.in/11fesli>

# Human Genome Project is 10 years old, what's next?

- John Hewitt



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This past Sunday marked the 10<sup>th</sup> anniversary of the sequencing of the human genome. Now that a little time has passed, it makes sense to take stock of what the project has done for us. For the average person, probably not a whole lot. Having an example DNA sequence on file for analysis has slowly trickled out blips of insight for those who look at things like, for example, subtle varieties of various functional genes, or tracing the remnant repeats of viruses that have integrated into the sequence over time. Of particular interest has been how many times they have copied themselves, and spread throughout the genome. However, the main area that sequence technology gives its greatest benefit is medicine — in particular, cancer treatment.

When Steve Jobs was diagnosed with pancreatic cancer, he paid around \$100,000 to have his genome sequenced in an effort to gain any information he could about his cancer, and possible treatments for it. Unfortunately there wasn't a whole lot that could be done with that information even just a few years ago. Today however, depending on the type of cancer you have, everything from the invasiveness of your particular brand of tumor, its response to any of a host of drugs in your treatment cocktail, and even how your body metabolizes, excretes, or otherwise unravels in allergic response to those

drugs, can be assessed. Regrettably, at the moment at least, the tests for those various factors are still given piecemeal, kind of like paying \$32 to read a journal article for 24 hours when a year's subscription is only \$120. With the cost of sequencing a genome shrinking to \$1000 or less, it will soon make sense for everyone to subscribe.

Nowhere has genetic analysis of cancer patients become more of an issue than for breast cancer. This week the courts began deliberations on the right of one company, Myriad Genetics, to patent your genes — in particular a gene known as BRCA-1. A better way to put that may be to say that the



courts began deliberations on your right to pursue genetically-informed treatments in a timely and affordable manner without the now present monopoly on information that should be in the public domain, regardless of efforts spent to obtain it. It is absurd to live under a system that says just because someone spends resource to solve a problem you happen to have, you have no right to seek relief from any other source. Right now, if

woman wants to know if she has mutations in two common breast cancer genes, she has little or no choice of where she can be tested, for her own gene. Myriad controls that, and virtually the entire market with it.

Immediate issues aside, we have a long way to go towards learning the function of all the genes we have now sequenced. Even more important than knowing these functions, is knowing how all of the genome is organized in the nucleus to define each of our cells, and by implication, our entire organism. The operational structure of nucleus is what we want to understand now.

Beyond that, having a fully-clickable genome, not only for the fertilized egg from which we were conceived, but from any important cell in our bodies at the time it was sequenced, would be invaluable towards understanding our current health and future prognosis. Each major hit of radiation, or of any of a host of other natural insults we receive in the course of life, leaves its mark. Depending on the health of repair mechanisms, faults might be repaired, or they can slip away unnoticed to cause problems at a later date.

The legacy of the understanding of our genomes has just begun. As more people arm themselves with knowledge of their genes, this information will continue to grow in collective value. To share this information openly with others and learn from them in response is a privilege. To fear sharing that knowledge on the weak pretense of abuse will be seen, looking back, not only as cowardice, but ingratitude.

**PLATINUM GAMES: THE PRESENT AND FUTURE**

Tatsuya Minami is a 20-year veteran of the gaming

industry, having worked on the creative side of some of the biggest names around. But he's now running a company. Read on to find out how he does that in his own unique way  
<http://dgit.in/13j60Js>

**HOW DO COMPUTERS DECIPHER SPEECH?**

The history of voice and speech recognition in

machines is a long and complicated one. Turns out that making computers understand our speech is one of the most difficult tasks, and this is how it's done  
<http://dgit.in/173w1K6>

**METACRITIC: THE BANE OF VIDEO GAMES?**

Game review ratings are increasingly driving con-

sumers and game developers' decision to spend precious time and resources on a title. And this is hurting the video game industry, argues one gamer  
<http://dgit.in/100jYXD>

**SMARTWATCHES: THE NEXT BEST THING**

The PC market is dying, and smartphones and tablets are

expected to have a bumper year in sales. But what's the next big thing? Read on to find out how tech giants are betting big on smartwatches and wearable tech  
<http://dgit.in/113g3vF>

# Shape-changing plastic could give touchscreens real physical clicky keyboards

- Graham Templeton



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Imagine if we could change the friction of a surface, make it smoother or bumpier with real physical deformations? More to the point, what if we could make a keyboard that actually popped out of the screen, and which could be depressed as we typed? Strategic Polymers claims it will bring a product to market next year that can do just that: pop up keys that actually click when clicked, and that do so with a ground-breaking millisecond response time.

Even *Star Trek* didn't posit such advances some 300 years in the future, with even the Federation's flagship using flat, chirpy touchscreens. The Strategic Polymers solution uses a new high-strain electromechanical material that can deform by "as much as 10%" and which responds quickly. Historically, we've had to choose one of those two virtues, getting either slow and meaningful responses, or quick and tiny ones. Here, Strategic Polymers claims we've got a technology that will allow true, clickable keys to pop right out of the surface of your smartphone's touchscreen, and to respond quickly and accurately. See an early video of the technology below.

The technology works via electrostriction, which is a property of every dielectric object in the world. By engineering this polymer to respond very specifically



to an applied electric field, however, the researchers claim to be able to create all sorts of useful deformations — like, for instance, a couple of dozen square keyboard keys. By adjusting the applied electric field in response to touch, the screen can seem to move in response to pressure, though in reality it's still only moving in response to the electric field, which is changing in response to touch. The result, if it all works as quickly and seamlessly as Strategic Polymers claims, would be a real physical keyboard on a fully functional touchscreen.

What is currently unclear, however, is how pre-programmed these physical features might need to be. It's of course exciting to imagine a touchscreen that could take on a new physical controller layout for every game or application, put a rough strip down the right of the screen for a nice tactile scroll bar, or volume slider you can feel slide, or perhaps just an embossed top logo. Current info doesn't make it clear if this will be possible, however, as the deformations might need to be built into the electro-

active polymer; a keyboard could work because a reliable key layout could be built right into the polymer. The ExtremeTech logo is, unfortunately, much more up in the air.

One very interesting feature is the material's ability to play sound. A speaker is just a highly controlled vibrating surface, really, one that creates patterns of tiny shockwaves that we interpret as sound. This haptic technology has a low enough response time that it can do this itself. This tech could turn just about any surface into a low-fi computer speaker.

Thin and transparent, the new tech is billed as yet another in the steadily growing list of screen layers. It's become a bit of design cliché to feature an exploded picture of a screen's many and innovative layers, from light scattering glass to touchscreen films to, now, haptic top coats. This layer will have to be on the surface of the screen, since it can't very well push up through a layer of Gorilla Glass, and so the claims about the material's durability will be absolutely key.

Virtually everyone who's used a touchscreen keyboard has wished for this technology at one time or another. It calls to mind all sorts of wild and questionably useful applications, like a raised ring you can physically stick your thumb into and drag down to scroll, or Google Maps with real topology. It's the sort of advance that could finally drag Apple out of the "But it's just a faster iPhone!" era, offering the biggest step forward in touchscreen functionality since multitouch.

## (worldview)

### RADIOLAB

An intriguing radio show and podcast, Radiolab is dedicated to curiosity. It's made up of a bunch of folks tackling interesting



questions – What if the moon is just a jump away? What is the history of Heimlich Manoeuvres? Is reality an ethereal, mathematical poem... or is it made up of solid, physical matter? Hope you get the drift. The discussions at Radiolab are thought-provoking, to say the least. Give it a try:

<http://dgit.in/114rS19>

### (QR Code)



For a list of all the links from this section, head over to <http://dgit.in/101oRzF> Or point your phone to the QR code above

## (PRODUCT LAUNCHES)

### HTC FIRST



Facebook didn't reveal a Facebook-branded phone at its recent Home event, so the HTC First, in all honesty, is the first Facebook phone out there. Available with a \$99 contract, it sports a 4.3-inch Super LCD screen and Android Jelly Bean <http://dgit.in/13k5MNH>

### TOSHIBA KIRABOOK



The MacBook Pro retina display and Chromebook Pixel has a new rival – the Toshiba Kirabook, which sports a 2560x1440 resolution 13-inch display. It's light, powerful and promises to be an uber cool ultrabook <http://dgit.in/ZBgaMz>

### PANASONIC VIEIRA ZT60



As Panasonic confirmed shutting down its plasma TV business, the ZT60 could literally be the last plasma TV of its kind. The ultimate 3D plasma TV in Panasonic's line-up, the Vieira ZT60 will definitely make heads turn <http://dgit.in/13k7deK>

## WORD JUMBLE

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

### ABSOLUTE TIMEPASS

How well do you know the face changers of technology? Find the nine tech giants mentioned in this jumble

## Top 3 YouTube Picks

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



### New Age Road Rash

Duration: 00 mins 57 secs

Made by a bunch of Road Rash fans with serious game development background <http://dgit.in/15nHQgg>



### Why Do We Play Games?

Duration: 12 mins 12 secs

How playing games provide you with necessary survival skills <http://dgit.in/13lHoif>



### Welcome to 4D Printing

Duration: 08 mins 23 secs

4D printing plans to rewrite rules and broaden our horizons <http://dgit.in/15nLczM>



Interview with  
Harish Pillay,  
Global Community &  
Technology Architect,  
Red Hat  
For complete interview:  
[devworx.in](http://devworx.in)

# Microsoft announces Azure Infrastructure Services



Microsoft has announced the public release of its Windows Azure Infrastructure Services to compete with Amazon Web Services. The new service which has been in limited preview since 2012 is now available with a simultaneous price drop ranging from 21 to 33 per cent. The new Infrastructure as a Service offering provides a virtualised Windows and Linux environment on the Azure platform. Bill Hilf, General Manager from Windows Azure Team

said in a blog post, "We'll never tell you that a Microsoft app inside your virtual machine is 'up the stack' and not support it—we'll support it and make sure you're successful. And we'll back it with monthly SLAs that are among the industry's highest." Hilf also quoted some feedback and described anecdotes from customers such as Digital Air Strike and Telenor. He was quoted saying that Telenor reduced its setup time for Sharepoint from 3 months to

2 weeks, saving time with a 70 per cent cost reduction on their test environment. Additionally, Azure is reported to have more than 2,00,000 customers who use a hybrid approach to deploy their applications in the cloud.

Among the applications that have just made it to the list of instances that are pre-validated by Microsoft are SQL Server, SharePoint, BizTalk Server, and Dynamics NAV. Some new high memory instances have also been added for those cases which have to work on peak workloads.

All these goodies come with a guarantee that Microsoft will always match up to any price drop that Amazon AWS goes through in the future. This commitment on behalf of Microsoft makes sure that it will be able to make a sizeable dent in Amazon's market share.

Read the entire article at <http://dvwx.in/Zvj3iU> and share your comments. >

## \*side panel



### \*Facebook's OpenGraph for mobile

>>The new set of announcements are aimed at providing a better experience for mobile app developers to integrate Facebook into their applications. Read:

<http://dvwx.in/11i1ru6>

### \*Intel launches HTML5 app dev platform

>>Intel released a new set of HTML5 tools at its Intel Developer Forum in Beijing. The company says that this platform is inspired from, and resembles Appmobi's HTML5 platform. Read:

<http://dvwx.in/17BRo6x>



### \*Amazon opens AppStore in India

>>Amazon has announced that its app store will be available in India and over 200 countries where developers will be able to sell apps locally and internationally. Read:

<http://dvwx.in/XGSSbE>

## \*footer

### RHEL and OpenJDK break Java benchmark speeds

>>Red Hat announced that OpenJDK 7 running on Red Hat Enterprise Linux 6 broke all earlier records of Critical Java Operations per second performance metric on the SPECjbb2013 benchmark. This is expected to show the much-faster Java execution speeds with OpenJDK software on RHEL servers.

<http://dvwx.in/12yy0XW>



### Google kills spam apps

>>After announcing the new redesigned Play Store for Android, which is being rolled out to users around the world, reports of more than 60,000 spam apps being killed have surfaced. These are generally those which overlook the app store guidelines and terms, inviting its termination from the App Store.

<http://dvwx.in/Zh82l8>

### Planning Commission organises hackathon

>> In what is seen as an effort to improve its connect with the youth and aid in the awareness of the 12th Five year plan, the Planning Commission of the Government of India, in collaboration with the National Innovation Council organized a two-day hackathon on April 06-07, 2013 at more than 10 venues across India. The objective of these events was to develop applications with a social angle. For more information, go to:

<http://dvwx.in/10IfZjo>



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# Work and play with Nokia Asha

>> Nokia's Series 40 is the most widely used mobile platform. With the sheer number of established users on its side, it is a lucrative target for app developers > by Nash David



Nokia in association with Digit and Devworx conducted bootcamps across Delhi, Mumbai, Pune and Hyderabad to engage the developer community and increase awareness about the opportunities that lie in developing applications for Nokia's vast portfolio of smartphones. Over the course of a day, participants were able to interact with members of Nokia India's Developer Experience team, including Sangeeta Bavi and Jeffrey Rufus from the Developer Experience team at Nokia India. In addition to this, there were engineers and mentors from Nokia who spoke on the SDKs and APIs by Nokia.

## Introduction to S40

The Nokia Asha Bootcamp sessions across Delhi, Mumbai, Pune and Hyderabad in March this year focussed on enabling devel-



Gerard Rego, Director - Developer Experience, Nokia India shares tips with an enthusiastic audience during the multi city bootcamp

opers comprising students as well as professional developers to get a hold of the tools and opportunities that have been provided by Nokia. Sangeeta shared insight on the growth of mobile devices, and focused on the adaptation of Nokia Asha devices globally. Considering that India is an emerging market, it is no surprise that Asha smartphones are critically important to audiences due to strategic price point of available devices.

## Business opportunities

Monetisation and financial success were quick to gain the attention of participants. Statistics by Nokia, first-hand experiences of implementing best practices by Indian app development companies such as Jump Games (India's premier mobile gaming and publishing firm and a part of Reliance Enter-



Sangeeta Bavi, Head - Developer Outreach, Nokia India highlights the advantages of developing apps for the Asha range of devices





Jump Games – a success story



Developers gaining valuable tips from Nokia's speakers



Attendees spare a moment for a photo-op



Technical sessions by Nokia engineers...



...app demos by budding developers...



...and tips on app monetisation



Attendees with their certificates of participation

tainment) gave the audience an overall understanding of consumer behaviour and preferences. Jeffrey who heads the Nokia App Store at Nokia India shared tips on marketing your applications and understanding app adoption trends among consumers, that developers could successfully leverage for growth.

**Near your city**

Watch this space for more announcements regarding similar activities in your city. >

To stay updated on news, events and conferences, visit us online. Go to [www.devworx.in](http://www.devworx.in)



>>We need freedom to change service providers>>

>>Harish Pillay, Global Community and Technology Architect, Red Hat

**What is Red Hat's role in PaaS?**

There have been attempts at PaaS (Platform as a Service), but none of them were truly open-source in nature. We felt the need to define this space. OpenShift is everything that goes into the middleware. As a developer you can develop your application in the language you choose using a whole range of frameworks.

**What are some points to ponder over regarding the cloud?**

I believe there's no point talking about moving to the cloud, if it is not clear how you would leave the cloud. So I think what's more important is what the exit strategy would be from your current cloud service provider to another. That's really the question to ask, else you'll be stuck with the provider you opt for without a strategy in place when you need to change. We all need flexibility and freedom to change cloud service providers.

**Is OpenShift modular in approach?**

There are two terms we use in OpenShift. We have something called a Gear and something called a Cartridge. So yes, it is modular in the sense that everything is a gear. You can have a MySQL Gear, a PostgreSQL Gear. You could have different types of Gears to provide specific capabilities.

**Is there any significant product or company that has developed anything on OpenShift?**

There is a very popular online IDE called Cloud9 (c9.io). It is built using OpenShift and enables developers to develop apps that actually run on OpenShift which is very interesting. >

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>>You've been following devworx every month as you enjoy your favourite technology magazine. With your support, devworx has been on a steady rise, and is discovering its identity with you – the reader – the developer. While on one hand, it's an extension of your most trusted brand – Digit; on the other, it's tailored for application developers in India.

Whether you're an app development company based out of India, an application developer, or simply an enthusiast – you are nonetheless, a catalyst in India's growth as a software development powerhouse. Be it the Large Hadron Collider at CERN, or the Curiosity Explorer currently roving across Martian terrain,

Indian technologists and developers are a very close part of cutting edge innovation across the globe. We want to help you innovate!

devworx is an attempt to recognise such stories in software innovation, early on! Irrespective of where you stand in the scenario illustrated, we invite you to be a part of us. Whether you're an established app development company, a policy maker influencing the mobile ecosystem, or an individual developer, there's a lot to share with the community. We eagerly want to hear your story. Write to us today! Visit [www.devworx.in](http://www.devworx.in) and go to the Contact us and Careers pages for further information. You can also email us at [editor@devworx.in](mailto:editor@devworx.in).

**\*open source**



**Alfresco**

>>Alfresco is a free/libre enterprise content management system for Microsoft Windows and Unix-like operating systems. Alfresco comes in three flavors: Alfresco Community Edition (free), Alfresco Enterprise and Alfresco Cloud (SaaS version of Alfresco).

<http://dvwx.in/10B7ey7>



**Magnolia**

>>Business users will love Magnolia's instant mobile sites, simplified page editing interface and document management integration via CMIS, an industry standard supported by Sharepoint, Documentum and others. Developers benefit from latest technologies and enhancements.

<http://dvwx.in/ZJGEQ4>



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**Work@tech**

Find out what it takes to make or break a career in software testing

**Flip. Read. Now.**

Two weeks since Flipboard introduced its new magazine feature, its readers have already created over 500,000 publications

# How to become a Social Media Expert to boost your business

In this edition of SmartSoho, we bring to you simple yet effective social media tools and tips that'll help you become a social media expert and take your business to the next level.

Ekta Tibrewal

readersletters@thinkdigit.com

When you're running an enterprise, you might not get time to keep up with all this tweeting, pinning, and checking-in business. But try as hard as you might to ignore it, social media has become a platform. When used wisely, it can become one of the most effective ways of building businesses.

Be it for promotions, advertising, expanding market reach or simply building customer relations; social media can indeed boost your business. Thanks to the various social media tools that allow you to curate social updates, conversations online are more refined. Success measurement and analysis of social pages of businesses is more streamlined. And businesses and entrepreneurs are now re-shaping their strategies with the goal of attaining growth across social media platforms.

To save you effort and time, we've tried and tested innumerable tools and whipped up a list of the best. It's time to become a social media ninja.

## 1. Hootsuite

<http://hootsuite.com/>

**Chrome, Firefox, iOS, Android**  
**Free and Pro version for \$9.99/month**

Consistently updating and tracking social accounts can get tedious. This is where Hootsuite comes in. Hootsuite is a social media management tool that helps you track all your social networks using a single window. All you need to do is install



Manage all conversations from one place using Hootsuite

Hootsuite, launch it in your browser and connect your Twitter, Facebook and LinkedIn accounts. Hootsuite lets you set up live streams in customizable tabs and help you manage your day-to-day social communications easily. One of the most efficient features of Hootsuite is batch scheduling. If you can't find enough time during the day to consistently update your Twitter/Facebook accounts, Hootsuite lets you pre-schedule up to fifty unique updates/messages, ensuring that you're active on all your social media platforms throughout the day.

## 2. Facebook Pages Manager

**Android & iOS**

**Price: Free**  
Let's admit it; Facebook is one of the largest and vital platforms when it comes to social media marketing for businesses. Which is why, active conversation is imperative on your business' Facebook page. Now you don't have to stay glued to your computer

all day for perpetual engagement with your fans. With Facebook's Facebook Pages Manager App for Android and iOS, you can update your business' Facebook page straight from your mobile phone. Be it replying to comments, changing coverphotos, profile pictures, posting updates, sharing videos or even viewing your page insights; the Facebook Pages Manager App lets you manage your business Facebook page

on-the-go. Not to forget, it cost nothing. All the more reasons to get this one!

## 3. Tweetdeck

<http://tweetdeck.com/>

**Chrome, Windows and Mac**  
**Price: Free**

Another important social media platform that most brands tap in to is Twitter. And if you happen to own multiple Twitter accounts or are simply looking at monitoring your Twitter feed, get Tweetdeck. Tweetdeck lets you manage and monitor the Twitter content that matters to you using filters. Tweetdeck also gives you the option of scheduling tweets and notification alerts for new tweets.

## 4. Buffer

<http://bufferapp.com/>

**Chrome, Firefox, Safari, iOS, Android**  
**Price: Free**

Think of Buffer like a virtual queue. The app allows you to schedule content and

## New York Times turns around

The NYT now allows free viewing of its videos, a big step considering it is known for keeping news behind a defined paywall



## Shh!

Want to know how the Spy Satellite Program was built? Be careful though – the CIA is onto you. <http://dgit.in/Z0kyIh>

Smart SoHo



Take page admin functionality to your phone!

then posts them on your behalf spread at regular intervals. And it works exceptionally well for Twitter. Buffer also provides insightful analytics on your social updates, engagement and reach of your tweets and posts. Plus, the free mobile app makes managing different social accounts from your mobile so easy.

## 5. Google Analytics

[www.google.com/analytics/](http://www.google.com/analytics/)

### Browser

Now that you've started sharing, advertising across various social media platforms, it's only fair to track if they're actually driving traffic to your website. If you happen to own an e-business, studying Google Analytics can be quite insightful. Google Analytics might not be able to drive direct sales, but it definitely will tell your Facebook ads are causing awareness and boosting visits to your website.

## 6. Bitly

<https://bitly.com/>

### Browser, iOS

If you think bit.ly is just another URL shortening service, then you're wrong. Besides making your URL concise, bitly is a great sharing, bookmarking and analytical tool. On signing up for a free bitly account, you're provided with a dash-

board where view statistics for the links you've shortened. That's not all, the website also lets you generate QR codes and use your own custom short domain for your business.

Now that you're armed with some of the most efficient social media tools out there, what do you need to do to win the rest of the battle?

## 1. Get your Internal Team On Board

Ensure that your entire is part of your social media strategy. Get all your employees to share, like, follow your business' social media accounts. Using tools like **Sigbuzz** and **WiseStamp**, you can integrate social media in your email signature too.

## 2. Find a Voice

When using social media, you must try to have an authentic voice in our content. It is vital to that your social posts have a unified character to your brand/business across social media platforms. Let's take Digit for example. Across its social platforms, Digit portrays itself as a channel of sharing, discussing and celebrating all things technology. The people who follow Digit's social platforms are usually the ones passionate about technology. Therefore, Digit's social character is that of a geek and tech enthusiast.

## 3. Listen and Engage

While managing your business' social media accounts the trick lies in making your followers work for you! The best way to go about it is ask your consumers

for and implement feedback. Once the customers realize that their ideas are being heard, they'll be more likely to contribute new ideas again. Not just that, they'll also voluntarily appreciate and share their experience with others.

## 4. Assessment and Numbers

Tools like **Klout For Business** helps you understand how people influence each other on social networks. Some of the biggest businesses like Disney and Microsoft are already using this tool.

## 5. Creative

Studies show that businesses that use pictures and videos vastly in their communications on Facebook, manage to rope in more viewers and reach. And you don't have to go and create or click an image for everything. There are tons of websites online that'll help



Buffer helps you cut out the noise

you get stock free images. Making videos is yet another effective way of communicating on social media accounts.

So start defining the social media goal for your business and get the ball rolling with our above list of social tools and tips.

Have you used any of these social media tools for business? Would you recommend them? Share your experience and tell us about your favourite social media tools and tips on [editor@thinkdigit.com](mailto:editor@thinkdigit.com) or any of our social platforms of course! 



## NVIDIA® GPU BOOST TECHNOLOGY

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**First Braille SmartPhone**

The smartphone allows those with visual impairments to touch the real-time image of a friend's face

**New netgear router**

Netgear is set to come up with its new 802.11ac WiFi hardware that is estimated to have a 60 per cent increase in speed

# Careers in Software Testing

Testers with domain-specific knowledge and technical skills are paid more than developers. Interested?

Richa Yamini

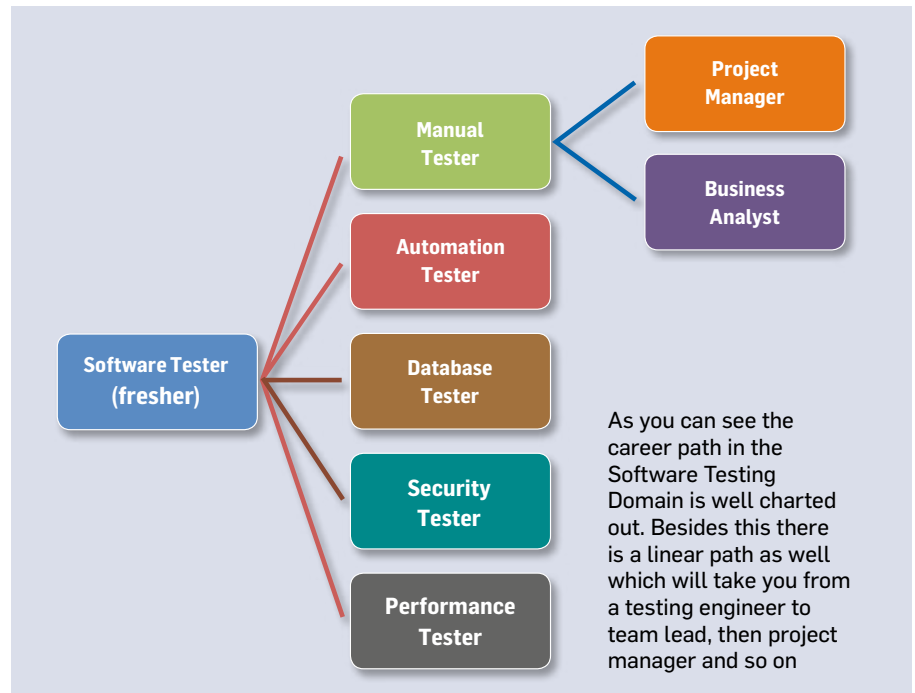
readersletters@thinkdigit.com

There was a time when Software Testing was considered a layman's job with no required domain or technical skills. Anyone with basic knowledge of computers could be employed as a Tester. The work allocation for testers was also very limited.

The job has gained significance over time, and the testing team is now involved in the complete end-to-end process, beginning from the initial requirement reviews right until the testing of the final software. Testers with domain-specific knowledge and technical skills are in demand, paid more than our favourite developers, and those with remarkable skills are climbing the corporate ladder faster as well. Testing skills in niche areas such as SOA (Service-oriented architecture) testing, mobile-based testing, security testing and database-oriented testing are in top demand.

There was a time when a ratio of 1:10 prevailed in the industry where one tester was hired for every 10 developers. Now, however, the ratio is 1:4 or even 1:2 depending upon the criticality of the project; for instance a banking or insurance project.

Software Testing, also known as Quality Assurance Analysis, involves checking for bugs in software. Being a software tester, you need to be analytical, open-minded, creative, detail-oriented, passionate, patient and a good listener. Tamanna Bedi, QA Manager at Graycell Technology Exports commented, "Software testing is a gold mine for the people who like to learn new



stuff and want to dig down deep into the code. The industry looks for dynamic individuals who can possess the skill of finding bugs and can give innovative solution for the same."

## Why Software Testing?

If you're sitting on the fence unable to decide whether this is the career for you, here are a few motivations for getting into software testing:

**Good Packages and Returns:** Equal or better packages are being offered to QA Analysts (Quality Assurance) these days in comparison to their developer peers. The reason for this is the varied kinds of projects in the market where primary focus is not on development but on maintenance and performance. The other reason is data security which is the main concern for every client right now. Automation testers, performance testers, database testers and security testers are paid generously in the industry.

**Ample Onsite Opportunities:** Clients like having the confidence that the software they've paid for actually works. Therefore, they always need more testers on-site than developers to test their software thoroughly. Secondly, as testing is a short-term activity covering staged deliveries, bug fixing, re-testing, UAT etc. it's easy to compensate. Testing done on-site also makes communication easier as there might be tests which require interaction with other technical groups and business experts usually present at on-site offices. And on-site locations might be exotic too.

**Lucrative Alternate Career:** If you decide to take up the profile of a tester and should you decide this is not the line for you, there's another lucrative role waiting in the wings for you - that of a Business Analyst or BA. The reason for this obvious career progression is the tester/QA Analyst's involvement in the end-to-end business process. For instance, during the

## Soft House

A smart modular house in Germany has photovoltaic cells integrated in its walls that allow the whole facade to move with the sun just like a sunflower



## The domino effect

Want to see what a 10,000 iPhone 5 domino will look like? Check it out. And yes, it is CG <http://dgit.in/15KcsIz>

Work@Tech

early stage of a project when requirements are floated around among developers and testers, the testers are expected to study, understand and remember each and every word of the requirement. In contrast, the developers need only focus on their specific module. This ends up giving testers an edge when switching over to a BA profile.

## Certifications – The Entry Pass

Though it's not mandatory to be certified to find work as a software tester in the industry, it's a useful add-on. Software testing certifications can be acquired either before entering the industry or while working with an organization. There are various internationally acclaimed certifications such as CSTE, CSQA and ISTQB available in the market to assess the knowledge of software testing at all experience levels. Let's take a quick look at these certifications:

**ISTQB:** International Software Testing Qualifications Board (ISTQB) has two levels – Foundation and Advanced Level. If you're new to Software Testing, then this is the exam for you. It helps you understand the basics and the right process of performing the testing. Know more at <http://www.istqb.in/>

**CAST, CSTE and CMST:** These certifications require some prior experience in the field of testing. Certified Associate in Software Testing (CAST) is like a foundation level, whereas Certified Software Test Engineer (CSTE) and Certified Manager of Software Testing (CMST) are practitioner's level and managerial level certifications. These certifications are administered by QAI. Visit: <http://www.softwarecertifications.org/>

**CASQ, CSQA and CMSQ:** These certifications majorly focus on the quality side.

These certifications are also administered by QAI and information about them is available at <http://www.softwarecertifications.org/>

**Automated testing tools Certifications:** There are various certifications for automation tools such as QTP, Loadrunner, Winrunner, Rational Tools etc. These certifications help to evaluate your knowledge and confidence on these tools and are a great add-on for an impressive resume.

Susheel Yadav, Co-founder of BQurious Software, states, "Advent of Agile methodologies has also prompted the move towards test automation due to short release cycles. In order to stay competitive manual testers are now required to pick up skills on various automation tools like HP QTP, MS Coded UI and Open Source tools like Selenium and Watir."

## Education and Training – Crafting the Path

Institutes such as SEED Infotech, Pune hold diploma programs catering to Software Testing. PureTesting and QACampus are two of the few training organizations that provide targeted learning packages; they have specialized trainers who teach and conduct hands-on sessions revolving around specific testing.

To become an automation expert, you must attain good knowledge of automation tools such as Selenium, HP QTP, VSTS, Rational Functional Tester, HP Quality Center etc.

## Career Path – The Way to Go

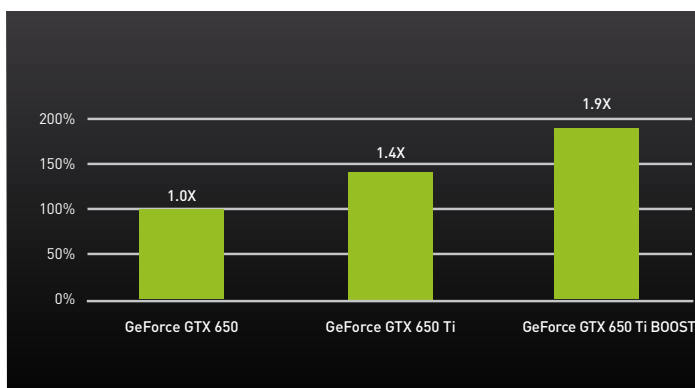
Software Testing has opened up various career paths for aspirants. There are two major paths which can be taken when you enter the industry. The standard path is parallel to the development hierarchy.

The testers are usually hired as 'Software Testers' or 'Testing Engineers'. After around 2-3 years, based on their performance they're promoted to 'Senior Tester' level. Subsequently, after around 5-6 years of experience, the position of 'Team Lead' can be granted, and so on. An alternate path can be the technical path. Software Testing allows you to wear various kinds of hats; if you want a change track after a while, you can do so without impacting your current experience. Here are some of them:

**Automation Testing:** As an Automation Test Engineer, you will be responsible for automating manual test case execution which otherwise could be quite time-consuming. Automation Testing helps reduce the time and cost for a project, and is therefore preferable. Also it can be implemented in all kinds of projects. Automation testing takes care of redundant types of test execution, which otherwise is a boring and lengthy process.

**Performance Testing:** As a Performance Test Engineer, you'll be responsible for checking application responsiveness. This step can only be performed when all other test activities have been completed. It helps identify the load or stress an application can bear under certain situations. Performance Testing is not applicable for all types of projects and is done only if the client demands it. Hence, Performance Testers are less in demand as compared to their counterparts.

**Business Analyst:** As a Business Analyst you'll be responsible for analyzing and assessing your company's business model and work flows, and especially how it integrates technology. Based on your observations, you'll suggest and drive process improvements.



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**SKOAR**

Metal Gear Rising: Revengeance and Sniper Ghost Warrior 2 go under the scanner this month

**Community**

Check out what Digit fans are up to on our forum and on Facebook. Who knows? Maybe you're featured

# Money, money, money... MONEY!!!

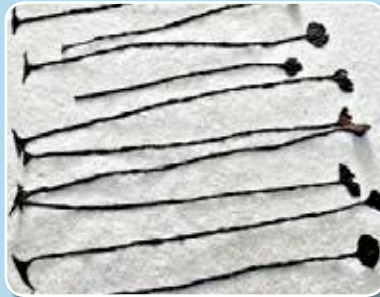
That headline's just a hat-tip to Donald Trump (remember him from *The Apprentice*?), we just couldn't resist ourselves given the topic of this month's feature: **Weird money**. That's right. Types of moolah that will make your head spin; or at least pique your interest. Ka-ching.

**Rai money**

The Yap islands in the Pacific have a tradition of large (12ft in diameter, 1.5ft thickness and about 4000 kg), doughnut shaped calcite stones that are used as "coins". We know that sounds crazy, but then what else did you expect? Tribals of these islands still trade one of these humungous stones submerged in sea. Wonder how big their pockets are?

**Kissi money**

People at Liberia used twisted iron rods with flattened ends of different lengths (9 to 15 inches) as "soul" money. The interesting part is that if it accidentally broke, it would no longer be circulated as the soul was said to have escaped. The rod is trash unless a witchdoctor would reincarnate the escaped soul. Voodoo Mama Juju!

**Cocaine money**

Ever wondered if drugs were exchanged as money – not for money? It used to happen at Guerima, a remote Colombian settlement which had to resort to paying for food by bags of coca. The story goes that the town had so much of coca that they couldn't care less about trading it for groceries. One gram would be enough to buy a soft drink. Yikes!

**Tea bricks**

High density bricks made of whole or powdered tea were used as currency all over Central Asia till late WWII. Seriously, no kidding. The region was well known for its tea production – and apparently extended tea breaks, too. Come to think of it, a practical currency that could be broken and eaten in a time of crisis does make sense, right?

**Quid**

If you found yourself travelling between planets you won't be able to survive on traveller's cheques. You'd need some Quid coins. They're rounded and smooth to reduce damage in a zero gravity environment. How else would you ensure you have a high-tech currency term (or object) that you can trade with once you jet off to Andromeda? Fuel ain't cheap.

**Coins don't have to be round**

They can be the shape of a country too. Zambia in 2000 released coins of the shape of north Australia fused with north Zambia to commemorate the Sydney Olympics. As creative as that might be, they should've thought twice about representing Australia, which is ten times the size of Zambia, approximately the same size as Zambia in the coin.





## Strength doesn't matter

A study shows that try as you might, most home Wi-fi routers are easy to hack  
<http://dgit.in/ZMwprd>

## First Braille SmartPhone

The smartphone allows you to touch the real-time image of a friend's face, and aims to cause a revolution of sorts

Unwind

## How we unwind



### Monthly trip to Yokos

Anirudh and Jayesh (Laurel and Hardy) are particularly fond of their food and the usual closing fare just wouldn't do. Their monthly trip to Yoko Sizzlers is a pilgrimage that they make without fail and this month's trip was extra special for Jayesh as he had temporarily turned vegetarian the previous month.

### Multi-monitor gaming

While Nimish was buried in testing monitors, the rest of the team had a whale of a time; swiping monitors left and right till we finally found the ones we liked. Our resident gamer, the Ant, managed to get three, almost identical, monitors all to himself. The rest of the team could only watch enviously.



### Virtual Miners

The BitCoin story was something that hit at the heart of our geeky nature and we wanted a piece of the action. Regardless of unimpressive hardware, after many hours of mining, we managed to gather 0.3 bitcoins. But, we accept donations here <http://dgit.in/BitWallet>. Be nice now, come on.

## digit DIARY

We welcomed a "coupled" of new interns to our fold, Cyril and Chandni. They literally popped out of nowhere and insisted that they were a package deal. We're always ready to accept fresh minions and since they seemed of the intelligent variety, allowed them entry to the hallowed halls of our test centre. They have proved their worth though, not an easy feat by any means.

In other news, Siddharth charged off to Italy this month, no doubt in pursuit of some Italian Bella (he claims it was work related) and this in the middle of closing, dropping the ball into everyone else's lap. The rest of the team somehow managed to hold on to it and came to the realisation that our erstwhile features' editor was unnecessary. However, he returned at the 11th hour and came bearing delicious gifts and tales of divine women, so all was forgiven.

Mosquitoes have somehow managed to slink into our office and closing nights are not so much fun anymore. The mosquitoes somehow sense our bloodlust during our extended Quake sessions and decide to take a sip from our hands every now and then. Maddening. A side-effect of this is that we now have to sleep while huddled around the only mosquito repellent in the entire office.

Jayesh's snores did give Sid and Anirudh some trouble, but, an early morning discussion on the merits of pink noise vs. white noise and some nice earbuds resulted in an elegant solution (pink noise won)!

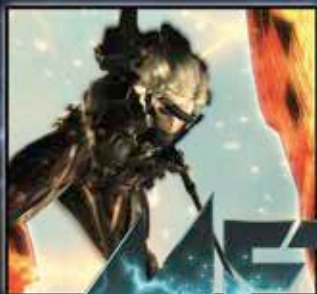
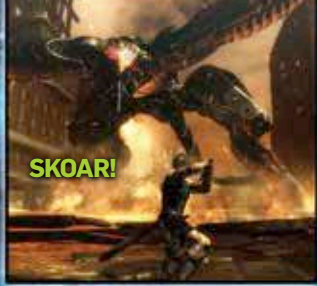


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# The Killer Edge

## METAL GEAR RISING REVENGEANCE

Abhinav 'Tayschrenn' Lal  
feedback@skoar.com

Developed by Platinum Games (of Bayonetta and Vanquish fame) and helmed by Kojima Productions, Metal Gear Rising: Revengeance is a nuanced hack-and-slash game with emphasis on melee-combat (no guns here). Revengeance is quite unlike other games in the genre, such as God of War, Darksiders and Devil May Cry, with several different gameplay mechanics, the most famous of which is the Blade mode, also giving the game its tag line – cut at will.

Revengeance's Blade mode builds on a concept that has been a wet dream for every hack-and-slash gamer – near complete three-dimensional control of a weapon, in this case, Raiden's high-frequency katana blade. The Blade mode mechanism is governed by two analogue controls, one for the blade, and the other for the camera – which implies no movement while in Blade mode. It's also one of the most difficult things to master in the game, with experimentation required to choose a suitably intuitive control layout from the presets. Another major difference from other hack-and-slash games is the lack of a distinct evade or block move.

Instead, Revengeance solely utilizes a parry move to deflect attacks. While other

games have used the parry concept, the move is usually accompanied by evade. Here the only alternative, Ninja Run, takes time to start up, and jumping isn't effective for several reasons. This means you'll have to break your combos to parry in time. As you can imagine, this punishes button mashing with a vengeance. A correctly timed parry can trigger a quick time event, of which there are two types – button based, or Zandatsu which is Blade-mode based.

Put simply, the learning curve of MGR: Revengeance becomes quite steep quite early in the game, but once you pass that hump the game will become much more satisfying and rewarding. Interesting DLC packs have already been released with new playable characters, further increasing replay value.

The game is meant to be played several times over to truly max out Raiden's abilities and get special weapons and suits. Apart from combat, the game's graphics and game design are top-notch, with enemy attacks, weapon arcs and special moves featuring edgey VFX. The environments are also well detailed, and realistic character modelling is evident.

MGR: Revengeance's storyline dwells on terrorism, exploitation, and moral high grounds, but instead of being too pretentious, manages to deliver a tongue-in-cheek self-deprecating flavour. Raiden's treat-

ment at the hands of several bosses also has to be seen to be believed – shocking moments that will last you a lifetime.\*

### Verdict

Metal Gear Rising: Revengeance is a challenging hack-and-slash that rewards gamers with glorious, razor-sharp action that satisfies the killer within them. Coupled with a bizarre but entertaining storyline, and its multiple-playthrough nature, Revengeance becomes a must-play for all hack-and-slash fans. Series regulars willing to forego cherished stealth and tactics for a great time set in a familiar universe, should also give it a try.

### MOAR!

- » **Developer:** Platinum Games, Kojima Productions
- » **Publisher:** Konami
- » **Platform:** Xbox 360, PS3
- » **Price:** ₹3,499



SKOAR!

# An Unforgettable Experience

## SNIPER 2 GHOST WARRIOR

Anirudh 'Meow' Regdi  
feedback@skoar.com

This is one of those games a reviewer dreads getting his paws on; a game that is a chore to get through, a game that would normally have been ignored but for the fact that someone has to play and write about it. Sniper: Ghost Warrior 2 is not a bad game; it's just that it feels like something a bunch of kids put together. The plot, if you can call it that, is completely forgettable and only serves to funnel you from one shooting gallery to another.

### Graphics

Graphically, CryEngine 3 is a powerhouse; in Ghost Warrior 2, that somehow isn't the case. The game looks decent, but it just cannot be compared to any current-gen title and even lighter games (graphically speaking) such as Global Offensive. That, coupled with the fact that it doesn't support DirectX11 right out of the box makes this game feel old.

### The art of sniping?

The entire game is based on one aspect of

shooting and that is sniping. Unfortunately, everything else was ignored to allow for this one thing. Sniping isn't about mathematically figuring out where to point your crosshair given the wind-speed and elevation. It's a precise art-form that involves so much more. Stealth is a key aspect of sniping, positioning, the ability to pick off enemies at the right time, noise suppression, etc. The problem is that none of this actually comes across in the game.

Sniping has been reduced from an art to something like a chore and when the ballistics are so messed up that a pistol is more effective at range than a sniper rifle, simply because it doesn't suffer from wind shift and bullet drop, it makes you wonder what the point of this game was in the first place. A.I. is non-existent. When you can shoot an enemy over the shoulder of another enemy without raising an alarm, it just makes you realise how dumb the opponents are. Sure, you have silencers, but they're not that ridiculously effective.

The main problem with this game is that there are very few moments when you actually feel like you've done something. There is no sense of achievement when there is always someone holding your hand, telling you what

to do. The few moments when you're left on your own are when this game just manages to give us a glimpse of its potential. ✨

### Verdict

Ghost Warrior 2 is a very disappointing game. Some intelligent level design is sorely missed. Someone who's never played other shooters might have a bit of fun with this game, but for those looking for a real sniping fix, ignore this game. Sniper Elite V2 offers a much better sniping experience.

### MOAR!

- » **Developer:** City Interactive
- » **Publisher:** City Interactive
- » **Engine:** CryEngine 3
- » **Price:** ₹1,700 (Steam)



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## Nintendo Fail

With a loss of \$366 million, Nintendo seems to be in a bit of a slump.  
<http://dgit.in/ZpLuDq>



## Cheaper Ultrabooks

Windows 8 touch ultrabooks see a price drop of almost \$300.  
<http://dgit.in/YOicKg>

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!

09-07-2012, 12:29 AM #1

Digital Fragger  
Shift + Tab



Join Date: Sep 2011  
Location: Hyderabad, Andhra Pradesh, India  
Posts: 522

Thinkdigit Playdate

### thinkdigit playdate

play, discover, revive awesome games with friendly digitians.

7. Sunday 21st April Trackmania Nations Forever 9pm  
 8. Sunday 28th April COD 4 MW 9pm (Coming up)  
 9. Sunday 5th May Trackmania Nations Forever 9pm (Coming up) (DVD Celebration playdate)  
 10. Sunday 12th May <game> <time> (Coming up)

Download links

Announcement regarding download links and server details.

For DOTA 2 playdate events, check the second post on this thread and Dota 2 thread.

Previous Playdates

Spoiler:

15-04-2013, 07:16 PM #1521

Ali Azad  
Time Runs Everything




Join Date: Apr 2012  
Posts: 199

Re: Thinkdigit Playdate?

Hmm TMNF is proving to be the most successful playdate game ever 😊

15-04-2013, 08:12 PM #1522

Digital Fragger  
Shift + Tab



Join Date: Sep 2011  
Location: Hyderabad, Andhra Pradesh, India  
Posts: 522

Re: Thinkdigit Playdate?

Originally Posted by Ali Azad  
Hmm TMNF is proving to be the most successful playdate game ever 😊

Yes!

And good news..

### Trackmania Nations forever will be bundled with next month digit DVD!

It's awesome how digit team listens to community!

Last edited by Digital Fragger; 15-04-2013 at 09:33 PM.

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Vote for Next TDF Playdate game.

15-04-2013, 08:19 PM #1523

RCuber  
Rubik's Uncle!



Join Date: Sep 2004  
Location: stormeet (Bangalore)

Re: Thinkdigit Playdate?

I think I should also start participating 🍀 EDIT: again.. 😊

“My elder brother lets me use his bike”

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\*Combined English & Hindi figures. All figures as per IRS 2011Q4.

[www.crickettoday.in](http://www.crickettoday.in)





### Pizza on the game run

Dreamt of ordering food from your console? Not having to budge from your living room? Hail the Pizza Hut app for Xbox 360 owners

### Enrich your IPL

Here are some apps to ensure that you get the most out of the IPL tournament. <http://dgit.in/11jBrg9>

Having trouble with your internet connection? Antivirus program causing trouble while programming ? Check out the posts below, and also some of the other discussions taking place at [www.facebook.com/thinkdigit](http://www.facebook.com/thinkdigit)

**Sidhant Gupta**  
 Problem with my internet :  
 I use windows 8.  
 It shows that I am connected to the internet bt still can't open any page on download anything !! :/  
 Like · Comment · Saturday at 11:33pm via BlackBerry

**Ardhya Bhatt** if its a wifi, try browsing the net on some other device (say a cellphone or any other device) and see if it works there. this step will give u the exact source of problem (internet or ur computer)  
 Like · Reply · Sunday at 1:32am via mobile

**Sidhant Gupta** Yes it's wrking evry other device n pc .!!! .  
 Like · Reply · Sunday at 1:34am

**Ardhya Bhatt** if its internet problem then u really cant do much than pay off hr pending bills or contact ur ISP. if the problem is on ur comp, then check the network passwords..check ur modem status etc  
 Like · Reply · Sunday at 1:34am via mobile

**Tanmay Mohan** Dns problems maybe? Check network connection settings Maybe ur Antivirus Firewall is causing tha  
 Like · Reply · Sunday at 3:46pm · Edited

**Harshal Khedkar** check the firewall or status of ur DSL link or ip properties  
 Like · Reply · Sunday at 5:00pm

**Digit**  
 Sunday

Sunday afternoon -- Siddhant's playing Far Cry 3 like a boss!  
 What are you up to?

**Sagar Schwarzeneger**  
 Hi Guys, I'm using Dev C++, version 4.9.9.2, I'm getting errors while using it. As soon as I compile any program, my Quick Heal shows up that a Trojan has been detected. And when I try to Run it, message box says "Source file not compiled". My friends are also getting the same error. What can be done to solve this problem???

Like · Comment · Share · Saturday at 1:58pm

**Ardhya Bhatt** Its a fake alert. Your antivirus is not able to identify what is a virus and what is not. (Thats why its quick heal and not Kaspersky). Its a base problem with many immature antivirus programm... They find any "executable" file, they flag it as a virus (even when its actually not)  
 Like · Reply · Sunday at 1:30am

**Ardhya Bhatt** Disable ur antivirus and then start ur programming  
 Like · Reply · Sunday at 1:30am

**Avirup Basu** disable ur antivirus.  
 Like · Reply · Sunday at 1:45pm

**Tanmay Mohan** add the file/folder to exlusions  
 Like · Reply · Sunday at 3:47pm · Edited

Like · Comment · Share 23

296 people like this.

**Siddhant 'El Nino' Sharma** @Piyush Pal The specs are: Intel Core i7 3960X extreme edition @4.5 GHz, Liquid cooled by Corsair H100i, ASRock X79 Extreme 6/GB motherboard, 8 GB Kingston Hyper X DDR3 RAM. 2x Nvidia GTX 650 Ti Boost in SLI, Silicon Power 120 GB SSD. Display: Dell, BenQ and ViewSonic 27 inch monitors at 5760x1080 screen resolution.  
 Like · Reply · 21 hours ago

**Palash Sharma** Monitor calibration=failed! LOL  
 Like · Reply · 7 · Sunday at 1:16pm

**Aziz Siddiqui** At first glance I thought he was operating a locomotive!  
 Like · Reply · 6 · Sunday at 1:39pm

**Sushant Yadav** playing crisis 3 on ultra high my gtx 690 gives peak fps of 57 frames. 😊  
 Like · Reply · 3 · Sunday at 2:07pm

**Mayank Bisht** Bioshock infinite for life !!!!  
 Like · Reply · 1 · Sunday at 2:52pm

**Benhur Fernandes** FC3 over .....Waiting for FARCRY 3 blood dragon 😊  
 Like · Reply · 1 · Sunday at 3:47pm

**Wasim Hashmi** Fantastic. I love farcry3  
 Like · Reply · 1 · Sunday at 2:38pm

**Piyush Pal** care posting the system specs, Digit?  
 Like · Reply · 1 · Sunday at 2:26pm · Edited

**Ashiq Ap** Dayum! I'm jealouss!! 😊  
 Like · Reply · 1 · Sunday at 1:39pm via mobile

**Sudhamshu Chandra** I'm also doing that, going to Hoyt 's island tomorrow, it's nice picnic  
 Like · Reply · 18 hours ago via mobile

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### Stanford adopts EdX

Stanford University will integrate EdX, a not-for-profit platform founded by Harvard and MIT, with its online classes from June 1st

# Browser Engine 101

So, what's the deal with Google announcing a new browser engine earlier this month? A lot apparently if you've been following the speculation by analysts about the motives of Google. Google announced that it would stop using WebKit – the browser engine that's behind displaying web pages in Chrome – and will now be forking WebKit to create its own new Blink browser engine

## Two C

Let's start from what we know. You know what a browser is – you browse the Internet with it. And a browser engine helps the browser that lets you browse. Earlier, the web browsers were singular. The first browser, the World-WideWeb, which was later renamed Nexus to avoid confusion, would only follow a few steps of processing text and converting it to a visual representation. The browsers we see now are modular. Here are most of the browsers used today: Chrome, Safari, Internet Explorer, Firefox and Opera. We can divide the web page into two parts: the top part and the main part. In other words the chrome (no, not Google Chrome) and the content.

The chrome, in all of the browsers, will have the top common area, and the content is the main information on the page. The chrome is the generic layout of the browser, like the chrome on the car (shiny stuff) and the rest of the innards of the car are the content. The address bar, stop and refresh buttons, back and forward buttons, the home button and other generic functions like bookmarking favourites, download manager are common to most browsers. So that's the chrome.

The content is what changes; it has the information. For example, the text, images or then plugins and extensions. And the browser engine is what does most of the work in gathering the information of the content. The browser engine is embedded in the browser and it fetches the docs, images and other content that load on the web page. The host application in the browser is responsible for the peripheral, encapsulating chrome and the browser engine fetches the core information on the page.

## How the engine works

The engine in general has two things to contend with. The HTML (latest version HTML5, but will probably take till 2014 for the standard to be stable) and the CSS (latest version CSS3).



It uses an HTML parser and a CSS parser after fetching the HTML and CSS content. A parser translates a document to a structure that will make sense to the engine. The translated HTML and CSS document is then used in the next step to construct a render tree. A render tree or a render object is a tree of visual elements in the order in which the elements will be displayed. Each renderer will specify a rectangular area with geometric information like width and height. In the next step the browser engine performs the layout of the render tree. In the layout step the position and size of the nodes or the renderers are specified. The last step is painting. The engine traverses the render tree and paints to display the contents of the page starting with the background colour, images and then outline. Painting used to be done by the CPU but now more of it is given to the graphics card. Finally the engine downloads and runs a Java Script if the web page has one. The new Java Script engines store information about the code so that it needs to be coded only once, which makes the browser faster.

So the browser engine handles the user interface as it works on fetching the content

and layout of the requested page. The browser engines used in some of the most popular browsers are: *Gecko* in Firefox; *WebKit* in Chrome and Safari (both of which are open source engines); *Presto* in Opera; and *Trident* in Internet Explorer (which are not open source).

## Blink to see the future

Coming back to where we started, why is the Google news worth discussing? Google will be forking WebKit for its new engine Blink. WebKit is the most widely used engine through Safari and Chrome that accounts for about 45 per cent in terms of usage. It might be lobbying to make the technology it develops for Blink to be used as a web standard. Google says the motivation behind this step is to increase the "collective pace of innovation" but it could be something just as obvious as to snub Apple (Safari is Apple's browser). But Google has also started trimming the code from WebKit in Blink, and is said to have trimmed it by almost 4.5 million lines. Now, if Google's Blink is pushed as a web standard, that'll be something most of us will be keeping a close eye on. ■



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