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A changing trend

When it comes to communicating, especially in writing, there are two types of people in the world: those who are so articulate with their expression that they leave you transfixed by the beauty in their choice of words and overall quality of prose. They could be writing about something as mundane as the types of corrugated cardboard and you'd still be spellbound.

And then, there are those who don't rely on the "how" aspect as much as they do on the "what". To them the specific message, idea or concept takes precedence over its presentation. Such writers believe that anything that pulls the reader away from this central idea is superfluous and should be done away with.

How is this relevant? Well, we're in the business of communicating ideas and often we need to give considerable thought to not just the ideas themselves, but the way we convey them. It's the classic form versus function debate; it doesn't just apply to industrial design, UX and software. It applies to pretty much everything.

Take product reviews, for example. I've always been against supremely long reviews that go into too much descriptive detail. Most reviews, even in print, are accompanied by at least one image. On the web, the media is even richer. Forget about a picture being worth a thousand words, there are entire videos put out by the manufacturers themselves showcasing their products from every angle humanly possible. Against this backdrop, going into granular descriptions about what the product looks like, feels like, what it belies etc. is like waxing eloquent about the fact that the sky is blue in great detail. Everyone knows what the sky looks like. Incidentally, someone did an analysis of the great Indian epics and the works of Homer and found that for all the hundreds (maybe thousands) of mentions of the sky, no one bothered to state even for the record that it was blue. The ancients weren't colourblind, the fact was omitted because it was probably just so obvious.

So, what should reviews ideally contain? Should they be one-liners telling you whether to buy or not buy this product? Or how about keeping it even more simple – borrow from the Romans (not Facebook) and just give a thumbs up or down!

The downside to this is that no one will really trust such an assessment. There has to be a via media between elaborate flowery prose (that doesn't amount to much anyway) and a simplistic "good" or "bad" verdict.

Take, for example, the OS comparison test we did last month as our cover story. We tested the operating systems on thousands of parameters and as a result of the empirical testing we arrived at the result. We didn't use flowery language or browbeat anyone into submission. We just left the evidence out in the open for scrutiny.

Coming back to the point at hand, I see this as a growing trend. Reviews and comparison tests will get shorter, videos will get slicker and perhaps, you may even have six-second Vine-like reviews. Take a look at The Verge with its recent "This is my next" initiative. No lengthy analysis, you just get the straight answer to what your next purchase should be. Our Top 10 lists on digit.in and the product comparison feature have served the same purpose for a long time. The slightly different comparison test layout you saw in the July issue was a precursor of interesting changes to expect in the magazine in the coming months. Of course, there will be more emphasis on scientific methodology, hard hitting facts and concise presentation. But to hell with flowery language and tedious verbosity!

A nod to this scientific way of doing things is Robert's little survey which tries to peg emotions associated with Digit in order to choose colours that have been proven to be linked with those emotions. So even the colours you'll see in the magazine won't be random. Take the 30-second survey here: http://dgit.in/Digit_is and also tell us what changes you'd like to see in the magazine.

I believe readers could do with less overwhelming language that nearly amounts to Shakespearean grandeur and lengthy descriptions of the obvious. Sure, as Digit readers, you want the details and scientific methodology to be present, but placed at the back; to be accessed if and when required – like a seasoned chef serving you your favourite dishes, with the best ingredients, sound recipe and an open invitation to walk into the kitchen.





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"I believe readers could do with less overwhelming language that nearly amounts to Shakespearean grandeur and lengthy descriptions of the obvious."

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

Round/ed?

A Quora question I was following that sought to find out the differences between today's kids and 90s kids is what prompted this column.

It's fashionable to put down all childhood experiences other than your own and find fault with every other generation in the attempt to proclaim your own generation as the "golden age". Our parents did it, their parents did it...in fact, I have no doubt that as soon as basic language was invented, the adults were lecturing the kids about how they had to hunt woolly mammoths with their bare hands for food and clothing, and how teens were spoilt now with all this newfangled technology – sticks and spears and the like.

I know all the usual arguments about how today's kids are only fascinated by things that have a screen, "They don't read, they only watch videos", etc. Then there are the health implications such as obesity and lack of exercise that people point out. All very valid arguments I suppose, but it's not like we've given them a choice.

If kids like screens, it's because screens are fun and are all around them. It's probably because mum and dad are always staring at their own screens (phones, tablets, laptops, etc) all the time that a child feels the desire to stare at one too.

While we're sitting about reminiscing about how great our own childhood was, we're ignoring the fact that our kids are reading much, much more than we ever did. Yes, a lot of that is social updates or research for school work, but a lot more nonetheless. They're also smarter (with Google; without is debateable) and know a heck of a lot more about a heck of a lot more. As for being outdoorsy, if we choose to live in increasingly congested cities, how can we expect our kids to ever want to go out?

Yes, health and obesity are concerns, but barring technology from kids' lives may not be the answer. It's a struggle to try and keep your kids well rounded these days, and it's also a myth that it's only the kids who need to find the balance. Most of us are the office-bound, staring-at-screens types. We spend a lot more time on our backsides than any generation before us, and that's a trend that will continue. Even the diseases that plague us today are those borne out of laziness – diabetes, heart problems, stroke, etc.

What I'm trying to say is that, yes kids today might be the laziest generation until now, but that's only because we definitely are the laziest adult generation there's ever been. If you really want to bring up your kids (or younger siblings) right, you're going to have to start with yourself first. Switch off, unplug and go low tech every now and then (see Page 46 for ideas). Sit under a tree and read a book (or this magazine) and play cricket with your kids, instead of Candy Crush!

The problem with tech is that it's so damn addictive. There's so much technology-enabled culture opening up to us that it's not hard to see why kids would rather watch swimming bloopers on YouTube than go out and learn how to swim themselves. I use that example because I also never learnt to swim – as a kid, I'd rather read a book or play football, and now I can claim to "never have time". Though I certainly seem to have time for Facebook, YouTube and other things that involve a screen...

So what's the way forward?

I know some people who don't even own a TV (on purpose) and always have family time without screens of any sort (phones or tablets). Their kids seem to be a little more physically active than most (they can actually swim!) However, they also seem a little lost for words when around other kids at, say, a birthday party discussing their favourite TV shows. So, the outdoorsy kids can't communicate with the geeky ones and the geeks are scared of the football the outdoorsy kids are kicking about...Nerds vs. jocks all over again? Except this time, the nerds vastly outnumber the jocks, and the tables have turned not just in terms of numbers – it's also cooler to be geeky and technology savvy now.

I'm no psychiatrist, but I don't think feeling alienated from others is the right way for a kid to be brought up – so that rules out the banning of technology at home. The only answer is to encourage both, screens and outdoor scenes, or else humanity will end up more round than well-rounded – and it starts with us adults of today and isn't something we can sit back and blame on "the kids these days".



Robert Sovereign-Smith
Executive Editor
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"What I'm trying to say is that, yes kids today might be the laziest generation until now, but that's only because we definitely are the laziest adult generation there's ever been."

Liked or hated this column? Write in to *robert@digit.in* and let me know your thoughts.

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In search of that warm, fuzzy feeling...



Jayesh Shinde
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"How ironic is it that when technology exposure was in its infancy, largely trivial when compared to non-digital ways of doing things, it gave me some of my most memorable moments of my life. And now, when we know how critical, life-changing technology is in our collective consciousness, we don't appreciate it as much as we perhaps used to."

Having to partake in an unscheduled house cleaning activity on a particularly lazy weekend, as part of our endeavor to baby-proof the house in the best possible manner, I chanced upon a long forgotten memory. As I was busy inspecting stuff kept in our mezzanine, to discard the unnecessary items so that more floor-level items could be stockpiled there, I chanced upon a ragged box bound in a plastic wrapper. I instinctively knew what it held without having touched the thing for a good 5-6 years. I had almost forgotten about it. Almost.

I brought down the box with great reverence, the box that held my first arcade gaming console -- Sega Mega Drive II. Sixteen bits of pure gaming wonder that a prepubescent me found amazingly fascinating. I still remember the night, all those years ago, when my father brought home the device (after many months of pestering, of course), and I was in heaven. I don't remember doing anything else for the remainder of the night but play the adventures of Sonic the Hedgehog and an early version of Codemaster's Brian Lara Cricket. I even remembering neatly putting the console, its controller, and two cartridges back into its original packaging, and sleeping with it wrapped in my arms. What if somebody stole it, I remember telling my much-amused parents? I wasn't going to take that chance. No sir.

That beautiful black box remains but the days of playing on the Sega Mega Drive II have long gone. A digital relic, its original controller has stopped working optimally, and I have a sneaking suspicion that one of my cousins had a big role to play behind my missing Brian Lara cartridge. All of that still can't mar all the great times I remember having with the Mega Drive II, and admittedly I'd be hard-pressed to rekindle that warm, fuzzy feeling in my brain once again.

How ironic is it that when technology exposure was in its infancy, largely trivial when compared to non-digital ways of doing things, it gave me some of my most memorable moments of my life. And now, when we know how critical, life-changing technology is in our collective consciousness, we don't appreciate it as much as we perhaps used to. I got a big kick out of owning my very first cellular phone, but it wasn't the same. And recently, I felt like a kid all over again when I got my first real experience of a 3D printer – it still wasn't enough to knock the Sega Mega Drive II off its pedestal of my favourite technology-related memory. I've tried but so far failed as an adult to recreate those early emotions, but the quest continues. Maybe I've just been too desensitized to technology, but I remain hopeful.

Digital natives have even lesser appreciation of technology, I feel, simply because they were born in the digital age. This is expected simply because they take for granted a certain way of doing things (through technology) in this world that us '80s-90s kids saw forming and take shape in front of our eyes. I wonder what will blow their minds away, and as my daughter grows up I often think about the type of (digital) memories she'll cherish for the rest of her life, like her father remembers his time with a primitive tech gaming console that left a lasting impression. Ah, the possibilities!

Speaking for myself, unless I sit in a self-driving car or am served a hot beverage by a robot butler I don't think the neurons in my hippocampus will be fired up enough for me to experience the exact same feeling as the one I remember with my first encounter with the Sega Mega Drive II. That's just my best guess, not a certainty, of course.

And that brings me to this question: Which is your most cherished tech-related memory? I would love to hear your story. Write to me at jayesh.shinde@digit.in



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GIMP Image
Inkscape
Seashore
Sketchbook Pro
Snap Art

Audio
Deckadance 2 Image
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Pacemaker Editor
Reaper
Renoise
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Traktor Pro 2
Traverso DAW
and more...

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Quake 2
Quake 3 Arena

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Angry IP Scanner
Konst Pinger
MyConnection PC Lite
nVision
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Wireshark

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Tribute
Internet's Own Boy - Story of Aaron Swartz

Game Wallpapers
Quake and Doom wallpapers
AMD Graphics Driver 32-bit
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Buzz
From foldable screens to the smart helmet – catch up on the latest buzz in tech today



Gel to kill Superbugs
Drug-resistant bacteria can now be penetrated and killed using a special anitbacterial gel
http://dgit.in/AntibacterialGel

Feedback for the August 2014 issue of Digit



✉ Hello Team Digit,

You guys are doing a wonderful job. August issue was great. The under 10k smartphones article was superb, and it convinced me to buy two Asus Zenfone 5 smartphones for my mom and dad! Also, the fight between the OSes was awesome, but I was shocked to see that iOS was defeated!

Few suggestions:

I'm a photography enthusiast and would like a Fast Track dedicated to Photography and Photoshop (separate please – that way you can go into more detail). I know you've covered both, but those were extremely old issues, and technology advances at the pace of a heartbeat. It would be great to see updated versions of both these topics.

Also, I'd like you guys to cover the best budget DSLR/SLR/Mirrorless camera to buy.

I've attached a photograph, which I clicked and perfected. I'd like you guys to feature it in DGT's Clicked section.

-Ishan Pathak

Very good suggestions Ishan and I'm glad we could help you make the right choice for smartphones. You're right. We've covered both, Digital Photography and Photoshop in Fast Tracks before and perhaps it's time for a refresh. The trouble is we've been covering photography in many ways, either in the magazine (for eg. the Photo Management Workshop in this issue) or, if you remember, in a recent Fast Track to Smartphone Photography. So in order to not be repetitive, we'll have to wait a while before we touch the topic again. As for which budget cameras to buy, we keep covering the topic in Agent 001. But if you want some quick advice, head over to our Top 10 list at www.digit.in/top-products/. The camera category has good lists.

- Siddharth

✉ Hey Team Digit/Editor-in-Chief/Assistant Editor!

I'm from Dharwad, a lesser known counterpart of Hubli, Karnataka's second capital (if there's such a thing!). I've been a Digit reader since I was in the 6th grade and now I'm a subscriber since a few years, pursuing a BBA degree in my 3rd semester.

First up, you all are doing a wonderful job at teaching tech to the layman and also being 1337 enough to give us headaches with Crack the Code!

I'm writing this email to bring to your notice a game called Ingress. It's about time you covered it! This game isn't actual AR, but could be if used with Google Glass! Oh and as this is my first letter/email I dont expect it to get printed/replied to, but if you do, my Ingress handle is DanshuP and I'm ENL L7.

The world around you isn't what it seems.

-Divyanshu Pandey

We're all Resistance here so we don't talk to your kind...

Ahh I'm kidding. Yes some of us did get into Ingress mid 2013 and somehow dropped off as well. It's great to see that enthusiasm for the game has suddenly picked up in the last few month here in India, most likely thanks to the iOS release. But there are three guys around the office who've recently gotten into the game and they've all joined the resistance. About CTC, I'm glad you enjoyed the headaches because we had quite a few while designing the contest. It's been a long time since the last CTC but the trouble is we've simply not had the bandwidth to get around to CTC V. We want to try and do something much bigger and different with the fifth iteration. No point in doing the same old thing, right? The puzzles have to be mind-blowing this time. But rest assured we're working on it. Updates will follow soon.

- Siddharth

✉ I'm an avid reader of Digit and find it to be one of the ultimate guides for technology-related matters. Whether they're walkthroughs, reviews or benchmarks, if you want it, Digit's got it. I'm a hardcore computer enthusiast and gamer. I'm currently studying in Class XI of DPS RK Puram, New Delhi and am also a member (hardware) of Exun Clan. I have great passion for technology and want to share it with others, therefore I've started writing articles that educate people about technology – my first one being on the awesome G-Sync technology. I've deeply explained all important things related to the technology in great detail. Hope you like it. I know you guys at Digit share the same passion for technology, therefore please do read it and share. I would be much obliged.

Regards,

-Harshil Kashyap

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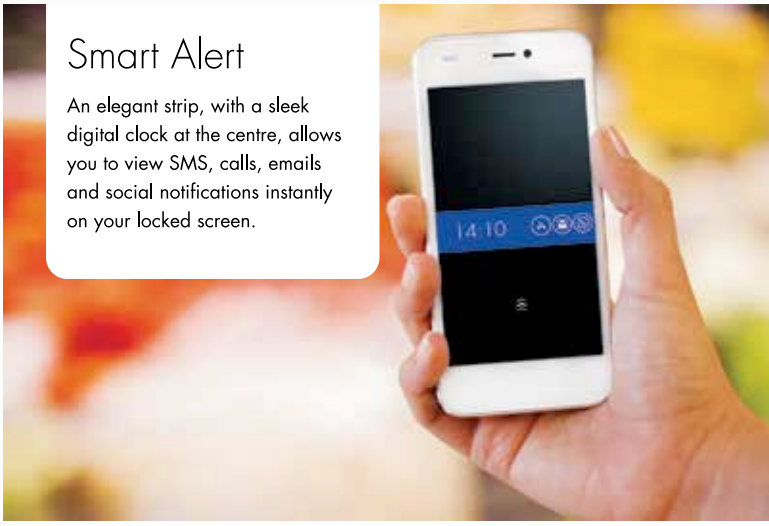


Camera Widget

An all-in-one widget that offers single touch access for multiple modes of camera.

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Laser to detect glucose levels

Princeton University has a new laser device developed that detects glucose levels without the finger prick **http://dgit.in/GlucoseDetect**



Clear Solar Panels

Researchers in Michigan State University have come up with clear solar panels which could be added to smartphones **http://dgit.in/ClearSolarPanel**

LETTER OF THE MONTH

✉ A round of applause for Team Digit in giving the magazine the persona of a teenager. You guys are really the best team. I doubt I'd be able to cover everything I appreciate about you guys in one mail. Plus, you probably already have many readers telling you how great you guys are.

So, I'll move on to the criticism. While Lenovo Ideapad Y510p was mentioned first in Bazaar Highlights on the cover of the January issue, I couldn't find the review even on the sixth page of the Bazaar section. So please look into that. I also want to know whether you'd ever give any reviewed product a 100 rating. Can you start a chat system? I know you will have gone home today after replying to millions and then find another million messages when you get in, but it would be great if you could reply.

-Sambeet Pani



Hi Santosh, thanks for pointing out that error. It's regrettable and we apologize for any inconvenience caused to you because of it. While the Lenovo IdeaPad Y510p couldn't make it into the pages of Digit, we still have it covered online. Just hit this link: http://dgit.in/Y510p. We've never given any product a 100 rating, simply because we don't think any product we've seen so far or ever will see in the future will be "ideal" in every possible way. In our eyes, the ideal product is always 10 steps ahead of the current best of class device, in every category that we test and write about. And the promised land is always just beyond our grasp. Always. It's fun that way, don't you think? Otherwise, how will we ever aspire to go beyond the best? While starting a chat system for interacting with fans and readers is a good suggestion, you've weighed the pros and cons of implementing such a system pretty well yourself. I'll bounce this off the rest of the team and see what everyone has to say about it. Never say never, right?

- Jayesh

Hi Harshil,
Yes, G-Sync is indeed a nice technology innovation to look forward to. If you want to write such articles on a regular basis, why not join our Writers' Club? You'll find details on Page Number 38. Also, we weren't aware of Exun Clan, but it sounds like a very nice initiative. Structured guidance for cultivating talent in computing at the school level deserves kudos. Strangely though, your name wasn't mentioned in the list of members. You should have that checked out. All the best and keep computing!

- Siddharth

✉ Dear Digit,

The Steam game demos (Black Ice and Survivor Squad), that you'd given in the August 2014 issue, on installation asked for a product activation key. I'm pretty familiar with the BackUp and Restore process, so I'm sure I haven't made any mistake on my part. Please look into it and if possible, do tell us how to proceed with the installation of the games.

-Anirudh Oppiliappan

We don't really know what the problem is. We've tried installing the game demos on fresh steam IDs using the DVD and did not encounter any issues.

If you're still facing issues, I'd suggest installing the demos from their respective store pages, cancelling the download and then restoring the data from the DVD. This should at least ensure that the games are registered without the activation issues.

- Anirudh

✉ I'm a polytechnic student with I.T and I read your magazine every month from my college library. If you could add another segment to your magazine covering programming languages, their details and examples such as usage in any recent projects, then we'll be even happier.

-Pankaj Belwal

We've been covering coding-related topics such as Ruby on Rails and D in the Devworx section since quite some time now. If you're talking about including an entire project, then it will be quite difficult, since college projects are quite vast and covering all of that in 2-4 pages is a daunting task. Especially if the language that is being used is new because then you have to go through the syntax first and understand the nuances before you can start programing.

Best to ask your professors about which languages to use in your projects as some professors aren't cool with the use of high-level languages in certain projects.

-Mithun

Hey Digit,

It would be awesome if you guys could do a detailed head-to-head showdown (article or video) between the MI3 and OnePlus One, since both are high-spec low-price custom Android OS solutions who've recently entered Indian markets and will be generating great interest from the power user segment.

-Anshuman Sanghvi

Good idea Anshu. We've wanted to do it since the minute both the phones were announced. Unfortunately we haven't got the OnePlus One yet. And there's no point doing a lame "specs" comparison.

- Siddharth

✉ I would like to be informed about copyright law regarding Digit PDF archives of Fast Track/Encyclopedia whether or not they can be shared through MediaFire/OneDrive/GoogleDrive etc. This is because many people often look for such valuable archives on the web.

-Jahangir Alam

It's illegal to distribute our PDF archives to the general public. It's fine, however, to share it with a closed group such as your friends.

-Robert


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Minority Report TV Series
Steven Spielberg is in talks of turning the sci-fi movie into a television series **http://dgit.in/MinReportTV**

Et voilà: the future!

From foldable screens to the smart helmet – catch up on the latest buzz in tech today



Amazon PrimeAir – Amazon's in-house drone-based delivery service – may come to India first

Amazon drone delivery

Amazon is reportedly planning to make India the launch-pad for delivering packages using drones. The retailer is expected to debut its drone delivery service in Mumbai and Bangalore first where it has its warehouses.

Amazon showcased its Prime Air drone last year in December and now the company appears to be keen on making headway. Amazon's Prime Air is an octocopter, a drone fitted with eight rotors. Amazon also added that it is developing vehicles that weigh less than 25 kg and travel at over 80 kmph. The company stated that the drone could carry packages upto 2.26 kg, which covers 86% of products sold on Amazon.

"It could be as early as Diwali," said one of the sources. Amazon said in a statement that it does "not comment on what we may or may not do in the future".

If Amazon's plans succeed, they will help the Seattle-based retailer to gain the top spot in India's online retail market which is expected to reach ₹50,000 crore by 2016, according to a recent Crisil report.

However, there has been a controversy regarding drone deliveries in India due to unclear rules. Recently, Mumbai's Francesco Pizzeria used an unmanned aerial drone to deliver a pizza to one of its customers on May 11. The customer lived about 1.5 kms away from the pizzeria outlet in a high rise building and received the pizza from the drone in less time than it would take a delivery person. However, the pizza outlet received complaint from Mumbai police a few days later stating why they didn't take permission from them prior to using drones. Police officials added that drone usage is not permitted due to security issues without due investigation.

Last month, 4 persons were detained as they were using a drone to video-shoot Ganga Aarti in Varanasi. Police was monitoring the area as PM Narendra Modi had given a speech after his election win from the holy city.

Prabhat Kumar, the director general of the Directorate General of Civil Aviation (DGCA) had recently stated, "We don't have any regulations for drones right now, but are in the process of preparing some rules. We are looking at regulations being developed in other countries for reference."

If Google can make it, so can I!

Arvind Sanjeev from Kochi, India has made a makeshift Google Glass replica "Smart Cap" in a month for ₹4,500. Arvind made the replica using a USB webcam, a Raspberry Pi board, an LCD panel, aspheric lens, headphones, sun board sheet and glue.

The "Smart Cap" runs on open Android and includes a Raspberry Pi board and a 2.5-inch LCD screen which is mounted on the cap for the eyepiece Arvind has used an aspheric lens to make the screen visible from such close distance. And with the help of mic'ed headphones the device responds to voice commands as well.

Arvind has put this project on his DIY profile and given steps to make it, so that enthusiasts who are interested in the project could make their own. Arvind has devised many other things besides this "Smart Cap" and all his projects are available as DIY (Do it Yourself) tutorials.

Arvind who has his own startup 'A.R.S devices' has developed many innovative devices and products in the field of automation, connected devices and safety. Arvind has also applied for a patent for hardware he has developed with which you can control your car through a mobile app.

Kinect your phone

Microsoft Research has discovered a method that makes use of the ordinary 2D smartphone camera, or a webcam to capture

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detailed hand movements or facial expressions, making it a Kinect-like device.

The team of researchers were successful in making actual working depth sensors from a modified Android smartphone as well as a regular Microsoft webcam. Both the devices were successfully able to track a user's hands and face. This technology would allow users to modify gadgets to respond to gestures.

The cameras pick up infrared light which, combined with algorithms, show depth. The demo video shows high accuracy and users can even pinch hands mid-air to zoom on screen. The variation of normal light in a room don't affect the infrared.

Another team of researchers have develop their own RGB-depth camera out of off-the-shelf parts. The technology could help figure out a way to meld it with software to capture 3D models of people and objects that deform, shift and move in real-time. No information is available when or if this kit will come to market.

Microsoft researchers under Project Adam are giving Microsoft's voice assistant Cortana the ability to identify objects. The team claims that the project is 50 times faster and twice as precise as Google's 16,000 computer neural network-powered image recognition system. The technology was showed off by Microsoft Research's executive vice president of technology and research, Harry Shum at the company's Faculty Summit. The technology could help build new tools for visually challenged users.

The smart helmet

The smartphone market may be reaching a point of saturation, but there are two other segments of smart devices that seem to be coming to the mainstream — in-car tech and wearables. Now here's something that combines those two segments. The Skully AR-1 is an Android-powered motorcycle helmet, which lets you do a lot of things that regular helmets can't and it's gone up for pre-order now, at a price of $1,399 (₹85,471 approximately), slated to begin shipping from May 2015.

The company calls this the 'World's smartest motorcycle helmet'. It runs on Android and can pair with your phone through Bluetooth, allowing you to play music, take calls, navigate and go online, using only voice commands. Information is projected onto the helmet's visor, along with a rear view display. It has an ultra-wide angle rear view camera attached to the back that projects what is behind you onto the rear view screen.



The smartest helmet you could have

The price of the helmet will go up to $1,499 (₹91,581 approximately) after it is launched, which means that you can save $100 (₹6,000 approximately) by ordering it now. The device had been put up on Indiegogo for a crowdfunding campaign and has reached almost triple its target, with $800,000 amassed so far. It is DOT/ECE certified and has a fog, scratch and glare resistant visor.



Is Samsung going to lead the development of the foldable screen?

Foldable screens a reality?

Samsung new foldable smartphone patent shows a device that can fold completely in half. The patent shows that the device has a "kickstand" mode, which can be used as a clock while other pictures show it in various positions while being bent in different directions.

According to the patent images the Samsung device has a flexible body, which could be embedded in the style of its existing smartphones. The bendable shape of the smartphone can be maintained due to hinges in the body. The patent was published by the US Patent Office last week, though it had already been patented earlier in February this year. However it remains to be seen when the smartphone will actually be launched.

Samsung showed its bendable tablet at the MWC in Barcelona in February. The tablet can be bent at 90 degrees and can be used as a tablet or a laptop. The lower half of the tablet can function as a keyboard and the upper half as a screen. A company spokesperson stated that Samsung plans to launch its foldable portfolio in early 2015.

Samsung is also planning to launch the much awaited Galaxy Note 4, Gear Glass and its Gear VR headset at the IFA event in Berlin this month. Rumors about a special Galaxy Note 4 with a flexible display are also making the rounds. The phone will reportedly feature a three-sided wraparound display that will completely eliminate side bezels and will offer touchscreen buttons on the phone's edges. No details have been given about the phones launch.

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Idea launches new smartphones

Idea cellular has launched two new 3G Android smartphones – Idea Ultra+ and Idea FAB – for ₹8,300 and ₹4,999 respectively.

The Idea Ultra+ is a dual-SIM smartphone powered by a 1.3GHz quad-core processor along with 1GB of RAM. The smartphone runs Android 4.2 Jelly Bean. It has a 5-inch display with Gorilla Glass and features an 8MP camera with auto focus and a VGA front facing camera.

The smartphone has 4GB ROM, expandable up to 32GB via microSD. In terms of connectivity, the Ultra+ supports 2G, 3G, Bluetooth 4.0 and USB 2.0. The smartphone is powered by a 2000mAh battery.

The Idea Ultra+ will compete against the likes of Micromax Unite 2 and Moto E.

The Idea FAB is an entry-level Android smartphone featuring a 4-inch display. It runs Android 4.2 Jelly Bean operating system and is powered by a 1.2 GHz dual-core processor. It also supports dual-SIM, Wi-Fi hotspot and GPS connectivity. Other features of the smartphone include 4GB internal storage and 32GB expandable storage and 3.2MP rear camera with flash.

Like all other Idea 3G smartphones, the new devices also come with a special offer for Idea 3G users offering 3G data benefits of 1.6 GB 3G data and Free Idea TV for 3 months, with a pack priced at ₹259 for existing subscribers, and 1.6 GB 3G data and Free Idea TV for 3 months, with a pack priced at ₹261 for new subscribers.

Idea has consistently focussed on budget smartphones bundled with its data and voice benefits. The telco recently launched the Ultra II and !d 1000 3G Android smartphones.

Voice-charging your smartphone?

Scientists from Queen Mary University of London (QMUL) and Nokia have created an energy harvesting prototype that can be used to charge your smartphone using everyday noise, like music, traffic or even your voice.

The team of researchers used Zinc oxide to create a voltage by converting energy from motion into electrical energy, in the form of nanorods. Scientists were able to harvest energy and generate a high voltage using the Nanorods. They can respond to vibration and movement created by everyday sound, like music or voices. Electrical contacts on both sides of the rods can then be used to harvest the voltage to charge a phone.

The scientists started by spraying a coating of liquid zinc oxide onto a plastic sheet, that they placed in a "mixture of chemicals" and heated to 90°C (194°F), which caused the zinc oxide to grow into an array of nanorods. The nanorod sheet was then placed between two electrical contact sheets. The researchers developed a cost-cutting technique that allowed them to use ordinary aluminium foil instead of Gold.

The prototype energy-harvesting device is about the size of a Nokia Lumia 925, and can generate up to five volts using "everyday background noise" such as traffic, music and voices, which is sufficient to charge a mobile phone.

Dr Joe Briscoe from QMUL's School of Engineering and Materials Science said: "Being able to keep mobile devices working for longer, or do away with batteries completely by tapping into the stray energy that is all around us is an exciting concept. This collaboration was an excellent opportunity to develop alternative device designs using cheap and scalable methods. We hope that we have brought this technology closer to viability."

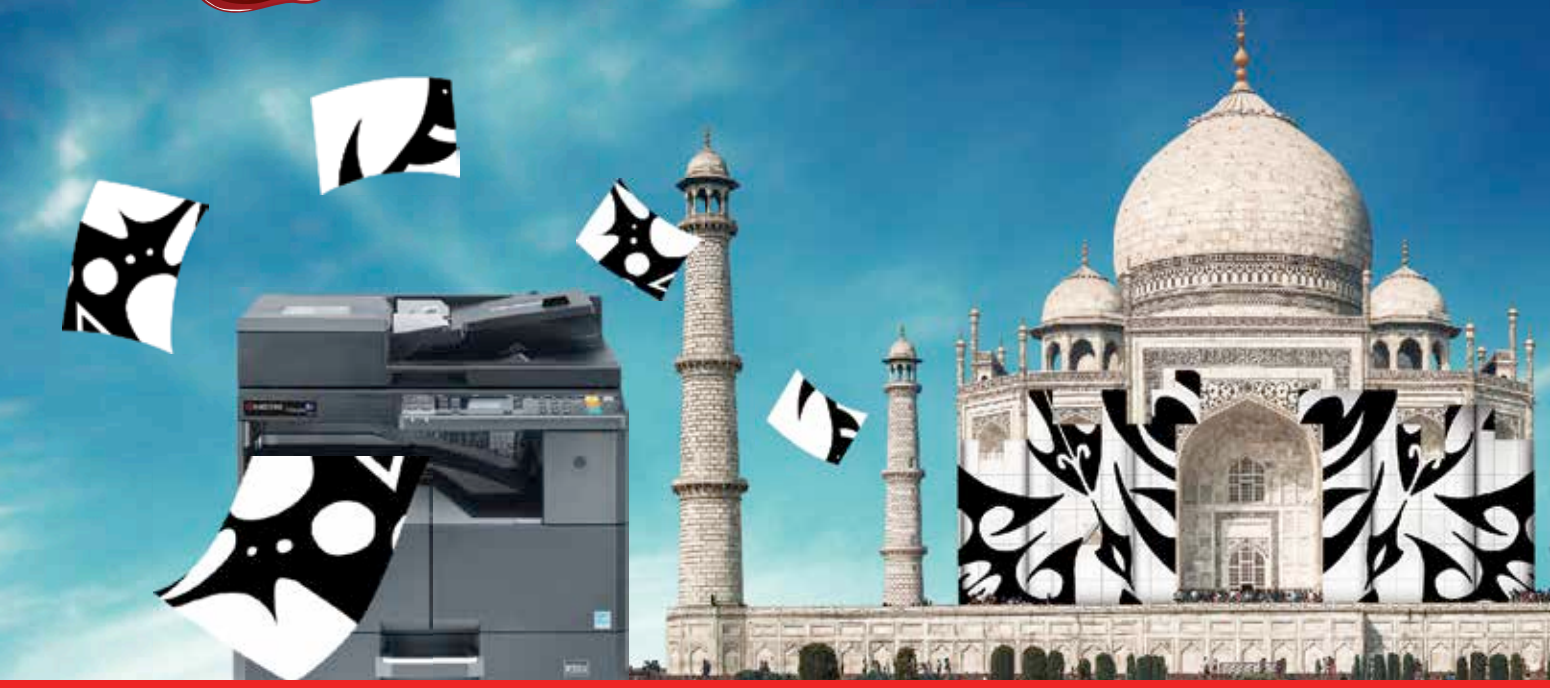
The Auxus Note 5.5 launched

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₹6,490 respectively. The new iberry devices have been exclusively available on eBay since August 21.

The Auxus Note 5.5 has a 5.5-inch 720p display with Gorilla Glass protection. It runs Android KitKat operating system and is powered by a 1.7GHz octa-core processor along with 2GB RAM. The smartphone has 13MP rear camera with LED flash and 8MP front-facing camera. It also supports NFC for connectivity. The smartphone is powered by a 3200 mAh battery.

The main highlight of the Note 5.5 is the fingerprint scanner – a feature seen on the likes of Apple iPhone 5S, HTC One Max and Samsung Galaxy S5. The iberry Auxus Note 5.5 is perhaps the first Indian smartphone brand to include fingerprint feature. You can check out more details about the iberry Auxus Note 5.5 here.

The Auxus AX04i tablet has a 7-inch display. It supports dual-SIM connectivity. The tablet is powered by a 1.3GHz dual-core processor along with 512MB of RAM. It has a 2MP rear camera and a 0.3MP front facing camera. The device comes with 4GB built-in storage along with support for additional storage up to 64GB via microSD. It is powered by a 3000 mAh battery.

Cheap International calls soon?

TRAI has fixed the rate payable by the International Long Distance Operators (ILDO) to the local service providers. As per the TRAI regulation, the ILDOs will pay 40 paisa per minute for wireless services and ₹1.20 per minute for wireline services. It's notable the international players pay an access charge to the local service providers for ISD calls.



Under the International Calling Card Services (Access Charges) Regulations, 2014, "Every International Long Distance Operator, who intends to provide international long distance voice service through Calling Card, shall request, in writing, all the Access Service Providers to enter into interconnection agreements in accordance with the provision of the regulations made by the Authority and the terms and conditions of its licence agreement."

"Provided that in case of those Access Service Providers who start access service after the commencement of these regulations,the International Long Distance Operator shall enter into interconnection agreement with such Access Service Provider within sixty days of the start of the access service by the Access Service Provider."

Another important announcement the TRAI has made is that customers can buy calling cards from any international long distance operators.

The regulatory body had been trying to bring in more options for users for ISD callings. However, the regulator claims, dodged the introduction of competition. To provide the facility to subscribers to choose their NLDO/ILDO for their STD/ISD calls, TRAI issued a direction on 24th July 2002 which could not be implemented due to various reasons given by service providers.

9 Motos in the next 4 months

It seems Motorola has big plans for the second half of this year. According to reports, the company has a total of eight devices that it will launch before Christmas this year, with the new Nexus smartphone included among them. The devices also include the Moto X+1, Moto G2, Moto X Play, Moto S, Droid Turbo, Droid and Droid Maxx. Notice that the Moto 360 hasn't been mentioned here, since it has already been announced. So, in essence Motorola has nine devices coming in the next four months.Excited? Why wouldn't you be?

The company sent out an invite to the media yesterday, mentioning only that it is going to host an event in New Delhi on September 5. As we reported earlier, this is expected to be the launch event for the Moto G2, Moto X+1 and the Moto 360 smartwatch. The company has also been rumoured to be working on the next Nexus smartphone, with a device, code named Shamu recently showing up on benchmarks. According to speculations, this is the new Nexus smartphone, which comes with a Snapdragon 805 chipset and 3 GB of RAM.

The Moto X Play smartphone mentioned above is expected to be a mini version for the Moto S device that is selling overseas. The company hasn't brought any of its devices under the Droid brand to India yet, but considering its new found interest in the country, things could change. Motorola had previously held the global launch event for the Moto E smartphone in India, while the Moto G sold over 1 million units here in less than five months. That said, the company's higher end smartphone, the Moto X, which is one of its best devices, hasn't done quite as well in India.

While all these devices are expected to arrive by the end of the year, some reports have said that some may be pushed to early next year. Nevertheless, with 9 devices at the brink of entering the market, Motorola is looking at a very busy second half of 2014.

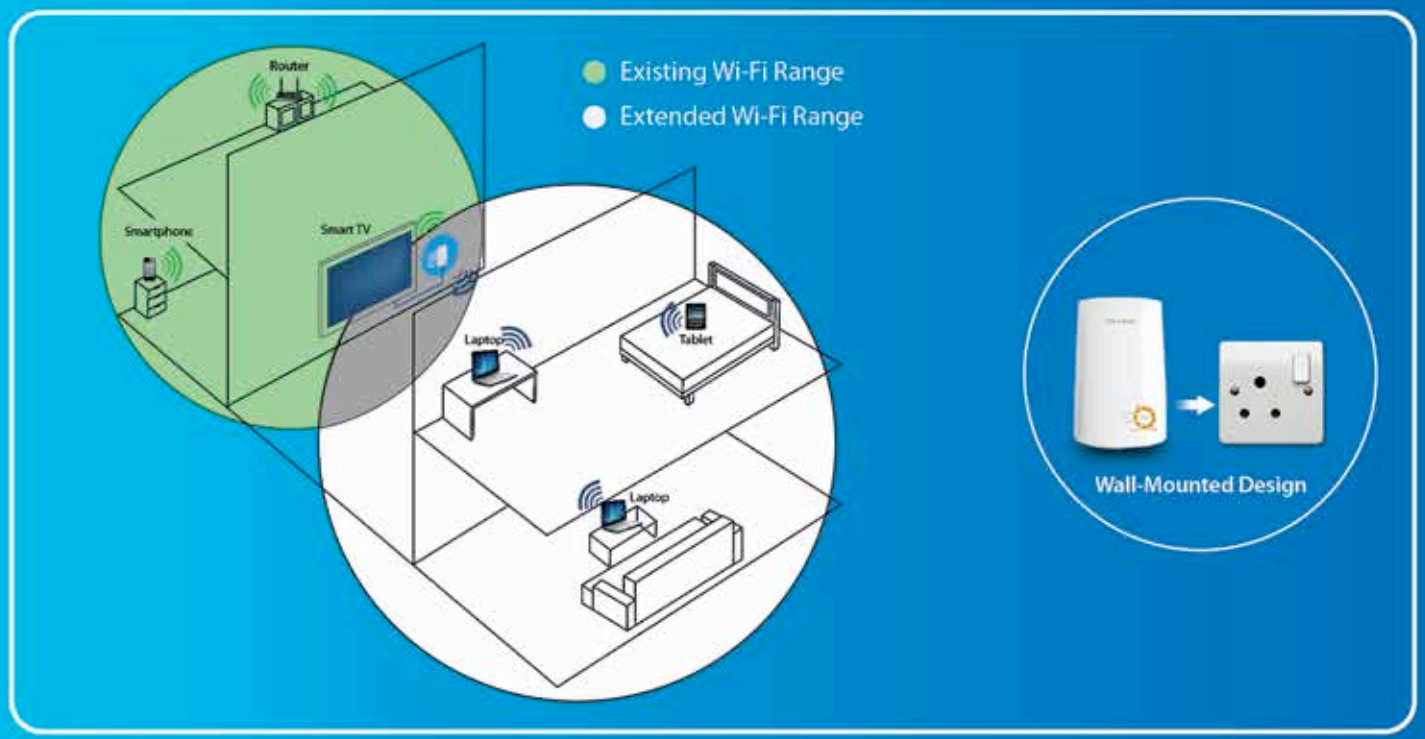
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Beauty Is Screen Deep

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Paanini Navilekar
readersletters@digit.in

Everyone loves good design, particularly when it comes in the form of an app you use everyday. We're all more attached to our smartphones that we'd like to admit, so if we're going to be staring at something for hours everyday, we'd like it to look pretty. The apps we've showcased here aren't just pretty though, they're fun to use and functional as well.

Poki

http://dgit.in/PokiApp

You're always coming across great articles and videos on the internet, and you always save them to Pocket in the hope of getting to them 'later' (Of course, you never do). Pocket's official apps are only on Android and iOS and leaves Windows Phone users out in the cold. Poki, a third-party Pocket app for Windows Phone 8, fills that void with some exceptional design. The app uses bursts of bright colour on a mainly dark background (this can be changed in the settings) to list all your unread articles, along with swipeable tabs for your Starred articles, tags and settings. The app doesn't scrimp out on features and is as fucntional as its Android and iOS counterparts. While it isn't free, $1.99 is still an acceptable price for someone who spends a lot of time browsing the web.



Poki is a gorgeous, full-featured client for Pocket

Readit / Reddit Now / Alien Blue

http://dgit.in/RedditApps

Reddit, the popular bulletin board of the Internet, doesn't have official apps on any mobile platform. Of course, this has only incentivized developers to create excellent Reddit apps on every platform. On Windows Phone, Readit is a great example of leveraging a platform's style guides to create a great looking app. Featuring splendid typography, this free, full-featured Reddit client is a no brainer, given its support for Lock Screen backgrounds, Live Tiles and the ability to pin a specific subreddit to the Start Screen of your phone.

Not to be undone, Android has a wealth of Reddit apps, but we like Reddit Now's design the best - mainly because it adheres to the Android design style guide and sports a Google Now-esque look. Given that Reddit tends to be image-heavy, the app features full, high-resolution image previews that automatically change their layout depending on whether you're on a tablet or smartphone.



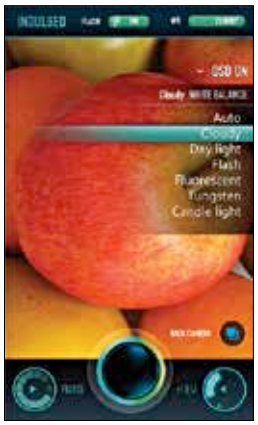
Alien Blue is the Reddit app of choice for iOS users.

iOS users swear by Alien Blue to get their Reddit fix, and not without reason. The iPhone app is free, is minimalistic in line with iOS 7, and doesn't skimp on features. Paying $1.99 gets you the Pro version, which among others, features tilt scrolling and a nifty 'Hide All' features, ensuring that you always see new content when you open the app.

Indulged

http://dgit.in/IndulgedApp

Smartphone photography has come from being a niche product to many a photographer's primary medium - after all, the best camera is the one you always have with you. Alternate camera apps like Camera+ for iOS and Camera Zoom FX for Android offer enthusiasts a plethora of customization options that the stock apps often don't. Windows Phone users can use the excellent all-in-one photography, photo editing and Fllickr app, Indulged. Winner of the Nokia Create competition, Indulged lets photographers manually change the exposure, ISO, White Balance and other settings, process your photos using the built in editor (including photo filters) and browse and upload to Flickr groups and photo sets.



Indulged is one of the best photography apps for Windows Phone.

Yahoo Aviate

http://dgit.in/YahooAviateLauncher

Android has no dearth of home screen launchers, but home screen replacement apps are another story. The most popular among these is Yahoo Aviate - an app that aims to simplify the task of organizing the short-



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New Yahoo Mail app
"With the new Yahoo Mail app for iOS and Android users don't have to navigate through various apps on their homescreen," says Russ Smith, Senior Product Manager, Yahoo. **http://dgit.in/YMailApp**

cuts and widgets on your home screen. Aviate uses contexts called 'Spaces', such as work, home or play, and shows you the most relevant apps on the home screen. Apps are organized into categories called collections; so for example, apps like Email, Calendar and Dropbox would fit into Productivity, while Music, Spotify or 8tracks would be filed under music. These categorizations are automatically made, but you can fine tune them to suit your taste. Depending on your location, time of the day or any upcoming calendar appointments, the home screen will change dynamically to show you the most relevant apps and widgets.



Aviate intelligently organizes your apps into Collections.

Lumosity

http://dgit.in/LumosityApp

If you find yourself having a few minutes of idle time in your day, rather than compulsively checking Facebook and Twitter, consider an app like Lumosity. The app, available on Android, iOS and the web, bills itself as a personalized training program for your brain. By making you play short games that train a specific part of your brain, Lumosity claims



Lumosity is a personal trainer - for your brain.

to follow a scientifically backed method of brain improvement - whether it be your memory, speed, problem solving skills or cognitive flexibility. While the app itself is free, it offers in app purchases for access to its full range of games and progress monitoring tools.

Nwplyng

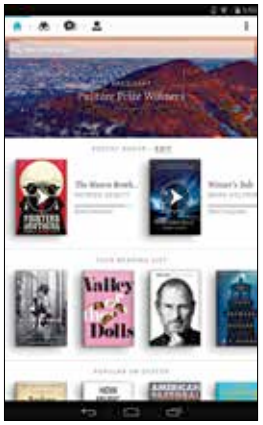
http://dgit.in/nwplyngApp

Nwplyng (pronounced Now Playing) is a unique app that lets you share any song you're listening to with your friends on Facebook, Twitter and within the app's own network. It essentially works as a music discovery app, showing you new music that your friends are listening to. You can search for a track and share it, or the app will automatically detect the name of the song that's playing (similar to Shazam and Soundhound) for you. What's unique about the app is that it gamifies the experience of listening to (and sharing) your music, by letting users earn badges based on the artists they listen to most often. The app also has an upcoming feature called 'Explore' where you can seek out people on the app's social network with a similar listening history (and hence, a similar taste in music) as you.

UnClouded

http://dgit.in/UnClouded

Most of us store files in the cloud on Google Drive and Dropbox, but the services are quite disparate, and managing files across these providers can be cumbersome. UnClouded takes a unique approach by analysing your Drive and Dropbox accounts, telling you which files occupy the most space, when they were last modified and informing you of any duplicates.The free version also serves as a read-only cloud file explorer, while an in-app purchase unlocks the full functionality - allowing you to add/remove files and eliminate duplicate files. UnClouded offers such insights even when the device is offline - internet access is required only to retrieve/upload files.



Oyster lets you read all the books you want for a monthly fee

Oyster Books

http://dgit.in/OysterBooksApp

Oyster is like Spotify for books - for a monthly fee of $9.95, subscribers get access to a digital library of over 500,000 books that they can read on one of Oyster's free mobile apps for Android, iOS, Kindle Fire and the Web. The app itself is a work of art, with clean typography, large, high-res photos for book covers and a curated set of collections (e.g. Best Books for the Beach). If you're searching for something to read, drop a mail to the team, they'll recommend a book for you. You can choose to try the service at no cost using the one month trial, following which you'll need a subscription to use the app.

Sunrise Calendar

http://dgit.in/SunriseCalendar

One indispensable productivity app in everyone's phone is a Calendar app - we use it to schedule meetings for work, personal appointments or even set recurring reminders to pay your bills. The stock calendar app on iOS and Android is fine, perhaps a little uninspired in terms of design. Sunrise remedies this flaw by offering a stunning, consistent design language across Android, iOS, Mac, Chrome and the web. It also combines the best parts of Google Calendar and iCal, pulls in events and birthdays from Facebook, and integrates with Google Maps to provide intelligent remindes about when to leave for your next appointment. Sunrise doesn't support Microsoft Exchange accounts yet, but plans to add support for Exchange along with integration with services such as Trello and Github in the near future.



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Gionee's slim phones
While Gionee's Elife S5.5 is currently the thinnest smartphone, it's working on creating a phone that's 5mm thinner than this one **http://dgit.in/ThinnerGionee**

Google reigns supreme

...but Facebook isn't one to be left behind in the dust so easily. Check out what these tech giants have been up to recently.



A separate internet for the kids?

A kiddie internet

Google may be working on new versions of its popular services like Gmail and YouTube designed specifically for children under 13 years. Currently, anyone who wants to create a Google account has to be at least 13 years old and children below that age are redirected to a page explaining children's privacy rights, as dictated by the U.S. Federal Trade Commission, when they try to create a new Google account. According to the Wall Street Journal, Google is creating new versions of its services that will let parents create accounts for their children and tightly control what content they access, how they access it and how (and what) data is collected on them.

Even though the new strategy is controversial, an unnamed source close to Google has explained that parents are already creating accounts for their children and the search giant only wants to make the process safer and easier. According to reports, Google has already begun work on a version of YouTube for kids aged under 10 that will only have videos that are suitable for young children and will be easy to use on tablets. However, by creating services especially focused on children, Google will also get access to a new hitherto unexploited market of delivering entertainment and educational content and tools to young children and parents of young children through the Internet.

Privacy organisations have already raised concerns regarding Google's strategy and have warned that unless the company goes about making those services in a transparent and 'correct' way, the privacy of millions of young children could be compromised.

GMail hackable?

A team of researchers have discovered a flaw across Android, iOS and Windows operating systems that could allow malware to steal personal information. Researchers discovered that six out of seven popular apps could be hacked with up to a 92% success rate.

Researchers from the University of California Riverside Bourns College of Engineering and the University of Michigan have tested it on an Android phone, but the team believes that the method could be used across all three OSes because all three share a similar feature: all apps can access a mobile device's shared memory.

The researchers have showcased a malware running on an Android smartphone with the malicious software able to steal information such as login details, credit card numbers and even sensitive pictures taken with the victim's camera.

"The assumption has always been that these apps can't interfere with each other easily," said Zhiyun Qian, an associate professor at UC Riverside. "We show that assumption is not correct and one app can in fact significantly impact another and result in harmful consequences for the user."

The researchers tested the method on seven popular apps. Among the apps they easily hacked were Gmail, CHASE Bank, Hotels.com and H&R Block. Amazon was the only app they tested that was difficult to penetrate with a 48 percent success rate. The team said this was most likely due to the UI model Amazon uses in its app.

"The Amazon app case indicates that our inference method may not work well if certain features are not sufficiently distinct, especially the major contributors such as the transition model and the network event feature," the researchers write in the paper.

The team presented its paper at the, "Peeking into Your App without Actually Seeing It: UI State Inference and Novel Android Attacks" (PDF), USENIX Security Symposium in San Diego on August 23.

The number of cyber attacks has increased considerably in the last year. Yahoo and Google have recently teamed up to create spy-free email systems that will make it impossible for hackers to scan users messages.

The Facebook Browser?

According to reports Facebook is testing its own built-in Web browser for the Android app. Several users reported app opening external links from their timeline and news feeds in its own built-in browser window after the recent Facebook for Android update.

Android Police says that the built-in browser seen by users is a WebView component based on the Chromium open source project. The app uses a WebKit rendering engine to display web pages and does simple actions including back, forward, zoom, and search functions. Some users have shared the screenshots of the built-in Facebook browser which shows a menu button on the top right corner with forward and back buttons, an option to Share in New Post, Open with, Copy link, and Save links.

Facebook's thinking behind the browser is simple, if you take

the time to really sit down and think about it. The more time users spend on the app which ultimately leads to an increased ad revenue for the social networking site. Facebook has not issued any official statement on the feature and it remains to be seen whether it will be rolled-out to all users or is just another one of the company's experiments.

Facebook has recently confirmed that it is testing the option to post stickers in comments on its site. Few users have been using the stickers in comments section for testing, though the company has not issued any official statement about a global rollout. The social networking site is also testing 'Satire' tags after it received feedback that people wanted a clearer way to distinguish between fake and real news articles.

Enter the Google Classroom

Google has officially launched a Classroom tool for teachers to connect with their students and give them assignments and feedback on their daily submissions, and do so with a considerably more convenience than before. The internet giant has recently announced that anyone who has access to a Google Apps for Education account can now use the service for themselves.

Google unveiled the service back in May and says that more than 1,00,000 educators from 45 countries have signed up for the service. The service is available in 42 different languages. The tool gives teachers access to a content management system online that allows them to post updates and homework assignments, give feedback, grades and add/remove students from their classes.



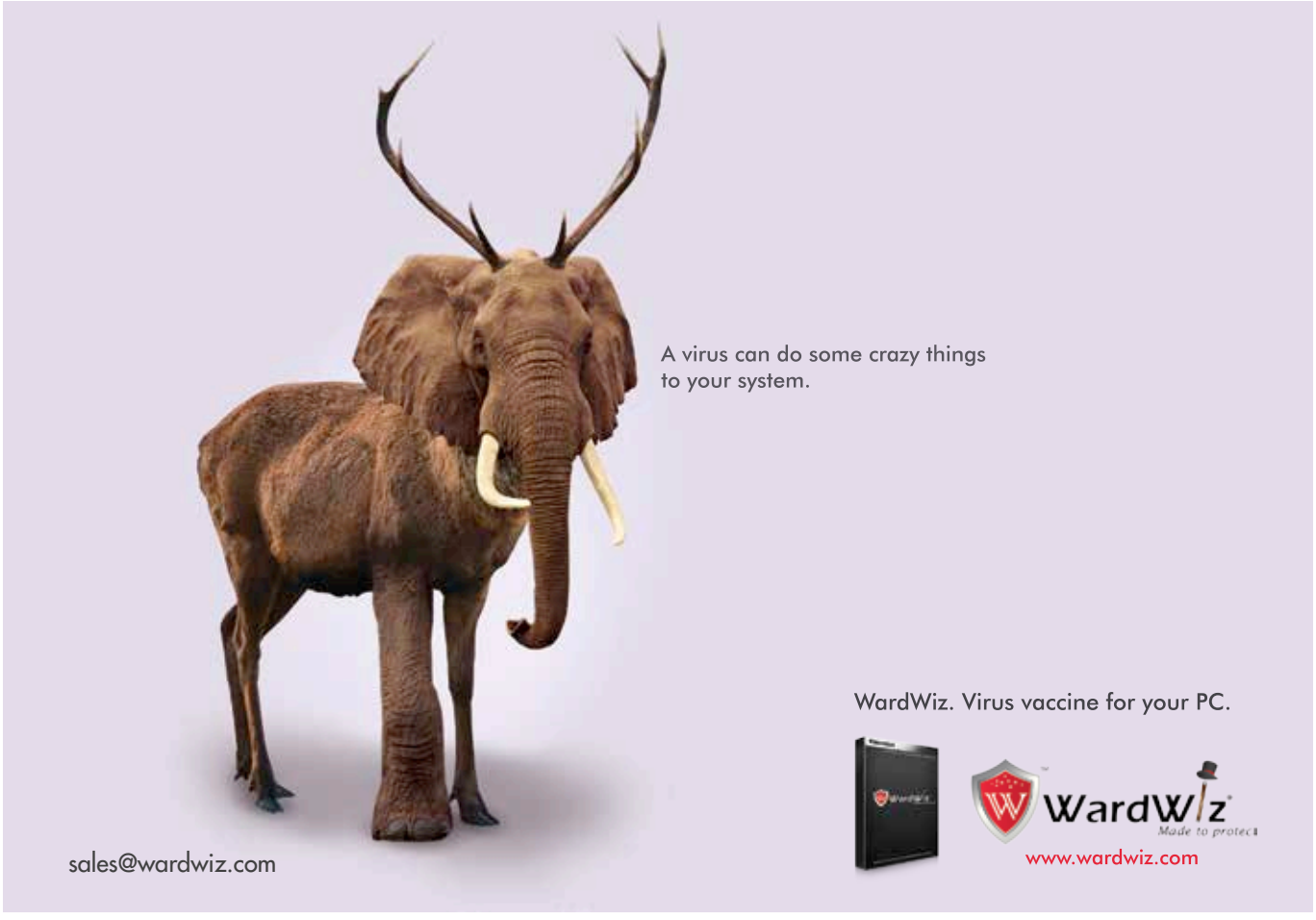
Google Classroom

The service free for schools as part of the Google Apps for Education suite. It has deep integration with Google Drive and the productivity applications, like Google Slide and Docs.

Google Play for Education, also offers teachers and schools to buy Android apps and books and distribute them to their students. Classroom Tool will help developing nations like India where there are the commonly-found issues of limited funding and outdated classrooms.

"We've also heard that educators want a simple place to post information and materials about their classes, so we added an 'About' page for each course as well," they said in a blog post.

The Classroom service is one of many initiatives launched by Google to improve education. Earlier this year, Google had announced a Chromebooks for schools program in India. The internet giant recently launched a pilot project in Andhra Pradesh where Google provided Chromebooks in 4 schools and trained the teachers on how to use the required software.



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Being on guard

We take a look at the top cyber security stories of the month

Should you be wary of Chinese smartphones? Are security concerns about the Chinese smartphones overblown? Internet has been abuzz with these questions after it was alleged that devices made by Xiaomi, China's top smartphone player, were covertly sending users data to China. Following a wide controversy over security concerns, Xiaomi was compelled to make its cloud messaging service optional on its devices.

Xiaomi VP of international affairs Hugo Barra put up a post on Google Plus, explaining that the company is allowing users to opt out of the service if they wish to. The Mi Cloud messaging service is similar to Apple's iMessage service, which allows Apple's iPhone users to send free messages to each other through



Mi Cloud

the Internet. Mi Cloud messaging does the same for users of Xiaomi's smartphones.

Earlier, security firm F-Secure found that the Xiaomi service seemed to be sharing information with a server in China. This included information like the users IMEI numbers, phone contacts, phone number and the text messages that the device received. This has raised concern amongst users about their data being accessible to the Chinese government.

Russian hackers conduct world's biggest Internet security breach

According to a report published by Hold Security, Russian hackers stole over 1.2 billion user names and passwords in a series of Internet thefts affecting 420,000 websites. The gang dubbed CyberVor or cyber thief in Russian was identified after seven months of research by the security firm.

Hold Security reports that Russian cyber criminals collected over 4.5 billion records earlier this year and sorted through the data to remove duplicates. They were left with over 1.2 billion unique records and 542 million email addresses. The company says that the data collected by the hackers has not been sold, but is being used to spam social networks on behalf of other groups for a fee.

"Hackers did not just target U.S. companies, they targeted any website they could get, ranging from Fortune 500 companies to very small websites," Alex Holden, the founder and chief information security officer of Hold Security, stated. "And most of these sites are still vulnerable."

Holden says Hold Security has been in contact with many of the victimized website companies, but has not been able to reach all of them yet. The leak highlights that online users should protect their personal information and change their usernames and passwords frequently or risk identity theft. Cyber sleuths urge users to not use the same passwords for different online accounts.



Internet security breach

"Companies that rely on usernames and passwords have to develop a sense of urgency about changing this," Avivah Litan, a security analyst at the research firm Gartner, told The Times. "Until they do, criminals will just keep stockpiling people's credentials."

70% smart devices vulnerable to hacking

With the advent of the Internet of Things (IoT), security and privacy issues have been the talk of the town for a while now. Adding to that, a new report released by the PC giant HP says that 70% of devices in the internet of things are susceptible to hacking. In the study, HP went through 10 smart devices, used commonly by people including webcams, thermostats and smart TVs.

Amongst the devices that HP tested, the company found each device had about 25 vulnerabilities. These included vulnerabilities regarding password weak protection software and password strength. These were found in eight out of the 10 devices that were tested.

In a statement from the company, HP said, "Late last year, we were hearing a lot about Internet of Things, and a bit about IoT security, but had not seen anything that focused on the complete picture of IoT security. So, we decided to start the OWASP [Open Web Application Security Project] Internet of Things Top 10 Project, which aims to educate on the main facets of Internet of Things security that people should be concerned with."

Why Facebook Messenger needs access to your phone

Facebook which received a lot of backlash for pushing its Messenger mobile app, has set up a web page to explain the app per-

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Logging off
A list of places you can visit across the globe that offer plans to unplug. **http://dgit.in/TravelLogOff**



Using Technology Heathily
A document produced by NIMHANS with which you can assess whether you're use of technology is healthy or not. **http://dgit.in/HealthTechServ**

missions in detail. A Facebook spokesperson stated that the Facebook Messenger permissions have not changed. So if a users has installed the Facebook or Facebook Messenger app in the past, he has agreed to give the app the same access that a person installing the app now would receive.

Facebook confirmed last week that the messenger app split has begun. The social networking site added that the switch to messenger will benefit users as it is faster and more reliable. The app already has more than 200 million



Facebook Messenger

monthly users and has seen a positive response.

However users who have not downloaded the app may see messages disappearing from the main Facebook app. This move will affect iPhone and Android app users. According to a Facebook spokesperson the changes will be rolled out over the coming weeks to all users.

Facebook acquires cyber security startup PrivateCore

Facebook has acquired California-based cyber security startup PrivateCore, in a move to improve defences of its vast server network. The financial terms of the deal were not announced.

PrivateCore was launched two year back in 2012 in Palo Alto and specializes in protecting servers against malware and other kinds of intrusions. The company raised $2.25 million in funding in 2012 from Foundation Capital.

Private Core's Oded Horovitz stated in a blog post that the two firms "have an aligned mission."

"Since the beginning, we have worked tirelessly on our technology to protect servers from malware threats, unauthorized physical access, and malicious hardware devices," he said. Working together with Facebook, there is a huge opportunity to pursue our joint vision at scale with incredible impact."

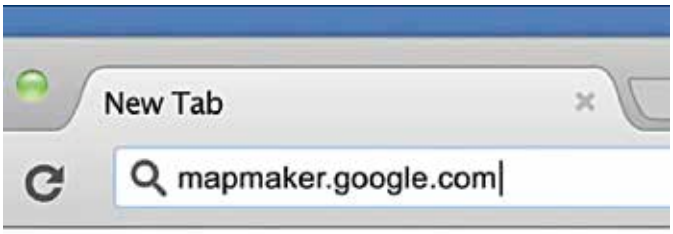
Facebook's Joe Sullivan stated, "I believe that PrivateCore's technology and expertise will help support Facebook's mission to help make the world more open and connected, in a secure and trusted way. Over time, we plan to deploy PrivateCore's technology directly into the Facebook server stack."

Google's Mapathon comes under scanner

Surveyor General of India Swarna Subba Rao slammed Google for allegedly gathering classified information through a mapping competition in February last year. Rao pointed out that Google had "polluted" the web with classified information in spite of being warned against doing so.

"During their (Google's) Mapathon 2013 exercise, they collected lot of classified data and we had approached them to refrain from doing so when we came to know about it," Rao is quoted as saying. "They (Google) have expressed their desire to meet me at some hotel but I have been firm of a meeting in office," he further said.

Rao's scathing attack on Google comes days after the CBI lodged a preliminary enquiry against the Internet company on the basis of complaint filed by Surveyor General of India's



Google Mapathon

office to the Union Home Ministry. Google has been accused of not taking permission from the relevant authority before launching its Mapathon competition in 2013 in which users were asked to add their location details on Google Maps.

Surveyor General of India is the official mapping agency for the country. "The responsibility for producing, maintaining and disseminating the topographic map database of the whole country, which is the foundation of all spatial data vests with the Survey of India (SOI). Recently, SOI has been mandated to take a leadership role in liberalizing access of spatial data to user groups without jeopardizing national security," says the National Map Policy, 2005.

Can YouTube infect your computer?

A new report by Morgan Marquis-Boire says watching unencrypted YouTube videos and checking your Microsoft Live account can be used by hackers to infiltrate home computers.

According to a paper published by Morgan Marquis-Boire at the University of Toronto's Citizen Lab, spies can use unencrypted YouTube streams and Microsoft Live log-ins by intercepting traffic and use them to inject malware in your PC. Hackers can easily view your e-mails, bank accounts, IMs and sensitive personal information with the malware.

"It's "hacking on easy mode," explained a new report by Citizen Lab; "compromising a target becomes as simple as waiting for the user to view unencrypted content on the Internet." Network injection "allows for the 'tasking' of a specific target. Rather than performing a manual operation, a target can be entered into the system which will wait for them to browse to an appropriate website and then perform the required injection of malicious code into their traffic stream."

Marquis-Boire identifies two companies called 'Hacking Team' and 'FinFisher' that are known to sell law enforcement agencies "network-injection" technologies used for surveillance for around $1 million dollars. Hacking Team uses the traffic from YouTube and Microsoft's login.live.com servers to install YouTube videos with surveillance software to track the target's activities online. The company works with governments like Morocco and the United Arab Emirates, but Marquis-Boire says similar technologies have been used by intelligence agencies in Britain, US, China, Russia and more.

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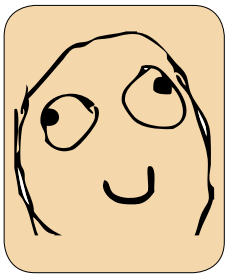
Here's the next set of wordsmiths



Bhavdeep Singh

Article submitted:
Technology And The World Cup

"Now, contrary to popular opinion, the technology in football is simply not basic cameras attached to the goalpost or other places to see whether, a player has fouled or scored a goal or if any kind of event like that has happened."



Deeptonabho Dutta

Article submitted:
Electric Guitar: Play On

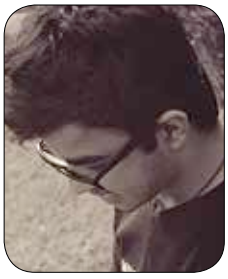
"Most teenagers look at the internet as a one way ticket to uploading premature music, with terrible video quality and (sort of goes without saying) horrendous sound. We just ignore the thousands of tutorials which are more effective than any teacher you might find."



Kishore Ganesh

Article submitted:
Should Notebooks Be Replaced By Computers?

"In some Schools, a Tablet is given to compliment the Textbooks. We are not quite there when it comes to completely replacing it, but some have tried. Will the invasion of Computers onto Textbooks be a Good Thing? What will be the Advantages. And what problems will it bring?"



Taaran Chanana

Article submitted:
First Indian Anonymous Social Network

"Aspiring teenagers of our India, have developed an anonymous social network – a place where you get to write, comment, like, dislike, message and even email anyone around the globe anonymously!"



Amol Bapat

Article submitted:
Tips To Boost Performance Of Your Android Device

"If you are using too many widgets. Nothing wrong in using them, just make sure they aren't eating up too much of space on your RAM. You never know if any app is using 30-40 Mb RAM . You can search for an alternative of that app."



Naman Jain

Article submitted:
Electronic Gadgets And Humans

"Today, we have many faces of technology around us. Take the mighty smartphones, gaming consoles to flaunt, high-end PCs , iPods & numerous other gadgets. We have been invaded by technology & it is indeed turning to be dangerous."

To read these six articles and connect with this first batch of inductees of the Writers Club visit:
digit.in/writers-club

Wego Travel App
The Wego travel app (Android and iOS) gives you hundreds of airfare options and hotel rates in 20 languages **http://dgit.in/WegoTravel**

Better web browsing
An update increases the overall user experience of surfing the web on your Android phone **http://dgit.in/UCBrowserApp**

Psst...
Wanna Know a Secret?

The veiled world of anonymous social sharing is growing. We dissect the apps, the phenomenon and the culture that their adoption is creating

Samir Alam
readersletters@digit.in



India's very own anonymous social sharing app is available on Android. An iOS version is expected very soon

Twenty years ago, almost everyone online had nicknames or "handles" to keep things private. Chat rooms, hubs where people could meet and exchange ideas but remain buffered with usernames that often bordered on the ridiculous, combined with questions like "ASL?" (Age/Sex/Location) became the trigger to invent a new identity. Then, came along social networking and sharing sites and everything changed. The mysterious RustyWagonWheel37 on Yahoo Chat was revealed to be Mrs. P.K. Girpade, your Maths tutor.

Online strangers who seemed mysterious and interesting became boring realities rarely matching up to their online personas. Private suddenly became public and online profiles became an open access history book of everyone's likes, activities and bad humour. Since then, we've seen little change in the fabric and nature of social networks. Until now, with the rise of anonymous social networking.

Anonymity: The next liberation movement

The phrase "anonymous social networking" seems like an oxymoron at first glance. After all, isn't the whole point of having a digital social network to share and communicate with your friends and family? Well yes. But you must wonder how often do people even do that in real life? Facebook is great when you need to organise an event, share photographs and videos from shared activities, follow topics and people you like, promote interests and causes, and occasionally chat with friends, but how much of ourselves do we actually release into the network?

Recent research has shown that only about 10 percent of social networks users are outwardly active with 90 percent doing nothing more than consuming information. And with more than half of the timelines being taken up by liked topics and celebrity pages this seems to make a lot of sense. There are the occasional spurts of comments and likes over images, but rarely do they result in emotional catharsis for passive users. Add to that the constant political correctness of different intermixed social groups, which keeps everyone reserved and calculating. Doesn't seem very social now, does it?

It's in the midst of this boring status quo that we're seeing the rise of anonymous social networking. Mobile apps such as 'Secret', 'Whisper' and 'Confess' allow users to share whatever is on their minds without having to worry about it being traced back to them. A variety of encryption and network engineering techniques created for these type of networks enable users to share their thoughts without fear of shame or consequences. The social networking part may seem

illusive given the anonymity, but these apps have found a way around it.

The social in anonymous

For instance, on Secret, users need to sign up using their email ID and invite three of their friends. Only after completing this step can they post whatever they wish. Their "secrets" are plain text against a coloured background and visible to everyone on the network. Users can also choose to see messages from their own network – but never know who specifically sent them. The shared messages that are "hearted" or commented on the most spread the quickest. A similar format is followed on Whisper, but the appearance is a bit more youth oriented. Users create meme-like messages on a photograph and release them into the wild. The only difference being that Secret leverages your current social network to connect you to the world, while Whisper drops your messages directly into the global pool.

'Confess' is the Indian version of Secret, which keeps your existing social network in play. While posting, users can choose whether their message should be displayed to their network or not. You can read other people's confessions based on either popularity or distance from you. You can also "like" and comment on other people's confessions. Another service which, although not a social network, does phenomenally well in allowing for social sharing is called 'Leak'. This simple website allows you to anonymously send a message to anyone whose email ID you possess. Just type in the email ID in the "To" box and for the "From" box pick either friend, co-worker, family, friend, friend of a friend or just "someone". Your email is sent and your identity is protected.

Most anonymous social sharing and communications services use a combination of these techniques. From instantly deleted messages in chats to anonymous posting directly to a large group – the freedom to express is unbridled. Since what they offer over other forms of social sharing is the unfettered catharsis of expressing your innermost thoughts without worry about the consequence, it isn't surprising that they're immensely popular amongst users and investors alike. This new kind of social interaction assuredly is very liberating, but it does come with its own set of inner complexities, legal perils and emotional politics – things most users wouldn't even think about before posting.

The psychology of anonymous sharing

Very few social media users won't censor themselves. You want to say something but are afraid some "undesirable" people on your network will see it. Or worse, you want to express an opinion on a sensitive issue without the fear of getting arrested or lynched or shamed by your network. In such scenarios, switching to an anonymous social sharing service seems like an attractive choice. A place where you can just speak your mind.





Ozone killers at large
Ozone depleting chemicals have been discovered unexpectedly in high levels in the atmosphere by NASA **http://dgit.in/BannedOzChem**



Impressive sci-fi short film
This is a short film which shows how an alien race can transform a barren planet into a paradise **http://dgit.in/SciFiShort**

A Primer to Anonymous Social Sharing

Secret
Platforms: Android and iOS
Website: https://www.secret.ly/
"I sometimes try getting bit by spiders just in case I get superpowers. I'm 30."
Secret requires you to sign up with your email ID, Facebook login or local cell number. Using your contacts, it creates circles of friends whose posts and activity you can follow. You can't know specifically who in your circle is posting but can see it in your feed. The greater the number of people in your circle, the more location details are shared. Even without the minimum three friends on Secret, you're free to view posts liked by your friends or from the global pool. Just remember to "Unlink my posts" from settings to truly gain anonymity.

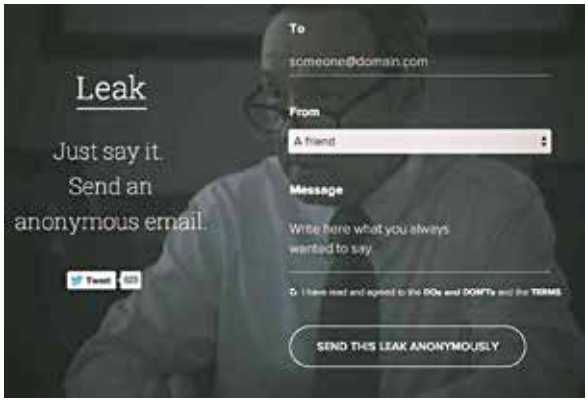
Whisper
Platforms: Android and iOS
Website: http://whisper.sh/stories/#
"My boyfriend keeps trying to feed me because he thinks I'll leave him if I'm good looking. He's right."
Whisper is the more punk version of Secret. It has an instant signing up process, which needs no email ID or phone contacts to share. You can read Whispers from as close as within 1 mile or go global with a switch of the tabs. You can comment on posts or chat with posters, who are just as anonymous as you. If you want to invite friends there's an option to do so via phone contacts, email, Facebook and Twitter in the "Me" settings. Here, you can also choose a new pseudonym each time you post and view the history of your hearts (likes) and Whispers. And be sure to keep the NSFW toggle off if you want a clean timeline.

Leak
Website: http://justleak.it/
"To:Boss From: Co-worker Message: I spit in your coffee everyday because you treat me like shit."
There isn't much to explain about Leak. It's an ingenious web service that allows users to send email to anyone while protecting the sender's identity. Just pop in the recipient's email ID, your relation to them (optional) and your message. Hit "send" and you're done. They can't reply or trace the origin of the email. Currently the site is undergoing downtime over technical (ahem...legal) issues, but assures its users that it will be back in full force very soon.

But as you begin to navigate these waters, you'll discover that such places are quirky little worlds in themselves. In the case of one-sided anonymous services like Leak and chatting apps like Kik and Snapchat, there's a more direct emotional payoff. You're able to get things off your chest without risking being identified. However, while you can shed the self-consciousness sometimes necessary on other social media networks and say what you want, you can't really get the one thing you're probably looking for from a social sharing space – validation.

This fact is corroborated by research done by the Psychology of Popular Media Culture Journal and the American Psychologists Association that has enough evidence to prove the high need for validation in people who actively share on social networks. This need is hard-wired into our social psyche, where we feel satisfaction and happiness when someone reacts to our thoughts. Whether it's an image on Instagram or a clever phrase on Twitter, users want a response, preferably a positive one. In its absence, they can become depressed and despondent.

What an irony that the freedom of anonymous social media comes at the cost of emotional validation! The need to be listened to is just as important (if not more so) than the need to speak freely.



The Leak website lets individuals quickly and securely let others know what's on their mind through an anonymous system generated email

And since there's no guarantee that what you say will interest complete strangers and promote likability, many users won't abandon traditional social media for such sites. And even in the cases that it does – with thousands of likes, hearts, comments and shares on your content – users will never be able to claim the credit.

Sex, lies and libel: The culture of making s#?@ up

Like everything else in technology, the virtue of a tool is in its use to the person wielding it. Just as a hammer can build or destroy, the way in which people use services like Whisper, Leak and Confess will eventually define how their legacies emerge. If we were to look at how anonymity works in other instances, we might get a fair guess of what will happen.

Just scrolling through the comments list on a YouTube video or reading tweets targetted at Justin Bieber is enough to demonstrate that nutjobs still exist online. From trolling threads and engaging in flame wars to threatening violence against strangers on behalf of celebrities, the protection of anonymity allows for greater expression of anger, hate and malice.

On another part of the spectrum is the propensity of people to engage in gossip – the needless passing around of other people's private information for public amusement. It's not rare to see Page 3 headlines pulled from these services, where anonymous users claim to have inside scoop on celebrities' personal lives. Under the garb of "unconfirmed reports" and "inside sources", rumours find easier footing and the need to believe the illusive compels widespread sharing. Taken too far by some, this new medium could become a hunting ground for cyber bullies who will be free to target anyone, with no consequences for spreading false information regarding real people. There are dangers we've already seen with suicide attempts and cases of depression being attributed to cyber bullying among kids on the internet. The anonymity in sharing will only embolden such negative acts since accountability will no longer be traceable.

The political and corporate risk that these services pose has already been seen



Entertainment news covered the news of celebrities' private lives based on an anonymous Whisper secret. Patently false

in the real world. In February 2014, a post from Secret started trending on Twitter which claimed that "Evernote is about to get acquired". Such a sensitive and secretive piece of corporate information would normally be protected by law but with the freedom of anonymous sharing, it can neither be verified or unverified. The news created ripples in the market with significant energy being diverted to business speculations – all on the basis of a false rumour.

The question is "how anonymous"?

Although these services assure they use state-of-the-art technologies to protect your privacy, the fine print of their policies seems less convincing. For instance, Whisper states in its privacy policy document that there's no guarantee that your message data will be completely deleted and that "any Message Data you send is sent at your own risk". Secret's privacy policy, although more stringent on protection, also doesn't guarantee that your information – login info, IP addresses, pages visited, time of visit, etc. – won't be shared with "third-party partners".

Even today, you can check out a website called Whisper Stories (www.whisper.sh) which regularly features curated lists of secrets shared on the app based on themes. The website can monetise this content without any problems because the owners of these secrets have already forfeited the exclusive ownership rights over them by signing up and using the app (should've read the Terms of Service, but really, who does?). Essentially, anonymity isn't a guarantee.

The real virtue of anonymity

The USP of these apps is that they provide a form of emotional, psychological and social protection when users risk self-expression. But for us to believe that these anonymous social networks and sharing systems are a new phase of online interaction will be a mistake. We know this because we're social creatures and tend to reach towards community and friends. This shouldn't be mistaken for "having friends" or even "liking people" but the expression of the evolutionary initiative – that we're better off together rather than by ourselves. After all, PostSecret started years before any of the current apps came along and was a genuinely interactive (and anonymous) social experiment that brought people together in a meaningful way.

It's a good thing we don't always feel free to impulsively express what we think and have to "think twice" before speaking. Words have power, speech has a cost and ideas pack quite a punch. In most spaces – public, private and political – we're obligated to strive for honesty and authenticity. To realise that sometimes what we think can be extremely hurtful, dangerous and stupid. To speak the truth as we see it, even if it comes at a cost. To be accountable and have the integrity of our claims.

Of course, not all scenarios deserve such stringent ethics and in hard times, under political persecution or when enduring quiet lives of desperation, it's



Anonymity is critical for the success of political movements, but it's used online mostly for juvenile reasons like bullying and trolling

necessary to have a medium that doesn't restrict us from speaking out. But the moment we begin cowering behind technology because we can't muster the courage of our convictions and become petty gossiping troglodytes who speak out only in the darkness so that our faces can't be seen, we'll lose our humanity, our society and all our sharing will be on the network but it won't be social.



46 **Geek life**
Learn how to live without any technology using our own DIY Digital Detox techniques

50 **Feature**
Is there a connection between social networking and terrorism? Find out in our Digital Life feature!



ASUS Chromebox

This is ASUS' very own mini-PC which has up to an Intel Core i7-4600U processor, SSD storage, and Google's Chrome OS. It is just a 12cm x 12cm box that's 4cm high and comes with 802.11 a/b/g/n dual-band Wi-Fi, four USB 3.0 ports, Bluetooth 4.0 and an SD card reader. It comes in three SKUs offering varying Intel processors, but the ones running on Intel Core i chips are capable of outputting UHD resolution videos through the Chromebox's DisplayPort at 3840x2160 pixels. The challenge here is more about getting used to Google's Chrome OS than anything else. Ready to Redefine computing?

Mini PC Wonders! Proof that the PC is alive and kicking!

ASUS Vivo PC

The Vivo PC from ASUS is an ultra-mini PC which combines premium looks with nicely designed form factor. Its top lid has a brushed aluminium finish in a circular concentric pattern which catches your eye immediately. Despite being a looker, the tiny PC also packs in all the performance horsepower you'd expect from a good PC – Intel Core i3 or i5 processor, up to 16GB DDR3 RAM, 1TB HDD or 256GB SSD, Intel HD 4000 Graphics, and all the IO ports you'd imagine. It also comes with above-average in-built speakers. And all this packed into a device that doesn't way more than 1.2 kg. Totally rad!





Regulated drone zones
An urban planner has created a mock-up of how the flying zones for drones can be regulated **http://dgit.in/ReguDrones**

Metro Redux is here
Metro 2033 and Metro Last Light fans rejoice. 4A developers have released Metro Redux - a reworked version of both the games. Get it quick. **http://enterthemetro.com/**

Gigabyte BRIX PC

This tiny PC which isn't thicker than a paperback novel comes with discrete graphics. That's right, Gigabyte sells it in two SKUs, where users can choose between an AMD Radeon R9 M275X or NVIDIA GeForce GTX 760 card. They're not as powerful as their desktop counterparts, but they're enough to play any modern game in a respectable manner. What's more, the mini-DisplayPort situated on the back of the BRIX Gaming is capable of displaying full-blown 4K resolution content! That's 4096x2160 @ 30Hz. This is greater than all the UHD displays that are hitting market shelves right now! Need more reasons to own this pint-sized dynamite?





Apple Mac mini

While we're all enamoured by the myriad choices of mini PCs in front of us, let's not forget the one that Apple's been selling for close to a decade. Yes, the Mac mini hasn't been updated since 2012 and it might be getting a platform refresh very soon, it still doesn't take away from the fact that it's the cheapest Mac you can buy. Its unibody design is perfectly crafted, its internals are upgradeable with ease, and it's slimmer than probably all the mini PCs out there. Nothing beats it in terms of looks, and with the ability to dual-boot with Windows, and a host of connectivity options built-in, the Mac mini is worth considering as a uber-small, uber-slim PC for your living room.

ZOTAC ZBOX O-Sphere OI520

Ever wondered what an amalgamation of a sphere and cube would look like? Voila! The ZBOX O-Sphere OI520 is an attractive, well-designed mini PC with a glowing indicator ring around it. Don't be fooled to think it only looks good as this tiny yet powerful PC packs in quite a performance punch. There are 4 USB 3.0 ports and 2 USB 2.0 ports in all, then we have a Gigabit ethernet port and two display options – an HDMI port and a DisplayPort. A mobile Intel Core i5 chip paired with 4GB of RAM and 500GB hard drive complete the package. Great option to explore if you want a tiny, unique-looking, globe-shaped PC to show off!



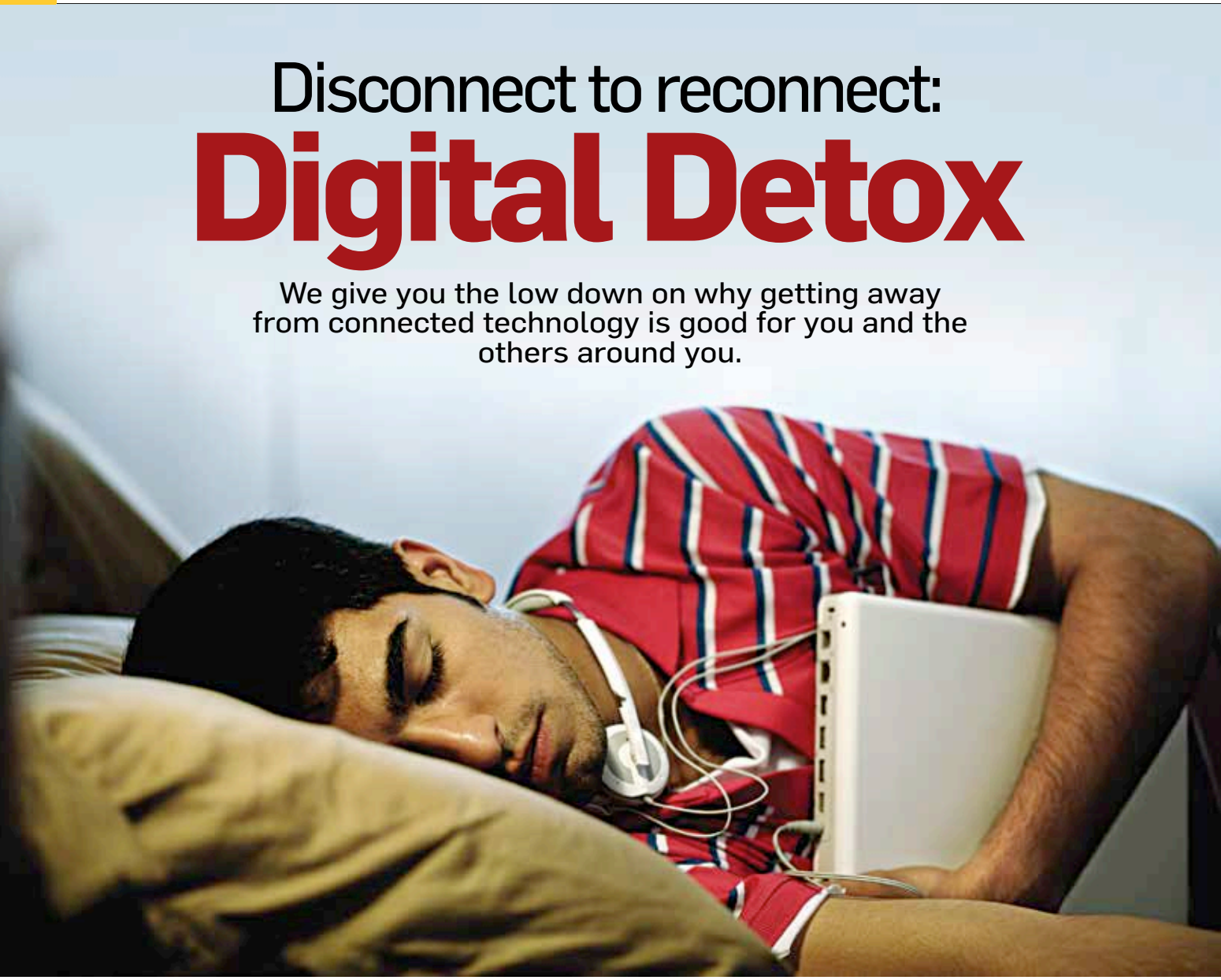


Asteroid with active volcanoes
Researchers who've been studying the pieces of the exploded asteroid over the Nubian desert recently made the discovery **http://dgit.in/ActiveVol**

Multi-language in voice search
Google's update to its voice search app brings five new languages without having to switch between them **http://dgit.in/MulLangVoice**

Disconnect to reconnect: Digital Detox

We give you the low down on why getting away from connected technology is good for you and the others around you.



Niranjan Iyengar
readersletters@thinkdigit.com

It's two in the morning and 18 year old Chirantan Nath can't sleep. He tosses and turns in bed. He wipes the sweat from his brow. He really needs a hit. The withdrawal is killing him. He reaches out to his smartphone and checks his Facebook. A hundred likes. The chemical is released. Instant bliss.

'Now let's put up another selfie. Maybe I'll act like I can't sleep. Should I pout? What kind of question is that? Of course I should pout,' he thinks to himself and draws a full circle.

Meanwhile, on the other side of the city, 27 year old marketing professional, Ankur Rathi rubs his eyes and stares at his screen. His Facebook is filled with two more notification and yet another mail. Thankfully it's spam and he quickly marks both notifications as read and returns to the task at hand. The presentation he just went through made absolutely no sense and the seven page proposal is beginning to look like an assortment of words and figures.

The world slowly loses meaning and he quickly turfs everything to the rest of his team. 'Let them sort it out,' he thinks to himself and goes to bed. The incessant buzz of his smartphone just doesn't let him sleep. The ball keeps rolling.

If either of these characters seem to hit very close to home, then you might have a problem.

An addiction to your smartphone or your social media accounts or even being overly reliant on your GPS to guide you to the local supermarket isn't the coolest reasons for rehab. Neither is the inability to process the flood of information we are inundated with on a daily basis.

What you are in need of is a break. Not necessarily a vacation but just some time away from it all. But before we delve in to the details of your digital day off, let's talk

about this addiction so many of us battle on a daily basis.

Why is too much information not a good thing?

Some choose to call it multitasking, but we all know that multitasking involves doing the job properly. In the words of Clifford Nass, communication professor at Stanford, "People who multi-task all the time can't filter out irrelevancy. They can't manage a working memory. They're chronologically distracted."

Is it an actual addiction?

To get to the point, yes. Digital addicts have been found to receive the same reward as a person addicted to narcotic substance. The brain releases a chemical called dopamine every time you check your facebook or twitter. Dopamine is behind the nice feeling you get when you're with your loved one or when you do something you love. Since your body now knows what will give you that warm fuzzy feeling, it wants to go back to it. Over and over again. In cases of severe substance addictions, your brain ends up producing dopamine only when you're 'doped-up'. A life where happiness is seen only when you have Diacetylmorphine Hydrochloride flowing through your veins.

While digital addiction may not be as extreme as drugs, it still is a mental illness. According to the National Institute on Drug Abuse,

[An] addiction changes the brain in fundamental ways, disturbing a person's normal hierarchy of needs and desires and substituting new priorities connected with procuring and using the drug. The resulting compulsive behaviours that override the ability to control impulses despite the consequences are similar to hallmarks of other mental illnesses.

The average digital addict today really has trouble prioritising. They wake up and check their Facebook. Instead working, they'd rather watch a video about otters and they can't sleep without tweeting 'good night' to all the people they think are following them like obsessed psychopaths. But the one obsessed here is the self and the obsession is, well, the self too.

In recent studies by Google and other organizations, it was revealed that 50 per cent of Americans prefer communicating digitally rather than face to face. 72 per cent are using their smartphones while doing something else, like watching TV and 93 per cent use their smartphone at home.

While it's not yet an official psychological disorder, 'Internet Addiction' or even 'iDisorder' has piqued the interests of so many that some clinics and even some resorts have begun offering treatment and detox packages.

Are you for real?

Yes! With the number of cellphone users climbing higher every day, the number of people whose lives are falling apart because they are constantly connected is growing too. Leaving the digital addicts aside, the average hard working individual is badly affected as well.

While labour laws state that the average worker is expected to work eight hours a day, the presence of a connected device in the palm of your hand has basically turned you into a machine working 24x7. And if it's not work, you are constantly inundated with digital media of all sorts. Sure it may be in the guise of entertainment, but you mind still has to keep processing it all the time. This constant demand that you need to be with your device at all times and the sheer volume of information pumped through it has left the world struggling.

Phantom rings, phantom vibrates and even the phantom presence of your device in your pockets is increasingly becoming common and we're all in need of a break.

With no time to play, the average Johnny is no longer dull but is rather constantly on edge, a rocket ready to take off, an accident waiting to happen.

Fortunately, several organizations and individuals have foreseen our impending doom. While digital detox clinics are pretty popular across the globe, the trend is catching up here in India as well. This brings us to New Delhi where we can find Centre for Children Internet and Technology Distress. Yes, you read that right, it's meant for children.



Nothing worse than tiny fingers and sharp teeth coming at you.

Located in South Delhi's Sarvodaya Enclave, children as young as ten are getting counselling here aimed at weaning them off their dependence on the internet and technology.

"Children are born into a world that's heavily dependent on technology. When they see their parents and others around them using technology, they end up using them too and become dependent. Because they are at an impressionable age and because they don't know how to balance their time between technology and the real world, they end up getting hooked,"



Wirelessly controlled Moths
By attaching electrodes to the flight muscle groups in moths, scientists are trying to control them wirelessly **http://dgit.in/CyborgMoths**



Test rocket self-detonates
During a test flight of the SpaceX reusable F9R rocket, it self-detonated. Find out why **http://dgit.in/SpaceXFail**

says Warsha Easwar, a psychologist based out of Mumbai.

"A parent must draw a line for the kids and ensure that they aren't overly dependent on smartphones and tablets. If they're dealing with a kid that's hooked already, I would suggest that they identify what sort of gain the child is receiving from their addiction and gradually, over time, replace it with a close substitute," she adds.

While the Centre for Children Internet and Technology Distress works with children, the Service for Healthy Use of Technology at NIMHANS in Bangalore works with adults and children alike, but these organisations mainly target children and adults up to their early twenties who are part of a vulnerable age group and may not necessarily understand the consequences of their actions.



Try not to be this guy.

If you're a full grown adult, whether you really are addicted or all you need is to get away from your phone and your work and completely disconnect yourself from the digital world, several tour organisers and resorts offer packages where the guests can cut themselves off. Some organisers even offer additional discounts for turning in all your devices.

The accommodation provided and the itinerary that they've planned ensure that you spend more time outdoors and less time indoors hunched over your laptop or peering in to your smartphone.

While you're going to find it hard to find a tour operator or a resort that actively offers a digital detox package in India, it really doesn't mean you can't do it yourself.

DIY Digital Detox Package

Your detox package can involve spending a good, long, 14 days wandering through the mountains of Nepal and Bhutan or could be executed from the comfort of your home over a relaxing weekend. It starts with turning it all off.

Because our limited attention span has been hijacked by the offerings of social media and the World Wide Web, we've completely ignored all the things that we did before we bought our very first smartphone. So step one of our digital detox program involves switching off your phone.

What you choose to do with your time now is all up to you. You could pick up a book and read, step outside for a walk. Meet friends, cook, make love. Anything, as long as you don't have to use your smartphone.

As you sit at home with your family on 'Wireless Weekend' (because electronic items have wires in them. Not because we're excluding Wi-Fi from the blacklist), you'll see that you're mood changes and you're more sociable. As you talk to your loved ones, you get to hear so much more about them.

If you're tired of staying home and literally want to get away from it all, then start planning your vacation. The ideal thing to do would be to keep at least one device on you for safety reasons and not leave them all at home. Or better yet go analogue and fish out that ancient Nokia your dad bought for a mind boggling amount, decades ago.

Non-touristy vacations devoid of digital assistance are picking up. There's a Verge article on how the spirit of adventure and dis-covery has been lost thanks to Travel Apps, Google Maps itineraries and other such tech assists. Here's a link: http://dgit.in/trstsukc

Try to pick locations where the coverage isn't too bad. This way, even if your boss decides to call you during your vacation, you can always blame in on the reception. The lack of reception actually works two ways and will also stop you from going selfie-crazy and give you a moment to take in the beauty of where you are.

Get a guide book telling you everything you need to know about where you are. These books are a lot more accurate and you definitely won't be confused by all the different opinions shared by irate travellers.

The books come with a list of recommended places to stay with contact numbers. Once you've decided where to stay, plan your itinerary. In most cases, the books also come with attached maps. Use the map of the area or look online for places to visit nearby. Remember to pack the map with you.

If you feel the need to document the trip and don't want to bring your digital camera along, go analogue all the way and fish out your old film camera and buy lots of film. In fact shooting film will end up polishing your skills as a photographer as you end up being a lot more judicious with how you shoot and how much you expose. You also end up looking so much cooler than all the DSLR toting wannabes.

Book your tickets, wave goodbye and turn your phone off.

Whether you're spending your detox at home or travelling around the world, try to make sure your time away from the internet is at least 24 hours long. If you can manage 72, you've done it.

You *may* be over-reacting

At the end of the day, the chances that we are all over-reacting to the whole digital addiction are very much plausible. This doesn't deny the fact that all the info that's available out there isn't taking a toll on our abilities to function properly say, at a work-place. But chances are, you can very easily get some work done if you just tried a little harder. Having experienced this before, such things are easier said than done. So, here's how you can use the power of the internet to keep you off the internet

There are apps for your smartphone as well as programs for your PC that can ban you from accessing the internet for periods of time. 'Digital Detox' is an app for the Android OS that essentially bricks your phone for periods of time. There's not way of disabling the app and your only choice is to wait it out.

'Pause' is an app available on iOS does just that. Available free on iOS, with an Android version somewhere in the plumbing, does the same thing, while Freedom, available for Android as well as your desktop (for a small fee) blocks your device/PC from connecting to the internet for up to eight hours at a time. The Android version also has an interesting feature called 1995 cellphone mode, which allows you to only make and receive calls.

A less extreme program for your PC is Cold Turkey. Instead of cutting you off completely as the name might suggest, Cold Turkey blocks certain blacklisted items that can range from programs to specific websites. Although it's available free of cost, you can donate a sum of your choosing and anywhere between 0 to a 100 percent can be donated to the Against Malaria Foundation.

For the writers constantly distracted by virtually everything their laptop or desk top has to offer, two programs help them through the day on Mac and on Windows. WriteRoom on the Mac and Dark Room on Windows block out virtually any other function that your computers have to offer and turn your machines in to fancy type-writers with digital screens. While neither of these programs actually disable any features, what they do provide are features akin to the blinders on a horse. Both these programs offer a full screen, distraction free environment where a writer is free to explore his thoughts without disruptions or distractions.



You got this!

What to expect when you're not texting?

First of all, you realise that the ground is a lot farther away that you thought because you've been hunched over your phone all this time. But jokes aside, one of the first things you notice is that you've become a lot more observant of your surroundings. You also end up becoming a better listener and your girlfriend/spouse is going to be less of a grouse.

According to thedigitaldetox.org, you start feeling more refreshed as your sleep cycles become better, your breathing slows down and you're less stressed and most importantly, your disconnect from the internet makes you more connected with the world around you.

You end up becoming more mindful of yourself and the things around, become more efficient with work, more creative and procrastinate less.

Coming back to digital life

When your digital detox session comes to a close, depending on how long you were away and how many people you are in regular contact with, you're probably going to have a huge list of notifications, messages and mails waiting for you.

Step one here is to not panic. Step two is to use your new found skills of patience and serenity to prioritise. Step three is to mark all your social media notifications as read and carry on with your life because you consume social media and that door should not swing the other way.

But do you really need a detox?

While is surely is a necessity if you're struggling to cope with the overload of information you are facing daily or you literally spend all day clicking through pictures of cats, to a large extent, the number of people diving in to the detox bandwagon are probably doing it because it's the latest fad. If you feel you spend way too much time on the internet, it would make sense to figure out what you do with your time online. Programs like Rescue Time do just that and tracks you activity for anywhere between a day and a year and lets you know how you spend your time. If you spend your time wisely by acquiring new skills or polishing existing ones and expanding your horizons, then godspeed. In our opinion, you sometimes need to take a step away to truly appre-ciate what you have in front of you.



Most philosophical cartoons
Want to know which comic characters, cartoons and stories are the most philosophical? Head over to this link: http://dgit.in/Cal_Hobbes



Hydroplane of the future
Ghost is a special boat which improves on the hydroplane technology and also avoids radar. http://dgit.in/GhostBoat



Terrorism, Facebook & Twitter: A love story

It's a new world out there, a world where terrorists have woken up to the great potential of social networks to spread their message.

Nikhil Pradhan
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There's a scene in Four Lions, a British movie that takes a comic look at Islamic radicalism in the UK, in which a group of radicals are trying to shoot a video for YouTube while wielding toy guns, a video that attempts to both glorify them and to encourage others to join their 'cause'. An exchange that happens during the scene goes as follows:

Radical 1: "What's with the gun?"
Radical 2: "Proper replica, man."
Radical 1: "It's too small, man!"
Radical 2: "Not too small, brother. Big hands!"

(source: IMDB)

That scene is a funny yet accurate representation of how social media plays an important role in the lives of radicals, fundamentalists and terrorists. As a result of the growing use of social media by radicals and terrorists, it's more than a possibility that they face the same problems as we do when using platforms like Facebook, Twitter or YouTube. However, while there is a vein of humour to be found in that, it's, in fact, shocking and, frankly, a little terrifying when you delve into the short yet rich history of how terrorists have embraced social media to reach out to potential acolytes and spread misinformation and their version of the "truth".

Why Social Networks?

The reasons why terrorists and terrorist organisations flock to social media are often the same for them as they are for you.

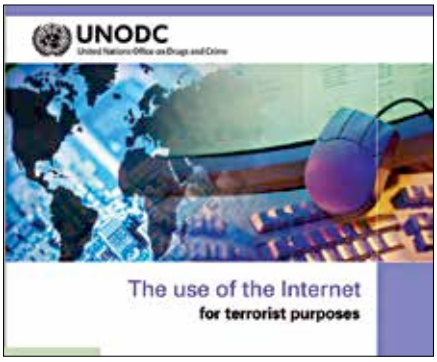


Oops!

Social media has negligible cost of entry, is free to use for life, and provided you are careful, lets you exist anonymously on the Internet even while you're communicating with hundreds of people. While it's possible to be anonymous and discreet on a social network like Facebook, something like Twitter makes it even easier to conceal yourself behind a shield of anonymity. No wonder a 2012 study by the University of Haifa found that 90 percent of terrorist activities online were being conducted through social media. The study discovered that not only were terrorist organisations using social networks to spread the 'word' but were also joining various groups and 'friending' people using fake identities in order to gather information and spy on them.

Which Social Networks?

Terrorists have especially taken a shine to Twitter, the ubiquitous micro-blogging tool that's as much a part of our daily lives today as any other name in technology. In fact, in April 2013, the Syrian Electronic Army, branded by the FBI as a terrorist organisation, hacked the Associated Press' Twitter handle and tweeted that the White House had been attacked and U.S. President Obama injured. This led to the New York Stock Exchange losing $136 billion. As such, a study by the Woodrow Wilson Center found that Twitter was even more popular than Facebook among terrorists as a quick, efficient way to communicate among themselves or broadcast to the world.



An official document by UNODC.

A UN report published in 2012 (PDF) also underscored how important both Facebook and Twitter had become to terrorist organisations and highlighted how the absence of borders online had made it easier for them to communicate with each other.

A report written for the American Department of Homeland Security in 2010 revealed how Facebook was being used by terrorist organisations to share "recipes" for IEDs (Improvised Explosive Devices) and to teach combat through instructional YouTube videos on topics like handling and taking care of an AK-47 rifle and "tactical shooting". The same report also recounted the steps that terrorist sympathisers were asked to take when creating a new Facebook account including the mandatory use of Tor software for maintaining online anonymity and using unique passwords for every account they use even across different websites.

Governments have also pointed fingers at social messaging apps such as Skype and Whatsapp as being hotbeds of terrorist activity. Last year, the Pakistani government decided to ban the use of Whatsapp and Skype in the Sindh province alleging that they were being used by "terrorists and criminal elements."

The Dramatis Personae

The intrinsic link between the desire to spread propaganda and the ease with which one can do it through social networks makes social media a valuable tool for radicals and terrorists. As a result, there are a countless number of such organisations and people who have taken to social networks like Facebook and Twitter as easily as fish to water. Here are three such organisations that have especially made a big splash with their use of social networks:

Al Qaeda

The most notorious terrorist organisation on the planet has had an unbroken



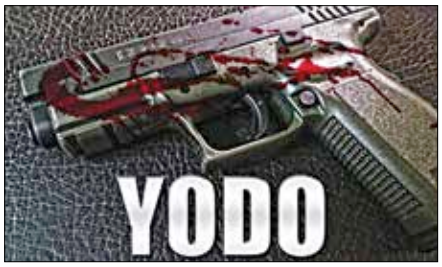


Gmail hacked?
A group of hackers have hacked Gmail and other Android apps with a success rate of 92% and will be releasing their findings soon.



Moon landing was real
Amidst the moon landing conspiracy, this is another way to prove that it wasn't a hoax. http://dgit.in/MoonLand





Examples of ISIS propaganda shared through social media

stint on social media even though its Twitter handles are regularly shut down by administrators. HSMPress, a Twitter handle associated with Al-Shabab, the Somali arm of Al-Qaeda was very prolific until it was shut down in January of last year. Al Qaeda's media division, As-Sahab has also been known to create and share YouTube videos that both teach combat information to viewers as well as spread propaganda.

ISIS

ISIS, or the Islamic State of Iraq and Syria, has been in news recently as a ruthless terrorist organisation that's cutting a swathe through Iraq and Syria. ISIS has been particularly cunning with its use of social media, especially Twitter. Through an app 'The Dawn of Good Tidings' released on the Android Play Store (now no longer available, at least in India), ISIS was able to send tweets from the accounts of anyone who used the app in a way that passed under the radar of Twitter's spam detection filters. ISIS has also been known to organize concerted hash tag campaigns making sure that thanks to its sympathisers, certain hash tags are forced to trend on Twitter, ensuring retweets and visibility.

ISIS (and its collaborators) have also tried to expand their group's image by selling t-shirts, hoodies and toys emblazoned with their message and logos on Facebook. The social network has since put an end to that by banning the sale of ISIS merchandise on Facebook.



A gathering of Al-Shabab militants in Somalia *(AP/Farah Abdi Warsameh via Mint News)*

Taliban

The Tehreek-i-Taliban Pakistan or the Pakistani Taliban was trying to recruit people who would write and design propaganda including videos through its Facebook page. However, it was shut down in 2012. Instead now, there is an anaemic Facebook page for the Jamaat Ud-Dawa, the political arm of the Lashkar-e-Taiba, that also has connections with the Taliban. In its prime, the Taliban was apparently using profile photos of pretty women to get information out of Australian soldiers on Facebook, as well.

The Taliban keeps a pretty active presence on Twitter and most of its official news and statements are pumped out from multiple accounts such as "zabihmujahid' who claims to be the 'official spokesman' for the Taliban, "almerahweb" which claims to be the 'official website' of the Taliban, and "ABalkhi".

The Future & How it Affects You

As the reach of social networks expands to every nook and corner of the planet, it is only inevitable that more and more radicals and terrorists will make their way towards social networks. As a result, governments and security agencies from around the world will take even more stringent measures to keep a watch on social networks which means that even when chatting with your friends and family, you may have to be careful of what you type. We've already seen cases where social network users have been arrested because their tweets/posts were considered threatening.

However, it's not all doom and gloom because for every ISIS, that is hyper-efficient with the way it deploys its social media strategy, there are hundreds of other terrorists that are terrible at using social media to cause any harm. And just to feel better, you could head over to the Al-Qaeda parody account on Twitter and have a good laugh.



The Jamat Ud-Dawa Facebook page



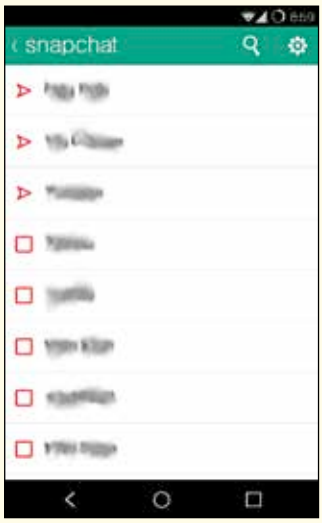
The Twitter exchange between American Airlines & a Dutch teenager who pretended to be a terrorist.



A post by Al-Qaeda on Twitter.

SNAPCHAT

When instant messaging services and photo sharing networks were becoming popular every day, another potential concept, adding to the realm of social networking went viral with the name Snapchat. This app became quite a rage among teens for lesser known reasons, and to feed the selfie-obsessed generation. Its unique feature during its release was photos



Your sent and received snaps

you that share get deleted from the phone after the timer set by the sender ends. Now many other apps have created similar clones where instant messengers have also added the self-destructing photo feature in their services. You might have seen people in coffee shops sending photos or what they call snaps to their friends making crazy faces using the app. If you are among them, here are a few tips and tricks, to fulfil your quest of becoming a Pro Snapchatter.



Snapchat 42
Zoho Docs 44

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.

Add Colour Filters

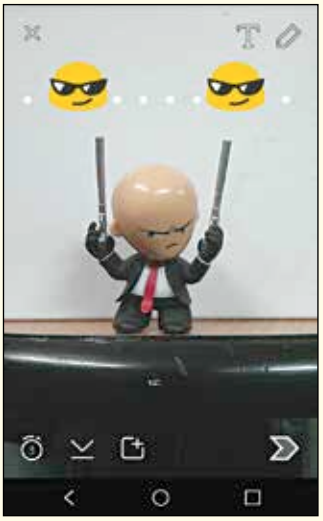
Snapchat lets you add filters to your images in an easier way by only swiping to your left after you have taken a snap. You will have three options which include Sepia, Saturated and Black & White. Before you can use these filters, you have to enable them at `Settings > Manage > Filters`.

Using Fun Filters

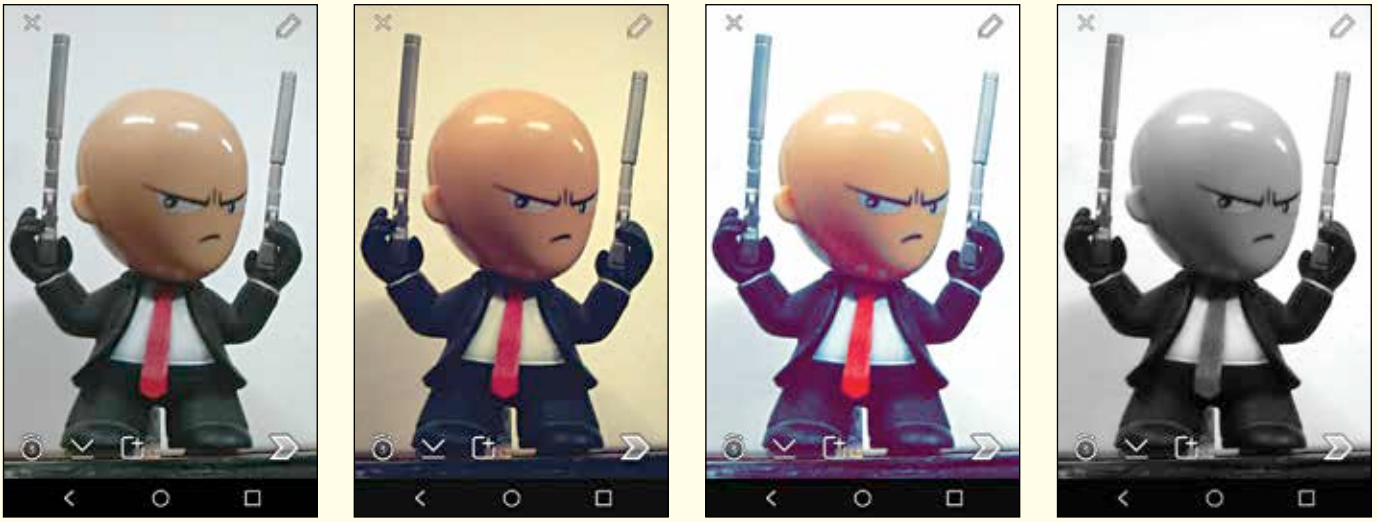
Along with colour filters, Snapchat lets you put many fun filters to your snaps. With Geolocation, you can add your location to your snaps with good looking art. The Time filter lets you add the time you took the snap. You can also add the current temperature with the Temperature filter and toggle between Fahrenheit and Celsius with a tap. Also, with the Speed filter, you can add the speed at which you're travelling while taking the snap, though it's still buggy. All these filters can be found by further swiping through the colour filters. They can be activated by `Settings > Manage > Filters`.

Add large font captions

To put emphasis to your text on your snaps, you can have larger captions. All you need to do is while typing, you have to tap the 'T' on the top right corner. This feature would also cause your emojis to become huge, bringing



Special text increases text size



Alongwith the original snap, the three filters are shown above which include Sepia, Saturation and Black & White.







The three fun filters include Time, Temperature and Speed which you can swipe through .



Tap on clicked snap to type

more creativity to your snaps. To enable large font captions, go to `Settings > Manage > Special Text`.

Replay a missed snap

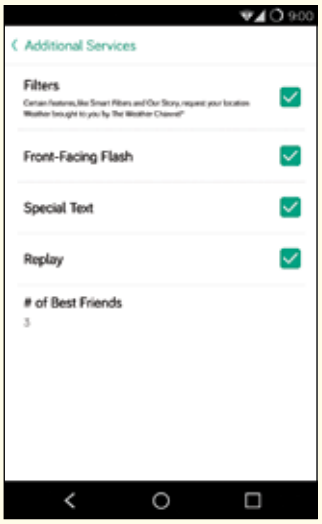
While you're viewing your received snaps, some distraction may lead to missing out on watching the snap that was sent or maybe the time set was too less. To tackle such a pain, Snapchat lets you replay a snap. But you can only replay snaps once in every 24 hours and from the last person who sent you a snap. You can enable this feature in `Settings > Manage > Replay`.

Increase the number of your best friends

In the My Friends page you can catch up on the latest stories shared by your friends. When you tap on a contact, a drop down shows you his/her best friends, the ones with whom they exchange the most snaps. You can also find your best friends by tapping on your name in the My Friends page. By default it shows you three names which can be changed to five or seven in `Settings > Manage > #` of Best Friends.

Download and save snaps to your phone

When you open a snap, it gets deleted from your phone after the timer goes out. To save snaps the most common thing people do is take a screenshot, but they get reported to the owner of the snap, ending up in an embarrassing conversation later. In Android (Rooted users only), developers brought KeepChat, which can be installed from the Xposed Framework here: http://dgit.in/XposedFr. For iOS users, you can download SnapKeep from the App Store and head out to saving those snaps. Both the apps claim that no screenshots are reported.



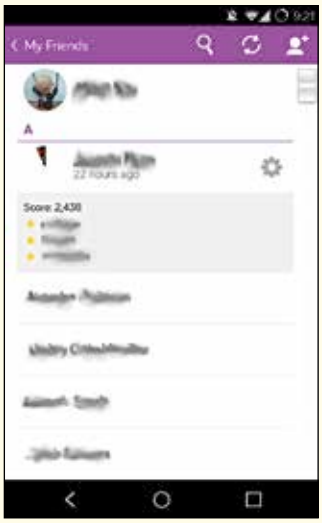
Different options under Manage

Send images from gallery

Snapchat involves clicking and sharing photos on the go, but it would have been great if we could share other amazing photos in our gallery. With another app inside the Xposed Framework called SnapShare, you will find the Snapchat app present in your list when you tap on share to any image from your gallery. Snap Upload can be found in the App Store for iOS users.

Type longer captions

When you are adding text to your snap, space becomes an issue quite a few times becoming a hurdle to humourous captions. Once again for Android rooted users, Xposed Framework jumps in. The Snapchat Full Caption module can be found inside the framework which breaks you free from adding limited text to your snaps.



Your friends and their stories

Remove from best friends list

Snapchat adds your best friends according to the number of snaps you send and receive. Removing names isn't directly allowed by Snapchat and the way around it would be to block the contact you want to remove, which will remove them from your best friends list. Then you can unblock them (only if you want to) and they won't be present in your best friends list anymore.

Using secret colours in iOS

The colour palettes in iOS and Android are different. By default, the white and black colours aren't present in the colour palette on iOS devices. To get the White colour, all you need to do is tap your crayon, hold down on the palette and drag your finger to the upper left corner without lifting your finger. To get the Black colour, do the same and drag your

finger to the bottom. Another feature unlocks the gradient in the palette, where you can hold your finger on a colour and drag to your left and right to adjust the shade of the colour. After selecting your colour, you can drag down to get a darker shade of the same.

Use secret colours in Android

The colour palette features mentioned above are only present for iOS and not for Android. But Android also has some exclusive features in its colour palette. The white and black colours are present by default. Long



Color crayon palette in Android

pressing the palette reveals more colour swatches which you can choose. By holding down your finger and dragging it across you can select different colours but they come from a locked palette and not like the gradient in iOS. You can select translucent shades of different colours for highlighting and darkening purposes in Android exclusively. All you need to do is select the colour by long pressing the palette.

Using front flash

Most of your snaps involve your front camera, and without a



Tap to focus before taking snap

flash at the front, it is a challenge in low light areas. Snapchat has a feature where the screen flashes white when you click a photo. This feature can be enabled at `Settings > Manage > Front-Facing Flash`.

Toggle between front and rear camera

Changing from your front camera to your rear camera makes you reach out to the top right corner of your screen. But an easier way is to double tap on your screen to toggle between both the cameras.

View stories quicker

Viewing through each snap uploaded by a friend to a story can be tiring where you have to wait until the timer ends. To speed things up, all you need to do is keep on tapping the snaps while holding down your finger, until you finish browsing through all the snaps uploaded to the story.

Start video recording with volume down button

Using the camera tap button to record snap videos is tricky and your finger might lose contact. To make things easier, you can



Using the crayon after a snap

record videos by just holding the volume down hardware button until you're done recording.

ZOHO DOCS

Editing and sharing documents online seems to be the new need looking at better management and collaborative features. It becomes really helpful for people who work remotely and helps them in sharing files easily with other team members across the globe. With many services making to the news, Zoho Docs is one which has been present from quite a while now. Since new changes and additions have been made to it recently, we considered in giving you some tips and tricks to turn you into a power user where we look into Zoho Writer, Zoho Sheet and Zoho Show. And yes, this article was written and edited in Zoho Writer.



Different sharing options for the files

Share and collaborate with Non-Zoho users

If you want to share your files with others who aren't Zoho Docs users, you are allowed to do that too. You have to select the file then `Share > Visibility > Public` on the web or Public on the web with password protection, according to your needs. Then you can give out the link to the ones you want to share the files.

Track changes in documents

When you are editing documents in collaboration, it is sometimes pretty difficult to keep track of the changes done in the document by everyone. Zoho Docs lets you track these changes with a toggle option. The edits done by others will be colour coded with every user having their unique colour, so that you would know what changes they have made. To enable tracking of changes, head to `Review > Track Changes`, while editing a document.

Add a task reminder

When you are editing documents, you always check your calendar to view the deadline you have to meet. To do it in an easier way, you could add a task reminder to your document from your Explorer Window by



Setting password policies and allowed IPs

selecting the document and then following `Add Task > Type > Reminder` and then you could select your Due Date.

Enhance your security

The security of classified documents is essential for an organization and also when it is about an exclusive article. Not usually seen in other services, here you could add more levels of security to your password policies and IP addresses to be given access. The password policy feature lets you assign different rules for different users in your organization so that information is not compromised by anyone. They can be found at the top right corner of your Explorer Window going through `Settings > Admin Panel > Security`.

Assigning tasks to others

In collaborative document editing, you would want some of your work to be reviewed or approved by your team members. The owner of a document can add tasks to the one he wishes and the other person would receive a notification on being assigned a task. To add a task select the document you want tasks assigned to and then `Add Task > Type > Review` or `Approve > Assign to email address > Due Date` (optional). When the other person receives the notification, which can be seen at the bottom left corner about the task, he can check it out and then accordingly set the status of the task after he's done.

Transfer ownership to others

If someone creates a document, he/she is the owner of that file and they can assign other users to become co-owners or just read or edit the file. To transfer the ownership, one has to follow `Settings > Admin Panel > Admin Governance > Transfer Document Ownership`. You can also transfer ownership of a folder by going to the tab right beside.



Transferring ownership to other users under Admin Governance

Select type of files to sync

You can also sync files from your Google Drive after authenticating your Google account and an amazing feature here is that you can individually select the type of files like documents, spreadsheets, presentations, PDFs and Shared To Me or you could always select all the files.

Embed link in a website/blog

You might want to share an interactive excel spreadsheet on your HTML website or a document, so that your visitors can have a look at the data you intend to display to them. All you need to do is in your spreadsheet file, `Share > Embed > External Blog/Site`. For a document, `Share > Embed > To External World > Publish` and then you can copy the code snippet from both the sources to your website.



Selecting types of files to sync from Google Drive

Add tags to your files

Managing a few files are easy but when there are hundreds of files you have to keep up with, it becomes a tiring job. To make searching easier, you can add tags to your files by `Right Click > Add Tag`. This practice would ensure that later when you come back to look for the file, you could select the tag filter in search and find your desired file.

Temporarily lock editing of documents

You might want to lock out your team members from editing a document when you need to do a critical change. In the document go to `Share > Check-Out`. This will make the document read-only for the users and only you, the owner can edit. Once you are done with your changes, you could again select `Share > Check-In` and now other collaborators will be able to edit the document again.

Create simple, text-only presentations

With their new additions and updates, First Draft, their Android and iOS application, lets you create simple and text-only presentations. Whenever you get an idea about content for your presentation, you can add them as points on the go. Download the app from here: dgit.in/FirstDraftZoho

Control your presentations on the go

ShowMote, another great application by Zoho, lets you remote control your presentations just by using your mobile device. From your mobile you can jump to any slide and highlight a part of your slide. This would mean you won't need a clicker and a pointer. Download the app from here: http://dgit.in/ShowMote

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KEY DISCUSSIONS

StrengthsFinder workshop

First 100 days: Achievements of the **Narendra Modi** Government

Communicate to Lead: **Dr Benett McClellan,** Business scenario strategist, change catalyst, writer and executive coach

Conversation with **Nirmala Sitharaman,** MoS, Commerce & Industry, Finance & Corporate Affairs*

Leadership Development workshop: **Dishan Kamdar,** Professor, ISB*/ Tsun-Yan Hsieh, Leadership coach*

A single financial sector regulator – What to expect: **Ajay Shah,** National Institute of Public Finance & Policy

** Subject to change. Final agenda will be notified shortly.*

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Q Laptop safety concerns

Sir, I am a student and currently staying in a hostel. My friend recently bought a Lenovo Y510p and it was stolen. Sir, I own an Asus G56JR- CN135H laptop and I'm worried about it. Sir, is there any way to track down my laptop if it is ever stolen? Are any tracker devices available for this purpose? Please do reply soon sir.

– Ankit Mishra



A Kensington lock is a tool to secure a laptop.

A Hey Ankit, there were way too many 'Sir(s)' for us in your query. Coming to your tracking solution, there are plenty of software available in the market to help track your laptop. Prey is one such software that is quite popular and has apps for multiple mobile platforms. Unfortunately, all of these require an internet connection for you to do anything remotely in case of a theft. So that's one step towards securing your laptop. Another thing you can do is keep your laptop safe in a steel cupboard or anything similar. Investing in a Kensington lock would also help since the thief would have to cause physical damage to the device in order to steal it. Or the thief could simply go to YouTube and find a video to unlatch the lock without causing any damage. These methods serve to inhibit a crook but a determined burglar will manage to steal your device. At the end of the day, the thief will go for an easy job so you can expect your laptop to remain untouched if you do get a physical lock.

Q Will Potter run on my PC?

My system configuration is Intel C2D E8400 @3GHz, 4GB RAM, motherboard is Asus P5G41T-M LX3 running Windows XP. I want to play Harry potter game series so I want a decent graphics card for this system. Please suggest one, also can I upgrade to win7. Thanks in advance. With regards,

– Suresh Babu

A Dear Suresh,
We're guessing you want to play the latest game in the series, namely Harry Potter and the Deathly Hallows: Part 2. The system requirements for this particular game are as follows.

- CPU - 2.4 GHz Single Core / 2.0 GHz Dual Core
- RAM - 1.5 GB
- OS - Win XP SP3/Vista SP2/7
  Disc space - 9 GB
- GPU - 256MB DX9 capable, Geforce 6800/Radeon X1600 or better.

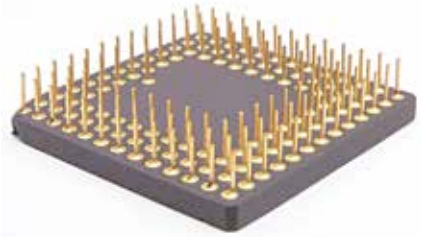
What you haven't mentioned is what resolution you wish to run the game on or what your budget is. If you are on a low budget then you can get any graphics card which starts at Rs.2,000 and run the game on 800x600 resolution. Or you can go for a GTX 750 which should cost Rs.9,000+ and run this particular game at full HD and most games released these days at Full HD with minimal settings. We need to know more to suggest a proper card. As for your other query, yes you can install Windows 7 on your machine, your motherboard's vendor has listed Windows 7 drivers for your motherboard. You can check it out here: *http://dgit.in/P5G41T*

Q Laptop processor upgrade

Hello,
I'm using a Lenovo G500s model laptop having 3rd Generation Core i3-3110M processor, rPGA socket. Is it possible to upgrade the processor to Core i5 of the same generation and where can I get the processor if possible, I really need it.

– Subham Sharma

A Hey Subham, Yes it is possible to upgrade laptop processors. The difficulty in doing so depends upon availability of the processors, the complexity of the laptop chassis assembly and most importantly the socket used. You've mentioned that your processor is using an rPGA socket, this stands for Reversed Pin Grid Array, it is one of the socket technologies that Intel uses for mobile processors; the other being FCBGA or Flip Chip Ball Grid Array. The former is easy to replace but the latter requires specialised tools which can desolder a BGA chip and replace it. So you've got it easy in your case. Now what you need to worry about is your TDP, the cooling system in your laptop is designed based on the TDP or Thermal Design Power of your processor,



A typical rPGA socket based processor.

there are 3rd Generation Mobile processors which have a TDP of 77W but your processor is rated at 35W, so you need to find a replacement that is rated at 35W or else you'll find your laptop heating up excessively. We've shortlisted the processors which are suitable for replacement. With the above things in mind, you can check them out here: *http://dgit.in/Corei3Rep*. As for getting your hands on these, it would require a little bit of searching in the alleyways of the nearest computer market or you could get it from eBay which would have sellers from China and the US selling replacement parts. Whether these are genuine or not is up to you to figure out. Once you get the replacement you can simply refer your laptop's service manual to open it up and replace the chip. Be sure to keep some thermal paste handy.

Malware troubles

Hello there, I have an HP n204tx laptop and the configuration is as follows.

- 8GB of RAM;
- GeForce 740M 2 GB;
- 500 GB HDD.

Just a few days ago, I came to know that my laptop is slowing down terribly and cpu usage was 100%. It was because of a process called minerd.exe. I came to know that it's a trojan and it can't be removed. Every time I power up my laptop I have to end the process and everything becomes normal. Is there any way to remove it permanently? My Norton antivirus suite is not detecting it at all. Yesterday it removed a Bitcoin miner but minerd.exe is still there. Please help. Regards,

– Aditya Gadgil.



Bitcoin mining malware are aplenty online.

A Well, hello to you too! You've gotten it right, it seems that a bitcoin mining malware has infected your computer. If the infection is simple then you can simply use a software like CCleaner, go to the tab for startup software and remove the entry for minerd.exe. If that doesn't work then you gotta bring out the big guns and run boot-time scans using multiple anti-viruses. You'll have to remove your current anti-virus software since conflicts are likely to happen. There are a lot of rescue disks brought out by different antivirus manufacturers which run scans before the computer boots up, i.e. before the virus can work its magic so you have a better chance at removing the same from your system.

Overheating CPU

Hi,

First let me say that I'm a huge fan of digit and I've been reading it since 2012. I need your big help as I have a problem with my Sony VAIO SVE15115EN laptop. After I power it on, Windows boots up normally and after about a minute the system just turns off. This happens every time when I start it up. Also, the heatsink fan is broken. Is it possible that my system is overheating? But when I touch the CPU, it's just little warm and it doesn't look like it's overheating. Or is the motherboard broken? Also, since the heatsink fan is broken, I want to replace it. Can you inform me about any trusted website that can let me shop for hardware online?

– Mathana Cherput

A Hey Mathana, It seems overheating is the problem here. However, just to confirm the same, install CPU-Z or any similar monitoring software and keep a tab on the CPU temperature. If it keeps on going up and then your laptop shuts down you can be sure that the busted fan is your problem. You can go to your local laptop repair shop and they will source the parts and get it fixed. Or you can google the laptop part number and most likely someone on eBay or OLX might have a replacement part. I'd advise caution since you can never verify the authenticity of the replacement parts in these cases.

You can use a blower fan to clean a little dirt off the ventilation but you shouldn't let it run at full speed in the reverse direction as that would get the current running in the backwards direction into the motherboard.

If you have any query regarding your computer, laptop, AIO, mini-PC or any electronic device you can get it touch with us at sos@digit.in



Origin of Autocorrect
Dean Hachamovitch, currently head of data science at Microsoft explains how the autocorrect came into existence **http://dgit.in/AutocorrectHist**



Cake under a minute
Spray Cake built by two students at Harvard University lets you prepare cake in a microwave in less than a minute **http://dgit.in/SprayCakeHar**

Pro level photo management

using Adobe Photoshop Lightroom

In this workshop, you'll learn how to edit and manage your pictures likes a boss with the help of Adobe's state-of-the-art professional photo development, manipulation and organisation software.

Tanmay Patange
readersletters@digit.in



Adobe Photoshop Lightroom is an intelligent and convenient photo editing and management tool

There are pictures that speak a thousand words and then there are pictures, thousands of them, that scream – usually for your undivided attention. Which one to keep?, which to delete?, which to showcase?... Such are the thoughts that we lose sleep over because of, well, social media and the need to impress. In the midst of all this, it becomes very confusing to manage our collection. In this workshop, we'll teach you how to manage your photos and pictures more effectively using Adobe Photoshop Lightroom. Download it from here: dgit.in/downloadlightroom

Import photos into a catalog

The first time you execute the Lightroom program, it will prompt you to change the catalog directory. Change this if you want to or simply use the existing default catalog directory. Once inside the actual interface, the first thing you'll notice is an option to import your photos into a catalog. Simply hit the "Import" button and expand the list of sources available in your system from which you can easily import all your photos. If you don't want to import all your photos, you can easily check or uncheck to select photos you want to import into a catalog.

Know your photos better

Once your photos are imported into the catalog, you may want to edit them to improve their quality. While this isn't mandatory, you could take advantage of the multi-tasking abilities Lightroom gives you in a single interface within which you can manage your pictures alongside improving the visual qualities of photos.

On the right-hand side of your screen, you'll see several options such as Histogram, Quick Develop, Keywording, Keyword List, Metadata, Comments, etc. 'Histogram' shows how pixels in a picture are conveyed by simply representing the number of pixels at each colour intensity level. Right below this option is 'Quick Develop' that lets you to control and autocorrect colour and tone of multiple photos without exiting the Library module. The list of possible effects and changes under Quick Develop is expandable, and there are loads of options to play around with your photos. 'Keywording' and 'Keyword List' help you add keyword tags that provide valuable information about your photo.

This usually neglected step is useful in distinguishing, tracking down and discovering photos in the inventory. Similar to other metadata, keyword tags are put away in either source files or XMP sidecar documents. Once applied to your photos, keywords could be perused by other Adobe applications such as Adobe Bridge, Photoshop or Photoshop Elements, or applications that support XMP metadata.

You can then filter to view those photos according to tags in the Keywording board or drag pictures to particular keyword tags in the Keyword List panel.

Manage photos in a Facebook collection

After you've published your photos using Lightroom to Facebook with the help of

Lightroom Publishing Manager. Create a collection of the photos you export to Facebook by right-clicking the Facebook tab in the Publish Services panel. Choose any one of the two options mentioned over there. The 'Create Collection' option lets you select the photos to add to a collection, which can be named. Similarly, 'Create Smart Collection', which can also be given a name, generates a collection of photos based on rules you define. After selecting either option, go ahead and create a Facebook album.

For a consistent Facebook collection, you can simply drag photos from the Grid view to an existing collection in the Publish Services board. On the off chance that you create a smart collection, photos that match your set of rules will naturally show up in your collection. You can carry out similar techniques for your Flickr account as well.

Manage multiple collections

If you want to alter, rename or erase your existing collection, right-click the 'Publish Services' board and select 'Edit Collection'/'Rename'/'Delete' as per your wish. In case you want to expel an unpublished photo from a standard collection, select it from under Publish Collection and hit 'Delete'. To add or remove photos in a smart collection, simply change the rules for the smart collection that we'd specified earlier.

If you want to view photos in the collection, select the collection in the Publish Services panel. Here, photos are generally categorised under 'New Photos To Publish,' 'Modified Photos To Republish,' 'Published Photos,' 'Deleted Photos To Remove,' etc. These categories ensure better management of your photos.



Learn to organize your photos effectively by creating new catalogs

Create a photo book

Now let's create a photo book, yet another cool feature to try inside Adobe Photoshop Lightroom. The Book module lets you outline your photo books and upload them directly to Blurb.com, an on-demand print website. You can additionally save your books as Adobe PDF documents or individual JPEG files for future use.

First, specify your default book layout behaviors. To do this, in the Book module go to Book > Book Preferences. When photos are added to the clipboard, they carry certain abilities to automatically zoom to fill or zoom to fit. You can override the inclination by right-clicking a photo in the preview area and switching the 'Zoom Photo To Fill Cell' option on or off. Then, you can select whether you want to produce an output in PDF, JPEG or Blurb format, and accordingly determine the book size and type of cover. A graphic or coloured background can also be added to the pages of your book. To add either, you need to select one or more pages in the preview area of the Book module. In the Background panel, click the arrow and select a graphic background. Now click the colour swatch in order to change the graphic. Modify the level of transparency as per your wish by dragging the Opacity slider. Once you're done, save your book so that you can easily get back to it by clicking the 'Create Saved Book' button in the preview area. Now you can easily export your photo book in any of the avatars you want, be it in PDF, JPEG or Blurb format.

The alternatives

Similar to Adobe Photoshop Lightroom, you can make use of CyberLink PhotoDirector 5 Ultra which though heavy on resources is pretty good. Another alternative would be Google's Picasa which has plenty of options and is easy on the system too.



DESIGN THINKING

IT'S NOT ENOUGH THAT YOU HAVE A SOLUTION. GET THE BEST ONE

When you hear the word 'design', what's the first thing that pops into your mind? It could be the design of a movie poster you like, the design of your favourite gadgets or if you're thinking bigger – the way your city was planned and designed. It remains a diverse subject since it's the working principle behind why one product seems better than another. In any domain, design plays the role of first draft; the one that is accepted or rejected just on the basis of look & feel or maybe ease of execution. The knowledge of 'design thinking' helps you find problems with the solution. It applies to a 'problem' in any field, more so in the case of innovation. It's not limited to the design of effective projects but also to the general idea of a problem that limits the solution from being more efficient – more efficient in usability and desirability for users and more effective in solving this problem for the thinkers.



Design Thinking leads to product innovation

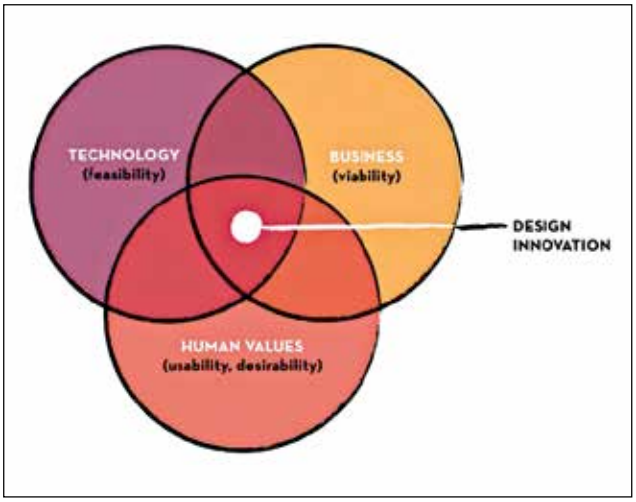
WHAT IS DESIGN THINKING?

A problem may have many solutions, albeit only one efficient one. To define the efficiency would mean considering every solution recursively, finding solutions and improving upon the problems until the most efficient solution under the constraints is found. The methodology of design thinking dates back to the ancient Egyptians, who arguably solved a problem that no one understands till date. Design thinking is a solution-oriented problem solving technique that applies to the abstract and thus changes with context. Design itself is the first stage of problem solving and the thought process that goes into the steps involved in finishing this task is broadly known as design thinking. It can also be understood as the design-specific cognitive activities that are undertaken by designers during the process of designing a solution.

According to Tim Brown, CEO and president of IDEO, "Design thinking can be described as a discipline that uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity".

The Great War made a mark in world history not only for its death toll but also for being a time of indigenous innovation in communication devices, followed by the Industrial Revolution. The industrial revolution was fueled by the desire to optimise solutions in the cloth loom industry for progress and economic development. The difference was that during the war,

there was an attempt to solve problems but during the industrial revolution, more efficient solutions were the need of the hour. This was a time when great minds applied themselves to finding solutions to problems that people didn't even realise they had. This attitude in design continues till date as mobile application designers try to make applications more usable for the end-user, applications that have existed much before their time. In the 1960s, these ideas began to be documented and taught. The idea then was that Design Thinking would help its learners share ideas on how to successfully approach and solve difficult, multi-dimensional problems, and more specifically understand effective methods to ideate, select and execute solutions that individuals and businesses could use to improve their own problem solving processes and skills.



'Design Thinking' can be described as a discipline that uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity – Tim Brown, CEO of IDEO

Design thinking has come to be defined as combining empathy (for the context of a problem), creativity (in the generation of insights and solutions) and rationality (in analysing and fitting various solutions to the problem context). Design thinking is a formal method for practical, creative resolution of problems and creation of solutions, with the intent of an improved future result. In this regard, it's a form of solution-focused thinking; starting with the goal of a better future situation instead of solving a specific problem. This, in turn, makes it difficult to describe as just another scientific method of analysing a given problem, which begins with thoroughly defining all the parameters of the problem in order to create a solution and ends with a working solution. Design Thinking identifies and investigates with both, known and ambiguous aspects of the current situation in order to discover hidden parameters and open alternative paths which may lead to the goal. Design Thinking is iterative, and intermediate "solutions" are treated as potential starting points of alternative paths, even if it means redefining the initial problem. It's a means of innovative thinking when scientific thinking fails to deliver.

The goal of design thinking is to solve a problem using both, analysis and synthesis iteratively, which essentially means breaking a problem into various solutions (analysis) and then rejecting solutions based on given parameters and constraints to find an efficient solution (synthesis) at each step as opposed to finding a straight forward solution; making the solution adaptable to future changes in the problem. Analysis and Synthesis, as scientific methods, always go hand in hand; they complement one another. Every synthesis is built upon the results of a preceding analysis, and every analysis requires a subsequent synthesis in order to verify and correct its results. Considering alternative and intermediate solutions makes this a process of design thinking. Design Thinkers also use 'divergent thinking' and 'convergent thinking' to explore many possible solutions. Divergent Thinking is the kind of thinking that offers different, unique or variant ideas adherent to one theme and is seen as a creative process, while Convergent Thinking is the kind of thinking that focuses on the most promising solution to a given problem and is thus more of an analytical process. Design thinking encourages divergent thinking to ideate many solutions (possible or impossible) and then uses convergent thinking to prefer and realise the best resolution. While a scientific solution is effective for problems with unknown outcomes, design thinking advocates considering known to formulate methods to predict outcomes, ultimately finding an efficient solution.

DESIGN THINKING CAN ADDRESS HIGHLY DIFFICULT PROBLEMS THROUGH THE USE OF ANALOGIES BY CORRELATING INTERNAL REPRESENTATIONS TO DEVELOP AN UNDERSTANDING OF THE OBSCURE

Designers communicate in visual or object language. Symbols, signs, and metaphors are used through the medium of sketches, diagrams and technical drawings to translate abstract requirements into concrete objects. The way designers communicate, then, is through understanding this way of coding design requirements in order to produce built products. John Chris Jones, a Design Science theorist, responded to 'Is designing an art, a science or a form of mathematics?' – "The main point of difference is that of timing. Both, artists and scientists operate in the physical world as it exists in the present (whether it's real or symbolic), while mathematicians operate on abstract relationships that are independent of historical time. Designers, on the other hand, are forever bound to treat as real that which exists only in an imagined future and have to specify ways in which the foreseen thing can be made to exist."

Design can be seen as its own culture in education, with its own methods and ways of thinking which can be systematically taught across both, K-12 and higher education. Intel® has a design thinking for educators programme – the details of which can be found at http://dgit.in/1s3o3u1. Intel® has also been trying to bring K-12 education to India; read more about it at http://dgit.in/1qsPLyr.

HOW DO I THINK DESIGN?

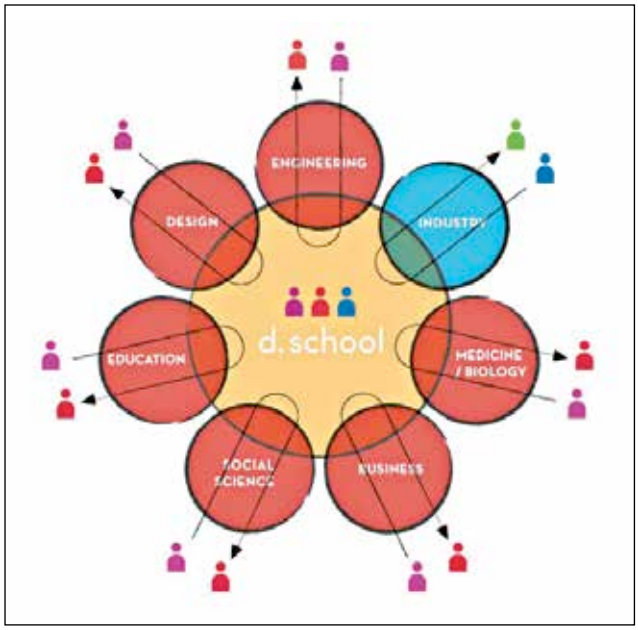
1. FOLLOW BASIC RULES

i. **Human Rule:** Measure your solution in a group of solutions.
ii. **Re-design Rule:** Solve the solved problem to find a better solution.

iii. **Tangibility Rule:** Offer a tangible solution to facilitate communication.

2. ACHIEVE THE A-HA!

The "A-Ha Moment" is the moment where there's suddenly a clear forward path. It's the point in the cycle where synthesis and divergent thinking, analysis and convergent thinking, and the nature of the problem all come together and an appropriate resolution has been captured. Prior to this point, the process may seem hazy and inexact. At this point, however, the path forward is so obvious that in retrospect it seems odd that it took so long to recognise it. After this point, the focus becomes clear as the final product is constructed.



The domain of Design Thinking

3. AVOID THE FEAR OF FAILURE

Fear of failure or criticism may prevent someone from even beginning to apply methods and processes to achieve their goals. Both have psychological effects which divert your mind to doubts of self worth or anxieties of "will it be good enough," or procrastination, instead of focusing on the solutions.

4. AVOID RESISTANCE

Resistance can inhibit design thinking by reprioritising the main goal and shifting efforts to other tasks which may need to be done.

5. KICK THE DEVIL'S ADVOCATE

The Devil's Advocate is an embodiment of negative criticism. Devil's advocates kill projects by shifting the focus from potential solutions to hypercritical issues with ambiguous effects.

6. USE THE "FIVE WHYS"

Design thinking includes interviewing people, creating user profiles, looking at other existing solutions, creating prototypes, mind-mapping and situational analysis. Most of this is achieved by asking questions like the "Five Whys".

7. USE VISUAL ANALOGY

Ill-defined or wicked problems often contain higher-order and obscure relationships. Design thinking can address these through the use of analogies. An understanding of the expected results, all for a lack of domain-related knowledge, may be achieved by correlating different internal representations, such as images, to develop an understanding of the obscure elements of the situation.

STANFORD'S D.SCHOOL

Unlike analytical thinking, design thinking is a process which includes the "build up" of ideas, with few or no limits on breadth during a brainstorming phase. This helps reduce fear of failure in the participant(s) and encourages input and participation from a wide variety of sources in the ideation phases. The phrase "outside the box" thinking has been coined to describe one goal of the brainstorming phase. Such thinking is encouraged since it can aid in the discovery of hidden elements and ambiguities in the situation as well as discovery of potentially faulty assumptions. While the stages are simple enough, the adaptive expertise suggests that choosing the right inflection points and appropriate next stage is a high order Intel®lectual activity that requires practice.

In organisation and management theory, design thinking forms part of the Architecture/Design/Anthropology (A/D/A) paradigm, which characterises innovative, human-centered enterprises. This paradigm also focuses on a collaborative and iterative style of work and mode of thinking, compared to practices associated with the more traditional Mathematics/Economics/Psychology (M/E/P) management paradigm. Companies that integrate the principles of design thinking in their innovation processes often share a certain mindset or strive to cultivate a more creative and human-centered company culture.

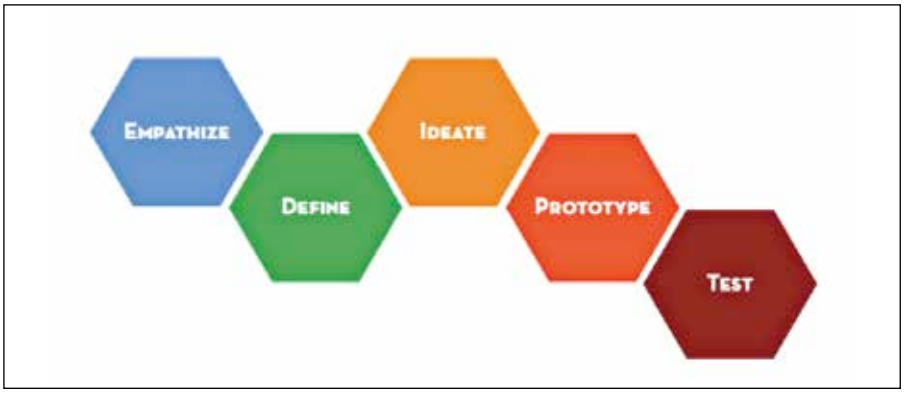
In 2005, Stanford University began teaching engineering students "Design Thinking" as a formal method in the "d.school". In a nutshell, a d.thinking project guides you through a series of phases that oscillate between divergent and convergent thinking. The phases of a d.thinking project are as follows:

1. EMPATHISE WITH END USERS

To create meaningful innovations, you need to know your users and care about their lives.

What?

Empathy is the centerpiece of a human-cen-



The phases involved in d.thinking

tered design process. The Empathise mode is the work you do to understand people, within the context of your design challenge. It's your effort to understand the way they do things and why, their physical and emotional needs, how they think about world, and what is meaningful to them.

Why?
As design thinkers, you'll be solving problems that are not your own – they are those of a group of people; in order to design for them, you must gain empathy for who they are and what is important to them. Empathising gives you a better set of eyes to gain insights that would have filtered out without you even realising it. Good designs are built solely based on the user groups' beliefs, values and needs that can be found out by empathising with them.

How?
You can empathise with your users simply by observing things like disconnect between what the user says and does; by engaging the user in conversation with questions to gain deeper meaning; by watching how they interact with an object while performing a task; and by listening to what's going on inside their mind by asking them to be vocal about it.

2. DEFINE A FOCUSED PROBLEM STATEMENT

Framing the right problem is the only way to create the right solution.

What?
The Define mode of the design process is all about bringing clarity and focus to the design space. This stage is about making sense of the widespread information that you've gathered through empathy. It's also about defining the challenge that you're undertaking based on your understanding of the user and the context of the problem. The goal should be building a point-of-view (POV) and making sense of insights by synthesising information to discover patterns and connections.

Why?
By describing a narrow problem solving POV, you'll yield both, greater quantity and higher quality of solutions while generating ideas, even though it might seem counter-intuitive. The Define Mode is an endeavor to shape scattered findings into powerful insights to build better designs.

How?
Consider what stood out to you when talking and observing people. What patterns emerge when you look at the set? If you noticed something interesting, ask yourself (and your team) why that might be. Work to express INSIGHTS you developed through the synthesis of information you've gathered through empathy and research work. Then articulate a point-of-view by combining these three elements – user, need and insight – as an actionable problem statement that will drive the rest of your design work.

3. IDEATE AS A TEAM

It's not about coming up with the 'right' idea; it's about generating the broadest range of possibilities.

What?
Ideate is that mode of the design process in which you concentrate on idea generation. Ideation provides both, the fuel and also the source material for building prototypes and getting innovative solutions into the hands of your users.

Why?
You ideate in order to transition from identifying problems to creating solutions for your users. Ideation is your chance to combine the understanding you have of the problem area and people you're designing for with your imagination to generate solution concepts. Particularly early in a design project, ideation is about pushing for the widest possible range of ideas from which you can select, not simply finding a single best solution. The determination of the best solution will be discovered later, through user testing and feedback.

How?
You ideate by combining your conscious and unconscious mind, and rational thoughts with imagination. For example, in a brainstorm you leverage the synergy of the group to reach new ideas by building on others' ideas. There are other ideation techniques such as body-storming, mind-mapping and sketching. But one theme throughout all of them is deferring judgment – that is, separating the generation of ideas from the evaluation of ideas.

4. PROTOTYPE A TANGIBLE MODEL

Build to think and test to learn.

What?
The Prototype mode is the iterative generation of artifacts intended to answer questions that get you closer to your final solution. In the early stages, you should create low-resolution prototypes that are quick and cheap to make (think minutes and cents), but can elicit useful feedback from users and colleagues. In later stages, both, your prototype and question may get a bit more refined. A prototype can be anything that a user can interact with – be it a wall of post-it notes, a gadget you put together, a role-playing activity or even a storyboard.

Why?
Prototyping is necessary to ideate and problem solve, to communicate, to fail quickly and cheaply (and thus test more possibilities), and to manage the solution building process.

How?
To start prototyping, keep the idea in mind and begin building but don't spend too much time on one prototype. You must take note of the key variable addressed by each prototype to be able to finally build with the user in mind and get meaningful feedback in the testing phase.

AS DESIGN THINKERS, YOU'LL BE SOLVING PROBLEMS THAT ARE NOT YOUR OWN. TO DESIGN FOR USERS, YOU MUST GAIN EMPATHY FOR WHO THEY ARE AND WHAT IS IMPORTANT TO THEM. EMPATHESING GIVES YOU A BETTER SET OF EYES TO GAIN INSIGHTS THAT WOULD HAVE FILTERED OUT WITHOUT YOU REALISING IT.

5. TEST ITERATIVELY

Testing is an opportunity to learn about your solution and your user.

What?

The Test mode is when you solicit feedback, about the prototypes you've created, from your users and have another opportunity to gain empathy for the people you're designing for. Testing is another opportunity to understand your user, but unlike your initial empathy mode, you've now likely done more framing of the problem and created prototypes to test. A rule of thumb: always prototype as if you know you're right, but test as if you know you're wrong – testing is the chance to refine your solutions and make them better.

Why?

Testing is made essential with the need to refine prototypes and solutions, to learn more about your user and to refine your POV by revealing insights such as that not only did you not get the solution right, but you also failed to frame the problem correctly.

How?

To test effectively, show the user the prototype and don't explain everything to him – watch how he interacts with it and then listen to the question he has. Your prototypes should be tested in a way that feels like an experience as opposed to an explanation of the solution put forward for evaluation. Finally, ask the user to compare between the various prototypes and pick one that suits his needs.

PROTOTYPING IS NECESSARY TO IDEATE AND PROBLEM SOLVE, TO COMMUNICATE, TO FAIL QUICKLY AND CHEAPLY AND THUS TEST MORE POSSIBILITIES, AND TO MANAGE THE SOLUTION BUILDING PROCESS.

MAKE THE PROCESS YOUR OWN BY ITERATION

Iteration is a fundamental of good design. Iterate both, by cycling through the process multiple times, and by iterating within a step – for example, by creating multiple prototypes or trying variations of a brainstorming topic with multiple groups. Generally, as you take multiple cycles through the design process your scope narrows and you move from working on the broad concept to the nuanced details, but the process still supports this development.

For simplicity, the process is articulated here as a linear progression, but design challenges can be taken on by using the design modes in various orders; furthermore, there are an unlimited number of design frameworks with which to work. The process presented here is one suggestion of a framework. Ultimately you'll make the process your own and adapt it to your style and work. Hone your own process that works for you. Most importantly, as you continue to practice innovation you take on a designers' mindset that permeates the way you work, regardless of what process you use.



Cyberlink MediaStory streamlines the process of organising photos and videos making it easy to share personal stories with touch support for Windows 8

FROM A BUSINESS POINT OF VIEW

ADVENTURES IN DESIGN THINKING

- Roger Chandler, Director of Business Planning & Innovation, Inel Corporation.

One of the more exciting things happening at Intel® these days is our increased focus on user experiences. A shift like this can require new ways of thinking, innovating, and collaborating – particularly in SSG (Software and Services Group), since software plays a major role in translating platform features into meaningful experiences. One user-focused innovation model our team has started utilising is "design thinking". Similar to methodologies or mental models such as Agile, Decision Quality and Lean Start-up, design thinking is an iterative process to help teams focus, solve problems, and innovatively move forward. It's relatively easy to implement, can help a team establish a strong user focus and can improve collaboration amongst teams inside and outside of Intel®.

I was first introduced to the concept of "design thinking" eleven years ago, when I was working on a project in the Intel® Labs. Our team's challenge was pretty broad in scope –define a vision for how the proliferation of wireless technologies could improve the lives of billions of people around the world. As part of this project, our team partnered with the legendary innovation firm, IDEO, to identify user needs that future Intel® technologies could address. The joint team created mock-ups of context aware mobile devices, storyboarded networks of wireless sensors that could increase global agricultural efficiency, and created "low-resolution" prototypes of rugged, connected, bio-sensor enabled devices that could save lives in hard-to-reach rural areas. Several of the use cases from the project influenced technolo-

gies hitting our roadmap today. Our team spent a lot of time with IDEO and learned a great deal about the unique way they drive innovation. They called their process "design thinking."

In a recent article about how Apple drives innovation, design thinking (or d.thinking) is described as "a systematic approach to problem solving that is user-driven, possibility focused and iterative." It is a process developed by leading design firms, now being taught by top universities, with methods borrowed by some of the most storied innovators in history, and is recognised by the industry as a proven process to identify practical, value-add solutions to complex problems. It is positioned as a process to use when a team is trying to figure out the "what" and "why" of their project based on the needs of their users. Naturally, there are skeptics who think it's overrated and there are those who over-hype it, describing it as a panacea that can solve every imaginable problem. It depends on how you apply it, but I can state from experience that if you do it right and commit to it, it's a great way to introduce innovation into a team or project.



Documentary trilogy on Design – *Helvetica, Objectified and Urbanized*

INTEL® AND DESIGN THINKING

CYBERLINK AND INTEL® USE COLLABORATIVE DESIGN TO CREATE MEDIASTORY*

Cyberlink MediaStory (http://dgit.in/1oUgoAH) software greatly streamlines the process of organising and accessing the mountains of pictures and videos stored across phones, cameras, tablets, PCs and the cloud to assemble professional-looking videos that can be shared in minutes. The inspiration behind the idea was to help virtually anyone tell their personal stories quickly and easily. The two companies are known for their long history of collaboration in which Intel® has provided optimisations for Cyberlink applications to take advantage of the latest processor features. But this time, Intel® provided support from the very beginning till the end product was made touch optimised for Windows 8 by undergoing usability and focused group testing sessions.

THE STORY BEHIND MEDIASTORY

In creating MediaStory, CyberLink and Intel® approached the collaboration in a completely new way. "Complex video-editing solutions have been available for many years," Louis Chen, CyberLink's VP of Business Development, said. "We wanted a new user-centric approach to innovate in how we could bring the storytelling software to life." For two intense days in February 2013, executives from both companies along with a variety of stakeholders – engineers, product designers, user experience specialists and marketing people, among others – assembled at CyberLink's offices in Taipei to utilise the Design Thinking process to shape MediaStory. They interviewed end users to get a deeper understanding of their pain points and comfort zones, reviewed market data and brainstormed possible solutions to address and delight the target users' needs.

In the end, they zeroed in on a specific market need by first identifying a challenge: The explosion of mobile devices capable of producing great-looking photos and HD video was inundating consumers with too much content. As Chen put it, "We realised that people are overwhelmed with media. They want (need) to easily create great-looking photos and videos, and keep track of it all on whatever devices they have at hand." With that in mind, the two tech companies kicked into high gear.

Wanting to bring a solution to market as quickly as possible, they targeted a Q3 release date – which significantly shortened CyberLink's usual development cycle. The MediaStory design document was drawn up in less than two months, a process that normally takes 4-6 months. Taking MediaStory from idea to its first deployable iteration took just four months. "That was unprecedented for CyberLink," Chen said. During that time, iterative testing through numerous focus groups put the nascent software through its paces, and they shared their feedback with the design team so the team could further refine and add features.

You can read more about Chen's views on the challenges faced during the development of MediaStory at: http://dgit.in/1lj4IqF.

IN CREATING MEDIASTORY, CYBERLINK AND INTEL APPROACHED THE COLLABORATION IN A COMPLETELY NEW WAY. FOR TWO INTENSE DAYS A VARIETY OF STAKEHOLDERS ASSEMBLED AT CYBERLINK'S OFFICES TO UTILISE D.THINKING TO SHAPE MEDIASTORY.

EXTRAS:

1. Watch the 4-minute video at http://dgit.in/1phmU3M to understand how design thinking was used to tackle the problem of child obesity.
2. Also watch Gary Hustwit's design documentary trilogy, *Helvetica, Objectified and Urbanized.* ■



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SAYING GOODBYE...

For 80 years the television has graced our living rooms, kept us engrossed, informed and entertained. Sadly, its time is now done. We must now say goodbye to the old ways and usher in the modern world, or have we done that already? Let's find out.

Anirudh Regidi

The days of the TV are numbered. It's been more than 80 years since the TV first entered our homes and it has lived a long and prosperous life; surviving on a symbiotic relationship of sorts, feeding the people the entertainment they want and living off the money they throw at it. The juggernaut that is the TV industry has been rolling along unhindered for decades, growing exponentially with no signs of slowing down. But now, finally, it's showing its age and is already an old-fashioned, wheezing platform that's on its last legs and is just one real revolution away from ceasing to exist.

How did this happen? What is bringing an industry, that's still valued in the trillions of dollars, grinding to a halt at such a pace? To understand that, we need to understand what we really want from TV and why we're not getting it.

So, first up, a quick history lesson to get you to grips with the TV industry.



You're going to have to find something new to point all your furniture at

Rewind

1930s-40s

The TV was introduced to the people. It was still black and white, very expensive and you couldn't really watch more than 15-20 channels. Broadcasters didn't have an idea of what to do with even those 20 channels in the first place.

1950s-70s

The television grew in popularity at an exponential rate. Advertisers started to appreciate the true potential of the TV and appreciated the ability to target over 200 million people right in their own homes. Also, it was in the 50s that the TV-guide became the no.1 magazine in the U.S.

The TV was the window to the outside world and even beyond it. Hundreds of millions of people witnessed man's first steps on the moon, many more witnessed JFK's assassination. If that wasn't enough, the 70s was the decade that saw the launch of the Atari Pong, the first, true video game console (and game) for the TV.

1980s-2000s

The 80s and 90s were the golden age of the sitcom, with shows like Cheers, Diff'rent Strokes; the 90s saw the birth of Friends and Seinfeld. The early 2000s also saw the launch of more risqué content in shows such as The Sopranos and Sex in the City.

Most importantly however, there were two inventions that sneaked up from nowhere and almost turned the TV industry on its head. These two inventions were the forerunners to the revolution that the people were begging for. What were these inventions? The VCR and TiVo.

What's wrong with TV?

TiVo gave people the option to watch what they wanted, when they wanted it. Sitting between your TV and your cable

connection, the device allowed a viewer to schedule recordings (even for TV shows over a period of months) and play and pause live TV.

This was the first device that really allowed the viewer complete control over his entertainment and that was the secret to its success. Now that we have Tata Sky HD+ and other such DVR services, we've taken it for granted. But when TiVo launched, it was a really big deal.

Television in the modern age

DVR is a very accurate reflection of the modern age. We want that level of control over what we watch, nay, we want more control. We want to watch what we want, when we want it and how we want it—unfettered by restrictive scheduling, the censoring of censor boards and without the interruptions (ads) that mar an otherwise immersive program. We don't want to time our bathroom breaks to commercials, we don't want to stay up late just to watch Game of Thrones, we don't want to be stuck in an airport wondering what happened in Breaking Bad and hoping that we can wake up early enough to watch the rerun. Nobody has time for this much uncertainty and compromise anymore.

To put it even more simply, we want our entertainment on demand and our current TV infrastructure doesn't allow it. We want to watch our favourite show while we're emptying our bowels, while on a lunch break at work, surreptitiously during a boring meeting or at the waiting line at the RTA. Why would you want to be tied down to a couch and a time slot?

It's not just that though, the TV is not interactive. In the year 2014, watching television is still one of the most passive activities that we indulge in. You basically channel surf or settle on something that you want to watch and then just sit and stare at the screen till you're done. There're no hilarious comments to read, you can't pause a moment and make a gif out of it, you can't even share a screenshot—and this is probably why we spend more time fiddling with our phones than watching TV in the first place.

The TV doesn't learn your tastes and it's definitely not personalised. Even if all you really want to watch is sports and movies, you still end up paying for 500 other channels that you probably don't even care about. You don't get proper HD (other than a select few channels) and woe betide you if you're expecting to find 5.1 audio or something as new as 4K support.



Could a DTH or cable operator do justice to this setup?

The Set Top Box

Another huge nail in the TV's coffin is the Set Top Box (STB) that is currently our gateway to the "joys" of live TV. These boxes are a pain to setup, require a technician to install (most of the time) and offer interfaces that are far from responsive and clunky to boot. Using an STB is definitely not a pleasurable experience, but we don't have an option at the moment.

Consider the fact that STBs are subsidized anyway, giving cable operators less incentive to actually develop a fully functional box that is in-line with modern expectations of performance and functionality.

UI and control

Designing a fluid UI and coupling it with powerful hardware costs money and it seems that most operators don't really care about investing that much when they're expect the content to speak for itself. The same goes for the remote, which, since the birth of TV has remained almost unchanged over half a century simply because the way we actually watch TV hasn't fundamentally changed in half a century – it was built for channel surfing in the '50s and is still used for channel surfing in 2014.

The likes of Samsung and LG are still experimenting with the so called "10 foot UI" and are yet to make some sort of real headway. We've seen radical UI designs and many attempts at replacing the remote control as a means of control, but nobody's yet been able to come up with a viable alternative to the ₹100 hunk of plastic that's as much a part of your living room as a couch.

Voice control is novel, but screaming at a TV that doesn't understand your accent isn't the right way of going about it. Gestures are also interesting (Kinect, PS Eye, etc.), but it's still hard for modern systems to differentiate conversational gestures from actual gestures directed at the TV.

You can use your smartphone to control your TV as well and it is more functional and efficient than a normal remote. This has its down-sides too as you can't be expected to control your TV while you're playing a game or answering a call. You'd need to hand over your phone to anyone wanting to control your TV and you definitely don't want the neighbour's pesky two year old brat handling your precious phone now do you?

As it stands, the traditional remote control is archaic, but still functional and it's because the TV is also exactly that – archaic, yet functional.

Why can't we stop watching TV?

Cable is dirt cheap

The whole problem with bypassing cable networks is that you can't bypass cable networks, at least not cheaply. Content creators such as HBO and ESPN earn the

bulk of their money via cable operators and they can't afford to not support cable.

It was in 2012 that Sky and BT Vision, two of UK's largest cable networks, bought the rights to air three seasons of the Premiere League matches for the sum of £3,000,000,000 (that's ₹300,490,000,000,000)! Think about that for a second, a 116 games, two million potential viewers per game and three billion pounds.

Staggering as that sum is, what's more staggering is that if you break down the math you discover that each viewer is worth more than ₹50,000 a year in ad revenue (the number of people who watch the matches, not the actual user base, which is much higher) during the Premiere League. There is literally no way that anyone other than the zaniest of the zany rich will be able to afford an ad-free version of said matches. Of course, some of the cost will also be recovered via overseas licensing deals as well, but that's still a lot of money spent.

Taking the example of ESPN, (which is, by the way, the Most Valuable Media Property in the USA) it earned an average of ₹300 per home per month from the 100 million+ households that subscribe to the channel. When you consider the fact that you probably pay about ₹600–₹1,000 a month for access to 500+ worthless channels, that's actually quite cheap.

You're not getting access to content as and when you want it, you're not even getting content that's offering the same quality that you want, but at least you're getting content, and at a bargain.

The bandwidth argument

Many feel that the best way to really get what you want, when you want it is via the Internet. This makes sense because we pirate what we want anyway, and it's not like the Digital Natives even imagine any other avenue for entertainment at this scale. Sadly, research has found that by



El-cheapo set top boxes make for an el-cheapo viewing experience

the year 2015, we will be consuming, on average, 33.5Gb of data per person per day (TV, music, Internet, text, voice calls, et al.). Roughly translated, this means that we, as a race, consume 13hrs of multimedia content daily (if it were all video).

Why are we telling you this? Engineers involved in the TV industry claim that this is the primary reason they can't give you all the content you want online, there's simply not enough bandwidth. Without going too much into the technical details, what they're basically saying is that the network infrastructure that keeps the Internet up and running is simply incapable of carrying all this data to the users and that cable is still the most efficient way of bringing that data to the masses; whether you like it or not.

The argument seems very valid, but when you really think about it, gen z probably never watches TV anyway and they're perfectly fine with the bandwidth situation as it exists right now (the Comcast vs. Netflix case is way beyond the scope of this article and is mostly irrelevant here). In fact, stats bear this out, clearly indicating that the age group of people watching TV is steadily going up and that young 'uns are leaving by the droves. Though it's more likely that they're not leaving and are probably just ignoring TV.

One could however, very accurately, claim that India still doesn't have enough Internet penetration to handle a DTH/cable-free TV experience and no matter what else we try, that we have no other option for a long time yet.

Live TV

The long-held bastion of television has always been live broadcasts, be it news or sports. If there is one thing that's wrong with the on-demand future that we envision, it has to be the inability of pushing live content to the viewer. Or so we're led to believe.

If you really think about it, how many events in a day are truly news worthy?



Even if you were to look at say the Times of India – on organization that summarises the news from the world over – it still doesn't have enough news to make you spend more than a few minutes a day on it.

These "news" channels do provide us with real news sometimes, but the bulk of the content they create is for entertainment. And who are we kidding, you probably learnt more from the Big Bang Theory and John Oliver's rants than you did from any news channel!

Our style of consumption has changed. Apps rule the roost and social media is now a better source of news than anything else on the planet. Earthquake in Iceland? You heard it first on twitter. A meteorite smashes into Russia, Twitter told you that and YouTube showed you the footage. Maybe you didn't even turn on your TV.



Much like stealing water or tapping high-tension wires, we've found a way to steal content

When did you really look at the news seriously, for the sake of knowledge or being "well aware of current events"? The only reason you'd really turn to a news channel is because someone told you that there's something you have to see (unless of course, you never miss an episode involving Arnab Goswami and gang indulging in shouting matches – which can be both entertaining and informative).

We spend a ludicrous amount of time staring at some sort of screen or the other, be it a mobile phone, tablet or PC (and maybe the Smart Watch in the near future). We're already a vast and interconnected network of humans and news spreads faster than it's ever spread before and the TV had absolutely nothing to do with it. Zilch. Nada.

Live sports are a different matter altogether. As we've mentioned earlier, broadcasting a sporting event is an extremely lucrative proposition, something that neither the broadcaster nor the cable operator wants to lose out on. Still, it wouldn't be stretching the truth in the slightest to assume that the bulk of us would rather just have access to our sports anywhere and everywhere than just on the TV in the living room. One might argue that watching sports is a communal event, but what can be more communal than the internet? And anyway, it's not like you can't stream to a TV just as easily as from cable/DTH. Even if you were to look at the costs, we're pretty sure that you'd rather be paying ₹300 a month (via the internet) to comfortably access your favourite sport at your leisure than to remain at the mercy of a location and a single device.

Where there's a will, there's always a way

For many of us, especially in a country like India (that doesn't have access to reliable digital streaming services like Netflix), torrents are a way of life and EZTV our TV Guide. We schedule our torrents to coincide with our "night unlimited" packs, link up µTorrent with RSS feeds from TPB and so much more. We basically found a way to watch our favourite programs without breaking the Internet, using a protocol that the engineers say wasn't designed specifically for video. Where do we watch that content? On our phones, on our laptops, on our PCs and on our tablets.

BBC's iPlayer

Where there's a will there's a way and there's obviously no will here, at least on the part of the cable companies and content creators. Or rather, there is a will, but maybe it's working towards the wrong goals because the issue has already been sorted out by the BBC more than five years ago.

When you're already paying upwards of ₹14,600 a year for access to broadcast TV, you'd be well within your rights to expect your money's worth, especially if you really don't have any other option. But what if that TV network actually listened to you and understood your needs? What if that TV network decided that it was high time that it embraced the digital world and realised that the television is not the primary consumption device anymore?

Well, if that's you, then you're living in the UK and the network in question is the BBC. Six million pounds later, they came out with the iPlayer. What is it? In a nutshell, it's an app for Mac, Linux, Windows, iOS and Android that allows anyone with a UK IP address to stream all of the BBCs programs anytime, anywhere. It's as convenient and as simple as that.

You're still getting access all the content on your TV, but you're also getting access to it anywhere and with the right hardware, streaming to your TV from your device is a cinch. It's still not a properly "smart" app the way Netflix or Amazon Instant Video apps are (it doesn't learn your preferences for example), but as a TV alternative, it's hard to beat, especially when you have a line-up as amazing as the one hosted by the BBC.

YouTube

TV was a form of entertainment par excellence in its heydays. It was an all-encompassing entity that provided you with music, movies, news, fun, advice and catered to just about every niche possible, but it never anticipated YouTube.

There are no words to describe something like YouTube, neither its scope nor

its scale. If Wikipedia is aiming to be the repository of all human knowledge, YouTube is a repository of human nature. If an alien race were to visit our planet, that's where it'll turn to understand the vagaries of the human race.

YouTube is standing proof that it's possible to have a video streaming service that delivers consistent performance across all platforms, anywhere and everywhere on this Earth. But only if you put in the effort to do that. Which cable companies aren't yet doing.

Fast Forward

What is the ideal television experience as we envision? What is the TV of our dreams? Is it even television? Probably not. TV was a major source of entertainment, primarily a source of video and great shows but now, 80 years later, it's none of those things. Our means of entertaining ourselves have evolved and moved well beyond the confines of the TV industry.



Don't judge him for watching Elysium and we won't judge you for watching Great Indian Laughter Challenge

Seamless

What we would really love is a television that's nothing more than what it is – a large screen that we can experience our favourite content on – and should be capable of interfacing with whatever transmission devices we have. More than anything, we want our content available to us as and when we want it, with no hoops to jump through and no technical details to worry about (formats, protocols); it should be a seamless experience. We don't want our entertainment through only one device, we want it to be device agnostic, free.

Intelligent

The most effective "television" experience that we can envision is one that actually utilizes Big Data. Imagine a system that understands your preferences, maybe even your family's preferences; a system that learns your schedules, the TV shows and movies that you watch, the news that you're interested in, and pushes that content to your devices before you even ask for it. Imagine if you were to get recommendations from a close nit group of friends or if you could watch something that's trending on social media, be it a news snippet that shows NASA finding alien life or a video of a cat doing the Macarena or even just the latest episode of Top Gear.

Wouldn't you like to just come home from a long day and find everything that you probably want to watch already cut and dried, just waiting for you to hit the play button?

Personal

We want a television experience that's interactive and personal, where you can grab a screenshot and post it to twitter, or Hangout with friends while watching a football match or even watch The Great Indian Laughter Challenge (despite our best intentions, we cannot help but shudder at the prospect) and comment on the jokes on the spot. Imagine being able to simply subscribe to channels that you like, or even just shows that you like and not get flooded with random content.

Live news and sports do have their place, but there's nothing stopping anyone from providing coverage via a service like Twitch.tv or YouTube live streaming. Gamers have already adopted twitch as their livestream platform and it's more than obvious that the system works.

Should you smash that TV?

Television has held a soft spot in our hearts for a long time. Our entertainment platforms have evolved and our lifestyles have changed. We're no longer tied down to a single source of information or entertainment and for whatever reason, TV still hasn't caught on to that fact. Most of us are not too young to remember a time without high-speed Internet and the rise of the smartphone, but there are those of us (generation Z a.k.a. the millennials) who aren't aware of a time without a smartphone and high-speed internet. We know that we don't want television, we know that cable and DTH is a pain and we know the joys of the internet.

Should you smash your TV? If it's old and decrepit and you're getting a replacement and it's not your only source of entertainment, sure, why not? But your TV itself isn't really to blame, it's the ecosystem surrounding it. Treat your TV just like you would any other large screen and bear in mind that it deserves more than a fist through the screen (if you don't mind a fractured wrist). But by all means, smash your DTH boxes and the accompanying antenna, chew threw your cable operator's cable (don't forget to livestream the event, we'd love to watch) and just refer to our guides for cutting the cord and smartening up your TV and you're all set.

Welcome to the modern age.

CABLE WITHOUT THE CABLE

Almost everything you get on your TV is now available online. Let us be your guiding light on the path to cable freedom.

Mithun Mohandas



Being a *cablewallah* must have been one of the most secure jobs that you could get into in the '90s. Areas were broken down and distributed among multiple cablewallahs who'd then not infringe on each others turf. Life was somewhat better back in those days, you only had to pay ₹150-200 and you'd get all the channels that your cable operator could get his hands on. Then came the era of DTH providers who we thought as saviours who'd release us from the clutches of the local cable operator but little did we know we were going down the same road all over again. The *cablewallah* started looking like a lot better. But most of us had already shifted to higher resolution TVs and the cable operator's feed proved to be an eyesore.

We were stuck, again; until competition forced the DTH operators to come up with competitive prices and a-la-carte packages. Soon enough the TV evolved even further and we started getting Full HD content and then came recorder boxes. However, the technology used in these devices was substandard; set-top boxes would be rendered useless when a certain OTA update were to be sent and they had to be repaired over and over again.

Enough is enough, we've suffered for way too long to keep up with this tomfoolery. Streaming video over the internet is starting to seem a better now that there are plenty of services both in India and overseas. One of the best advantages of streaming content is that it's beamed in its original form most of the times and has undergone no censorship across geographies – the choice to decide for ourselves is pleasantly liberating. We take a look at some of these streaming services:

The Bigwigs

The biggest players in the streaming business aren't based in India and which is why we end up subscribing to a VPN service since the content is often region restricted. But that inconvenience aside, the quality of content on these services remain unmatched by anything local.

YouTube

Content from everywhere in every language and of every type is available on this mother of all streaming sites. Almost every event that has taken place in history that was ever caught on tape can be found on YouTube. More and more TV channels have started putting their content up on YouTube so you won't be missing a lot. YouTube even has paid content these days and they all have a 14-day trial period so you can check them out before you pay.

Type: Free; VPN: Only for geo-restricted content

Netflix

Yes, we know that if you go to their site you'll be met with a banner that says that the service is not available in our country but with good VPN services – with rates as low as $4.99 per month – we can enjoy Netflix. This is Full HD content we're talking about and it only costs $8.99 per month. A little steep but definitely worth it given that it is all VOD and VOD is generally much more expensive in India.

Type: Subscription; VPN: Needed

Hulu Plus

Similar to Netflix, Hulu Plus costs $7.99 per month and has adverts. This too is limited to the United States so you'll need a VPN to get in. All of the streaming services happen to have a few exclusive TV shows that only air on their service which is essential in maintaining customer base.

Type: Subscription; VPN:Needed

Amazon Prime

For $99 a year you get access to Amazon's extensive library as well as their music service and quick delivery in the US. Last we checked, Amazon was about to run Prime Air trials in Mumbai and Bangalore. Not everything that is available on Amazon is added to the Prime subscription, some of the newer stuff has to be purchased and the rates are as low as $2-$3 for HD content.

Type: Subscription; VPN: Needed

iTunes

Apple's service comes with the option of renting as well as purchasing movies. Some content might be restricted to US accounts only but that isn't a difficult thing to circumvent. Since it is a service by Apple you don't need to jump through hoops to get the content onto your iPhone/iPod/iPad. Moreover, you have the option of downloading your content for consumption later. What's better is that you have access to high quality Indian content.

Type: Rental/Purchase; VPN: Optional

Google Play

Google's service follows the same model as iTunes, rental service starts off at as low as ₹25 per movie and purchasing the same would cost anywhere between ₹100-₹500 depending if the content is regional or foreign and if the movie is new or old. TV shows aren't available in India but that's where a VPN can help you out.

Type: Rental/Purchase; VPN: Optional

Regional

Just because you want to watch the latest season of House of Cards shouldn't mean that your mom should have to miss out on her favourite TV soaps. Indian media houses are slowly waking up and putting up content online. Almost every major show has a monetised YouTube video available almost instantly so YouTube does cover almost everything but here are a few sites that let you view your shows if YouTube doesn't deliver.



Online streaming networks are hammering the death knell on traditional TV viewing

When it comes to regional content there are services like BIGFlix, ErosNow, BoxTv and Spuul which stream movies from the Indian subcontinent. It doesn't matter whether the content is from Bollywood, Kollywood, Tollywood or Bhojpuri cinema, these websites are likely to host content from all of them. Moreover, everyone of them has a subscription service which starts at as low as ₹249 a month and you can watch movies on your mobile device through apps.

No article on regional content could be complete without the mention of Prasar Bharti. Yes, the Indian national broadcaster has its own website which has live news feed. Every news channel has its own Live feed on their respective website as well as on YouTube so you are never going to not find their content online.

Exceptional

Torrents are legal and they are a great medium for content distribution. So much that some of the biggest services in the business also use BitTorrent somewhere in the backbone of their CDN. Indie Artists often release their tracks on torrents since it involves no payment to any hosting service or big studio backing to make themselves heard. And the same goes for movies and indie TV shows; huge events like SXSW release public domain tracks for all bands on their website. Here are some ways to stream torrents:

PopCorn Time

PopCorn time is a unique implementation of the torrent service where the downloaded files aren't stored on your computer. The torrent sources are illegal at the moment and we don't see that changing anytime soon. But the concept is great and open source, but through PopCorn Time you can play anything and the files are deleted from your PC after the content stops streaming. We're hoping that the big streaming players would implement this software, since PopCorn Time have opened up their source code.

Media Center Master

Media Center Master is the complete package when it comes to a media organisation software. You just need to point it to your media folder and the software goes through it gathering metadata and helps your organise/rename content and even download missing videos. Think you have all the music videos of your favourite indie band? This software might surprise you. The options in this tool are vast and it will take you some time to configure it all but post setup it will automate everything.

For everything else

Well, you can cancel your DTH connection and still get all the content that you want but not everything is available at the moment. So for everything else you can go check http://www.freeetv.com and they'll direct you to the legal stream. Time to get on with the times, yes? Stream on!

WORKSHOP: FROM IDIOT BOX TO SMART TV

Idiot box too dumb for you? Here's a workshop that'll help transform your TV from dumb to smart in no time at all.

Anirudh Regidi

The first part of this story would have given you a primer with regards to why your TV is dumb and the second part showed you what you can do to finally cut the cord. Now we'll tell you how to smarten up your idiot box and don't worry, it's actually not that hard.

The TV in this situation is just a screen, it's a mindless output device that is just displaying content that it receives. Our goal here is to transform that content and make our TV viewing experience an intelligent, interactive and pleasurable one.

We do that by giving our TV access to the sources of entertainment that we want and have it presented to us in a fashion that we would enjoy.

Initial Setup

Setting up a VPN

This is an important step because many of the services that you'll want to access are restricted to the US or UK or some other such region. You can bypass these restrictions if you manage to set up a VPN, which is really not that hard. Here's a simple step-by-step guide to setting it up.

Our first task was to find a VPN service that suited our needs. The best option we could find was Unlocator, but you can go with any other VPN that you're comfortable with as well. They offer a paid service for $4.95 (₹299) a month which is quite competitive as far as VPN services go. Do keep the following in mind when looking for a VPN service for yourself though:

1. Latency: This should be as low as possible to ensure that there is no lag when you're streaming content
2. Bandwidth: Certain VPN services restrict the bandwidth that's available to use, forcing you to experience a lot of buffering and slow downs, which can be painful. Most VPN services offer a trial period and you should make full use of that time to figure out if it's the right one for you.

Once you sign up, you will be provided with two DNS server IP addresses which you need to type into your router, if you have the option to edit your DHCP settings.

Configuring your router

- You need to figure out the pool of IP addresses available for use, this can be easily accessed via your router's settings menu. Many routers have a default range which starts from 192.168.1.100. From this pool pick an IP address that will be unique to your device (Fire TV, HTPC, etc.). Ensure that the following data is kept ready.
  - IP address
  - Default Gateway address
  - Subnet mask (Default - 255.255.255.0 or you'd have to calculate separately based on your IP by following this URL: http://dgit.in/SubnetCal)
  - Bit mask (Default value - 24)
  - DNS address 1
  - DNS address 2
- Find the advanced network settings on your router or other device. This will vary depending on your hardware.
- Start entering the data when you find the right screen. (Hint: It'll be the one asking you for the above information).
- Once you have entered the data, wait for a few seconds till the connection resolves itself
- Check if you can now access to your region-locked content.



A melding of media centre and game console, technlogy at its best

An International account

Most streaming services and media stores such as Amazon and iTunes restrict access to their content to U.S. accounts. When creating one such account, you can usually get away with just an international address which you can find by simply opening Google Maps and picking a random location (even a McDonalds will do).

Some services might ask for a credit card, and getting one couldn't be simpler. Navigate to https://www.entropay.com/ and

sign up. You'll need to use an existing credit/debit card to create an account and you'll need to transfer a token amount to activate a virtual credit card. Entropy does charge an overhead of 5% for every transfer to the card, but you don't really need to pay more than once if you're only using the card for activating an international account.

Recommended setup

Considering the kind of service we would expect from the ideal TV, nothing short of a decent HTPC will be sufficient for our needs. You can pick the config we've mentioned in our Killer Rigs section on page 112 or you can build your own depending on your budget.

We would recommend the following:

- An Intel i3 or AMD A4 class CPU
- At least 4GB RAM
- A 1TB HDD for your storage needs (you can add an SSD to boost the responsiveness if you so desire)
- An AMD or Nvidia GPU if you're into serious gaming
- A Windows compatible media centre remote (available online for about ₹3,000) for navigating the interface. A keyboard/mouse combo or gamepad would be cumbersone, but does work.
- A DLNA-ready router that allows you to access and share content from USB drives (USB 3.0 for better speed, but it's not essential). A router such as the ASUS N600 or NetGear N600 will set you back by about ₹6,000-8,000, but if you're streaming over Wi-Fi, an N600 certified router is what you'll need.
- An HDMI switch will be required if you're going to be connecting a lot of devices to your TV. The switch will let you switch to the HDMI stream of your choice, be it from your Xbox, Set Top Box, or Apple TV, etc.
- Windows 8.1's UI finally serves a purpose here; it's Modern UI is perfectly at home on a large screen.
- PC remote server: This is a program that will run on the HTPC and let you control the system via a mobile phone
- XBMC / Windows Media Centre / etc.: A media centre program would be best if you intend to sit on the couch and stream content to your TV.
- iTunes will be required if you're using Apple devices and it will be required if you want to stream the contents of your iTunes library to your iDevices.
- If you're a gamer, then you can't have a PC without Steam. The service is, after all, the only game DRM that gamers actually want, but more importantly, Big Picture mode is ideal for navigating your game library on a massive TV. Another key feature of Steam is that it will let you stream a game from another PC to this one connected to your PC, provided you have the requisite hardware and Nvidia GPU. You can learn more here: http://dgit.in/1pxaXXJ
- You can't be a modern geek without your own personal cloud and the simplest way to set it up is by using Tonido. (http://dgit.in/dgtonido) It's a free tool that sets up a server on your PC, allowing you to access and stream the contents of your PC to and from a mobile device or other PC.



HTPCs can be cool too

Simpler alternatives

Setting up a custom-built HTPC rig can be a bit of a pain for some or it may just be too expensive. Regardless, here are some simpler ways to smarten up your TV.

Apple TV

If you're heavily invested in the Apple ecosystem, the Apple TV is the very best option for you. The device gives you access to the entire iTunes library (if you have a U.S. account) and will let you stream content from your iDevices via AirPlay. The main drawback with the device is that it supports a very limited number of file formats.

Amazon Fire TV / Roku

Another great option if you can set up a decent VPN and you don't mind spending about Rs.10,000 a year for access to Amazon's entire library. The devices also give you access to other services such as Netflix and Hulu.

Chromecast / Miracast / DLNA dongles

These are small devices that you just plug into the HDMI port on your TV, allowing you to stream content from your Android phone and Miracast and/or DLNA compatible devices. This is a decent option to if you want to share something like a family album at a gathering or something.

Android Mini-PCs

These little PCs are about the size of the DLNA dongles, but are as powerful as the average smartphone and are a surprisingly viable and cheap option if you want to stream content from web services or content that any Android device can render even from a network share. They are usually slow and clunky to navigate, but they're cheap and functional.



This tiny device can take you to iHeaven

Game consoles

Game consoles from the Xbox 360 onwards are very capable multimedia powerhouses that will be more than capable of smartening up your TV. They also usually come with some sort of streaming service in-built, not to mention apps, a TV-ready interface, and a fluid experience that adds to their appeal. To top it off, they're great for gaming as well.

As you can see, smartening up the idiot box is easier than you think. All you need to do is spend as little as ₹5,000 (non-HTPC) and you can transform your TV watching experience. Experiment to find the ideal solution for you; also, don't forget to write in at editor@digit.in with stories of how you smartened up your idiot box.

Tomorrow's Tech
Lear all about how IBM built a chip that mimics the workings of a human brain



Electricity from droplets
New technique at MIT can be used to produce small amounts of electricity with water droplets **http://dgit.in/WaterElec**

Sex in Space

Humans love the idea of space exploration. They also love copulation. But are the two compatible?

Daniel D'mello
readersletters@digit.in



Mankind has always been fascinated with travelling through space. A possible reason for doing so, apart from exploration and scientific discovery, is also human survival, in the event that something were to happen to Earth and we needed to move elsewhere. The biggest problem with space travel is that everything is just so darn far away, and thus it takes forever to get there. Unless we get warp drives to travel faster than light, any interstellar travel attempted by humans will involve long periods of time spent in a spacecraft. Even a mission to nearby Mars would involve a journey of at least 1.5 years one-way. Now a normal human is bound to get a little amorous...

Has anyone done it yet?

Of course that's the first question you're bound to ask! With so many shuttle missions, building and maintaining two space stations, mixed-gender crews... how could you not ask? Sadly, even in space, sex is taboo enough to be kept a secret.

The only married couple to ever travel to space together was Jan Davis and Mark Lee, but they're not telling.

In all fairness, being an astronaut involves a very, very busy schedule. With the time they can spend in space very limited, their entire day in planned out in great detail, every move is monitored and, at such close quarters, privacy is hard to find. The only privacy would be in the sleeping pods, but that too is a shared environment.

It's interesting to note that no space agency specifically forbids physical intimacy, but being chosen from amongst 7 billion people to go to space and then not being able to keep it in your pants seems like it would get you more than a fair share of ragging amongst your peers... if not expulsion from the space program. Given all of the above, it's more than likely that humans haven't got off in space, yet.

The Russian space agency did consider sending their cosmonauts inflatable sex dolls, but decided aginst doing so, as they would then have had to work that particular activity into the cosmonauts' already tight schedules... At least we know that people have thought about this before, and we're not pervs for asking the question.

Docking challenges

Physical intimacy in space is beset by both psychological and physiological problems. First, any discussion of space sex is moot if neither your partner nor you are in the mood. You are living in a tiny, smelly, hot, claustrophobic, man-made structure with little or no privacy, minimalistic facilities, for years on end after all. So like us, the average Mumbai native? Trust us, it's no fun, but yet humanity finds a way here...

Considering that the average Mumbaikar isn't travelling to Mars, first-worlder astranauts might instead hate the darkness, loneliness and silence and want to hang themselves instead – but that's aother article, given the lack of gravity.

Assuming that some people will still get in the mood, you have to remember that unlike on Earth, coitus in space has serious challenges. Biology dictates that the lack of gravity causes blood redistribution problems – fluid shifting to the upper part of the body and reduced blood flow – so that makes space erections a problem. As if it wasn't hard enough already!

But mankind finds a way. To quote cosmonaut Aleksandr Laveykin, when asked about sexual activity by Mary Roach in her book 'Packing for Mars', "My friends ask me 'how are you making sex in space?' I say 'by hand.'"

So let's proceed assuming that mankind, or just man in this case, finds a way to do his bit, the zero gravity environment of space means that more effort is required to do anything. Newton's third law of energy tells us that any slight movement will cause an equal and opposite reaction in another body. Put simply, thrust once against someone, and they fly away from you. It would be tough for people to maintain prolonged physical contact while floating about in space. Considering the trouble that would be involved in just a kiss, we think you can safely forget finding the Zero G spot.

Still, we shall not be overcome! When all else fails, a little bondage is called for. We could strap ourselves down to our beds, right? Sure, but not with the current beds being used on the International Space Station (ISS) or the shuttles. These are made to be physically constraining for one person, and thus are almost impossible to fit two – unless we get an inventive new space Kamasutra.

An alternate solution would be the 2suit – a flight suit with good old Velcro

flaps that astronauts can use to dock themselves to a partner with a similar suit, to prevent their partner from floating away. Once the two lovebirds are locked in, they can proceed with the docking procedure without fear.

Vanna Bonta, the inventor, tested the 2suit with her husband in 2008 in a Boeing flight that simulated weightlessness. The suit did help the couple stay together long enough to get cosy, but it did not prevent them from floating or spinning around as one unit. This means a 2suit would also need to be harnessed to something immovable – even more bondage for the already bonded... What we've learned thus far is that sexual intercourse in space is going to be very uncomfortable.

Motion sickness has always been a problem in space, so that's going to add complexity to any moves you try. Also, despite all this talk of absolute zero temperatures, actually life in space is a hotter and sweatier affair than Earth already. This is because there's no natural convection to remove the excess heat from bodies. Start doing more physical activity, and double the body heat that will be generated during fornication, and you're literally screwed!

If that was not enough, the sweat you release could build up and float off as droplets that could be harmful for equipment. The same goes for all the bodily fluids you might eject.

If your spaceship could have artificial or simulated gravity, it would make things much more comfortable, and thus we assume most space farers will insist on this. The best that current technology has to offer is a centrifuge inside your spaceship - a giant rotating ring that creates a centripetal force, allowing you to experience a kind of gravity. It does not compare to the full gravitational field on the Starship Enterprise, but beggars cannot be choosers.

Fledgling concerns

If your mind is now ready to arise from the gutter, let's consider the need for procreating the species, such as when travelling on a thousand year journey to go off and colonise a distant planet. This would require space conception, and that comes with a harem of challenges of its own.

For starters, the micro gravity environment of space means that the flow of bodily fluids is haywire, and eggs might not end up in the right place, and even if they do, they may not be fertilised because the spermatozoa literally don't know which way is up!

There has never been a full cycle of first generation reproduction in space, not even for animals, primarily because it has been too difficult for scientists to build animal enclosures to support this. The closest we got to this was an experiment with rats during the 1995 space shuttle mission. The rats were able to copulate in space, but the offspring of space and non-space hybrids showed retarded growth and abnormalities. The rats that gave birth after being in space had fewer contractions, which led to lower hormonal release and delayed development.

However, rats are not accurate models, since they mature quicker and aren't affected by gravity in the same way as we are. We first need to test larger mammals before conducting human trials. We know that gravity plays a larger role in embryonic development only later in the pregnancy term. As the fetus develops, it is initially buoyant but eventually needs to be exposed to gravity to be normal, or the skeletal structure can be damaged.

Human babies that were born in space would have underdeveloped fetal skeletons and compromised immune functions. Also, the formation of neural connections might be hampered, as that too requires gravity.

Radiation is another challenge. Up in space, outside the protective shield of Earth's atmosphere radiation can cause sterility, cancer, miscarriages and also affect fetal development. Cells would either not replicate, or replicate in abnormal ways. The current breed of spaceships don't have adequate shielding for this.

There is also calcium deficiency, and loss of body and bone mass. Even with regular exercise to prevent muscle atrophy and loss of bone mass, astronauts still experience 15-20 per cent bone loss after six months in space, and so would any children they had.

So can we do it?

Yes, with some difficulty, and we know we'd want to, even if it was messy and difficult. Put a group of people in any scenario and they will eventually want to hook up. We will need to plan ahead, invent new drugs and medical techniques and find ways to keep people healthy despite all that we've spoken of before this. More research is needed, and more research will be done. Although NASA and other space organisations have not conducted human space sexuality or reproduction studies yet, they will eventually. One thing is for sure; the first baby to be either conceived or born in space will certainly be famous.



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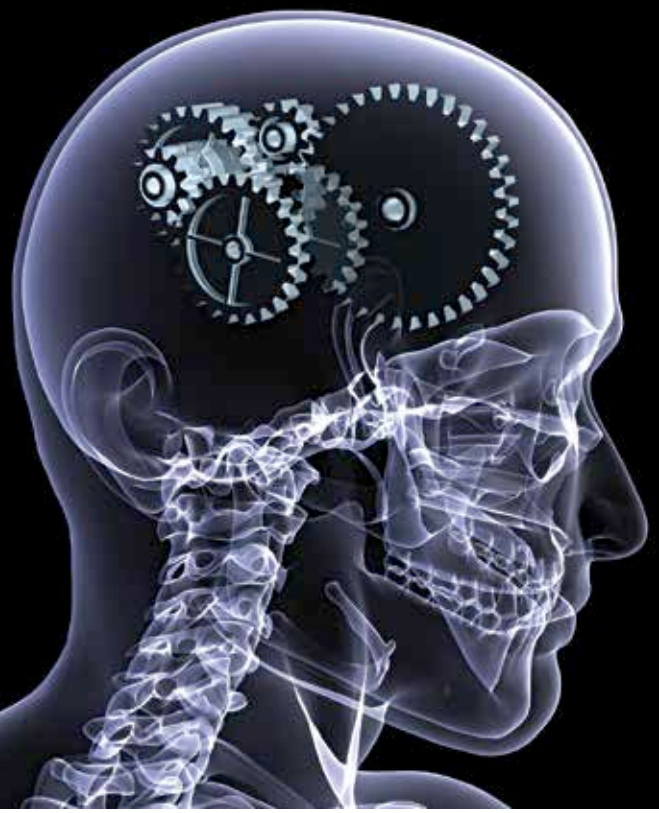
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Thinking Machine

The Future of Computing With Neuromorphic Technology

Scientists developing neuromorphic computing are creating machines that aren't just faster but truly intelligent. What's the future of humanity when your computer's brain is smarter than yours?

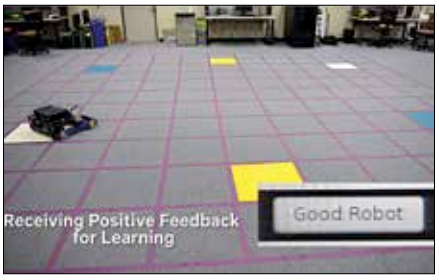
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The human brain is the most complex machine in existence. What's most unusual is its disproportionately large size considering the size of the average human because the brain is twice as large in humans as it would be in any other mammal our size. The brain has been considered the factory of thought, a pensive for experience and the citadel of the soul. The brain has evolved over a period of seven million years and given birth to consciousness, yet we still have no clue how it works.

Human brains are like biological computer processors that are capable of amazing performance. Technologies like predictive analysis and robotics have, for the longest time, attempted to mimic the human thought process, but have remained bound by the linear dimensions of simple logic and basic mathematics. The mind has always remained a challenge, an elegant machine that is more than just a calculator, with a vast potential for innovation, imagination and learning, which machines have yet to even attempt replicating. Until now.

Brain Built to Order

As spring emerged in 2014 San Diego, a baby sized robot called Pioneer was busy learning pattern recognition in Qualcomm's headquarters. The robot was successfully able to navigate the test area, which simulated a child's room, and was able to seek, identify and store toys that were strewn about all over the place - making decisions quickly without having any programmed instructions teaching it to distinguish toys from other things. The robot was instructed where to store the toys by observing human hand gestures and interpreting their meaning to discern toys from everything else.



The Pioneer robot learnt correct behaviour through positive feedback for successfully performed tasks.

Even though Pioneer was just a carrier of arduously complicated programming code, it proved that neuromorphic principles can radically enhance machine intelligence. The incorporation of brain-based computing in silicon chips has been one of the upcoming thresholds of computing for a long time now. It isn't surprising that the granddaddy of modern computing - IBM - has been the one to push it to its limits beating out Qualcomm with a giant leap forward.

With the August 2014 release of their IBM SyNAPSE chip they produced the first ever production scale neuromorphic, or brain like, processor chip. This chip - called TrueNorth - is the result of IBM's deal with the United State's Defense Advanced Research Project Agency (the folks who invented the internet, a.k.a., DARPA). As a part of DARPA's Systems of Neuromorphic Adaptive Plastic Scalable Electronics or SyNAPSE program, this chip has been six years in development with collaboration from Cornell Tech and iniLabs costing over $50 million.

TrueNorth is the most mature neurochip or neuromorphic chip in existence

with 1 million artificial neurons connected to each other via 256 million synapses in its architecture. Designed using Samsung's 28 nanometer process, it easily handles highly dense on-chip memory with extremely efficient transistors. Since these neuromorphic chips are designed to mimic the brain they use transistors as artificial neurons. And although the brain is no different in design, it does have, on average, between a hundred trillion and a quadrillion neurons with an additional 19 to 23 billion neurons in the cerebral cortex. Which of course is a significant order of magnitude greater than the IBM SyNAPSE. But they're not done building it just yet.

Skynet 101: Users' Manual

Despite the unfavourable comparison to a human brain the TrueNorth chip is a great advancement for computing. In addition to the artificial neurons and synapses the chip is powered by 4,096 neurosynaptic cores of integrated memory, all of which constitute 5.4 billion transistors making it the biggest chip ever created. This allows for enhanced computational logic, communication protocols and event-driven asynchronous operations, parallel computing and fault-tolerant architecture. Simply put - it adapts and multitasks like the human brain with greater levels of complexity and stability than any chip ever designed.

While computers measure their performance in floating point operations per second (FLOPS), IBM has devised a new metric for TruNorth - synaptic operations per second (SOPS). The chip is capable of 46 billion SOPS which easily places it in the supercomputer range. The only difference is that it does this while being the size of a post-stamp and runs on a battery found in your wristwatch. The power consumption for the chip is just 70 milliWatts, trivial compared to the whooping 250Watts required to power the GeForce GTX 780 GPU chip. This performance to energy consumption ratio makes the IBM SyNAPSE possibly the most energy efficient chip in existence.



The board connected 16 TrueNorth chips seamlessly through tiling to create a single unified network.

The human brain itself consumes about 20 to 40Watts of power which is a benchmark IBM intends on achieving by expanding on the chip's configuration. They have already tested the creation of a prototype network with these chips to gain insight into future neurosynaptic supercomputers. The capabilities of this prototype was successfully executed by deploying a 16-chip system network with 16 million artificial neurons and 4 billion programmable synapses. The goal of crossing 100 trillion synapses in the near future is now virtually certain.

The Direction of TrueNorth

Pattern recognition is the first step to intelligence. Specialised operations like experiential recall, image and voice recognition, qualitative detection of input and many other "intelligent" functions performed by machines normally take sophisticated programming algorithms which require an immense amount of power to function. As in the case of Google's facial recognition technology for videos, we know that it takes 16,000 processing chips using 100 kilowatts of power to distinguish between the face of a human and a cat. For us as humans such tasks are menial and effortless but now, with its biologically inspired design, neuromorphic chips can tackle such tasks as easily as a human.

The proof is in TrueNorth's ongoing development at Stanford University where TrueNorth is wired up to a camera atop the university tower observing passing traffic. The TrueNorth based system demonstrated that it could easily distinguish between a person riding a bike and one walking a bike, and recognise the change of states between them. Just as the brain doesn't run on any software, but learns through experience, so does TrueNorth. In the human brain, a reiterating series of synaptic signals along neurons which are repeatedly used solidify - we call this neural-synaptic link building process as learning. In the same way TrueNorth operates by learning to use the complexity of the neural network within its low energy architecture to form successful learning links. For a machine this is a new step in evolution.

Although the nature of neuromorphic technology is easier to understand we



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*Conditions Apply. All Specifications are subject to change without prior notice.



The new Nexus tablet?
The HTC Flounder got WiFi certified and could be the next Nexus tablet **http://dgit.in/HTCFlounder**



Human bone on Mars?
NASA's Curiosity Rover has published a photo showing a collection of rocks and one of them looks like a human thigh bone! **http://dgit.in/ThighBoneMars**



Dharmendra Modha, the leader of the project at IBM, can hold the TrueNorth chipset in the palm of his hand. It's just that small.

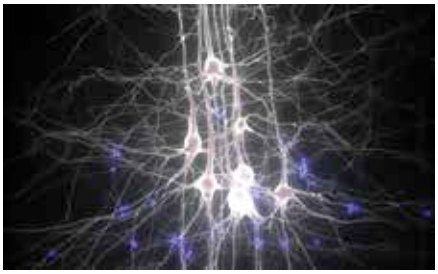
don't really know what gives the trillion of neurons in our brains that special zaz which makes us intelligent and sentient. By building artificial neurons inside chips we are also discovering how organic brains work. But what we do know is that software runs hardware which is something this technology can easily be used to improve.

Better Brains for A Better Tomorrow

We know that the difference between conventional chips and neuromorphic chips lies in how they process data. Given this new approachm, it is necessary that a new language be developed for this interaction. The scientists over at IBM have started the first phase of this development which is customised to synaptic processes. The software routines written using the new language are called corelets and interface with the chip's neural network to carry out various tasks. The tasks are grouped together, as in our brain, such that in the case of a visual corelet the chip incorporates the programming of vertical and horizontal edge detection to distinguish one shape from the other, as in the case of identifying vehicles from above the Stanford University tower.

There are thousands of little corelets which have been written by IBM and non-IBM programmers in the field of visual and audio pattern recognition already, which the TruNorth chip can easily execute. In addition, the ability to support currently employed predictive algorithms makes TrueNorth a breakthrough in technology evolution. By minimising the energy consumption and maximizing performance with no change in size, neuromorphic chips will become the next standard of hardware within 10 years if IBM has its way.

As mass-scale production increases we will rapidly see an exponential increase in chip power, with a human scale chip being introduced within the next decade if not sooner. Radical technology integration will be the most natural next step with automated public transport systems, intuitive mobile devices, smart houses and offices, genuine evolution in robotics and so much more. The wave of computers capable of interacting with the real world via drones, robots and networked systems will change the way we live. The way in which this power will be wielded is hard to predict since it could actually give birth to a form of artificial intelligence we have always imagined. Hopefully even better.



As synaptic signals surge through neural networks only repeatedly used (successful) connections solidify to form learning links.

Coding the Soul: Creativity and Emergent Thought

The final frontier for neuromorphic processor development is its potential to support the rise of emergent artificial intelligence. Thought and sentience, the ability to recognise our environment in relation to ourselves, is a unique attribute to human minds. The only reason the human brain is capable of this self-realisation is because of its size, which allows for more neurons and synapse to form learning links.

But what happens when an artificially created system is just as powerful, if not more, than our brain? What happens when the internet is powered by neural networked machines that are capable of learning? Will there be emergence? No scientist can say for certain since even neuroscience is only scratching the surface towards deciphering the mysteries of human brains. With wetware biological computer processors and quantum processing technology being explored concurrently, we may find IBM's SyNAPSE to be just a species amongst many that will be added to our world in the near future.

All new intelligence, like that of a human infant, is moulded by its environment. As curiosity is fostered, new and varied experiences explored, experimentation encouraged and lessons taught, the blank slate of a child's mind evolves to that of an intelligent adult. It is a case of "the whole being greater than the sum of all its parts"- our combined neurons and synapses give us emotion, desire, creativity, imagination and intuition - something which neuromorphic machines may evolve to become - such is the nature of emergent intelligence.

Just as some believe our own creation was in the image of our creator it is karmically true for whatever intelligence comes next. Let us not forget that a mind is a terrible thing to waste - we can choose to allow the next iteration of intelligence to pursue creativity, curiosity and compassion, or enslave it towards our material needs. As we explore the avenues opened up by this radical new technology, we're sure to encounter many new surprises along the way.

worldview

OUR PICK OF THE BEST TECH ARTICLES FROM AROUND THE GLOBE

(MUST READS)



HOW DO THOUGHTS FORM?

Quick don't think of anything. See what we did there? We're now beginning to crack the brain's code, which allows us to answer such bizarre questions as "What's the speed of thought?"
http://dgit.in/spdtht

HACKING TRAFFIC LIGHTS

We've all seen it in modern day heist movies like the *Italian Job* or even the last (good) *Die Hard* movie. Heck we've done it in games too. But is it really that easy? If a new study from the University of Michigan on the vulnerabilities of traffic lights is to be believed then yes it is
http://dgit.in/hcklight

THE BEST ICE BUCKET CHALLENGE VIDEOS

Just about every famous person dumped freezing cold water on themselves last month. Find them all in this Digg and The Verge list
http://dgit.in/alsbktlist

A BRIEF HISTORY OF USB

USB isn't perfect, but it replaced lots of ports we'll never have to see again. In this in-depth Ars Technica feature, find out how we ever managed to get by without this ubiquitous standard and what has failed to replace it
http://dgit.in/XALNx5

[The Verge Corner]

A HISTORY OF METAPHORS FOR THE INTERNET



The internet has been called many things – Cyberspace, the information superhighway and, most recently, "the cloud". Ever stopped to wonder where all these metaphors came from? Wonder no more: http://dgit.in/histofcybr



Concept art vs. the real thing
From the jaegers of *Pacific Rim* to the post-apocalyptic beauty of *The Last of Us*, here you get to compare concept art from your favourite movies, games and the real thing. The Verge is doing the slider thing now:
http://dgit.in/artvsreal



DSLR or Mirrorless?
A question we've been reflecting on for quite some time now. Looks like this month even The Verge wants to weigh in on the debate. After moving up from your smartphone's camera, which should your next camera be? Find out:
http://dgit.in/mrlsvsdslr



It's coded in the stars
What happens when tech publications work too hard? At times, they lose it completely (we can relate) and come up with articles such as "The zodiac is the key to unlocking tech's greatest feuds". Need we say more?
http://dgit.in/verlulz

SHORTS

WHAT HAPPENS WHEN YOU LIKE EVERYTHING?

Imagine clicking the Like button for every post that appears on your Facebook timeline. This Wired Magazine writer did exactly that. For 48 hours. Result? His feed was filled with brands and messaging, rather than humans with messages
http://dgit.in/likspree

HOW DEODORANTS WORK

Here's the science of stink, pH levels, bacteria and the subtle differences between deodorants and antiperspirants. Sounds gross, we know, but fascinating nonetheless, considering the number of deo ads constantly bombarding us every day. Yes, there's a dark side:
http://dgit.in/bostink

WHY PGP ENCRYPTION NEEDS TO DIE



What is PGP encryption in the first place? This interesting post on encryption standards explains that and why for all the good PGP has done, it's a model of email encryption that's fundamentally broken
http://dgit.in/pgpdiee

HAS TECHNOLOGY KILLED TRAVEL?

Think of an average tourist today. Every cobblestone is triangulated and assigned a pixel and mapped onto Street View. Hotels are booked based on reviews and itineraries copied from TripAdvisor's Top 10 attractions. Where's the fun gone?
http://dgit.in/trstsukc

Steps to optimise the performance of your Android device

An Android device develops performance snags over time, which could be due to various reasons. Let's look at some simple steps that will help you keep your Android smartphone running smoother and more efficiently

– By Hardik Singh

1 Keep your homescreen clean

Personalisation is one of Android's main features, however going overboard – too many widgets, app shortcuts or even a live wallpaper on the homescreen – consumes more RAM. Try to keep your homescreen clutter-free and place only high priority apps and widgets there. A static wallpaper is also a better option if you want your smartphone to run smoother.



2 Close apps from Task Manager

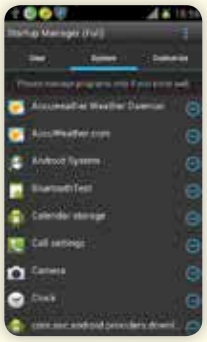
Android allows multitasking, which indirectly means that when you exit an app, it's usually running in the background. To completely close the app, open the multitasking option and close all the running apps. This helps clean up the RAM, thus providing you with better performance.

3 Uninstall and disable unused apps

To improve performance, you can uninstall pointless or rarely used apps. To further free up space, disable pre-installed apps and bloatware which would otherwise utilise your resources by running in the background.

4 Use a Boot Manager

Just like a PC, when you boot an Android device, there are certain apps that automatically load into the RAM. You can disable these apps and prevent them from running during booting by using any good boot manager app such as Startup Manager.



5 Use a third-party launcher

Sometimes, OEM skins are very heavy and include animations that hamper the whole interface and user experience. You can try third-party apps like Nova Launcher and ADW Launcher to fix that problem. Third-party launchers will let you change animation speeds and even customise the interface of your device in a better way.



6 Clean up your device

Majority of apps on Android smartphones leave behind cache storage (temporary residual data) after regular use, and while the OS cleans this cache, it isn't done frequently and efficiently. You can manually clean up this temporarily stored data using apps like Clean Master or CCleaner.



7 Turn auto-sync off

You can save some of your precious cellular/Wi-Fi data as well as storage space by keeping auto-sync off. Yes, you won't get notifications in real time, but you can always manually sync your apps. This also prolongs your battery life as the smartphone is not automatically connecting to the internet.

8 Keep your smartphone software and apps up to date

Vendors, apart from major updates, also release small updates now and then for their smartphones that include bug fixes and security updates. It's a good habit to update your phone's firmware as well as your apps. Having the latest updated software on your smartphone ensures you get the most optimised performance.

WHERE ARE ALL THE FEMALE BILLIONAIRES?

A new report from economists Caroline Freund and Sarah Oliver of the Peterson Institute for International Economics points out that the rich who are getting richer are disproportionately, overwhelmingly men. Only about 10 percent of the world's billionaires are women
http://dgit.in/loadedladies

GUARDIANS OF THE GALAXY'S EASTER EGGS EXPLAINED



Marvel has gotten into the habit of including subtle nods to die-hard comic book know-it-alls and hints of films to come in the future. Get to the bottom of it all. Spoilers duh!
http://dgit.in/gogeast

THE STATE OF ANDROID UPDATES

This article by Ars Technica does the hard task of naming and shaming (and sometimes praising) the update efforts of OEMs and carriers. LG, HTC, Motorola – all have their software teams struggling to keep up. Find out who's fast, who's slow and why
http://dgit.in/androidupt

THERE'S "NEW" TWITTER JARGON ALREADY?

"Get me out of this Twitter canoe! This picture needs some @darth. What an awesome subtweet!" Did you understand any of that? If you're looking around furtively like we are, chances are you need a crash course in new age Twitter jargon. Here's your illustrated guide:
http://dgit.in/twitplz

8 things to expect from the Apple iPhone 6 launch

If the magazine has reached you late you already know what to expect, but if you're one of the early birds to grab the magazine here's your chance to play fortune teller to your friends

– By Team Digit

The new iPhone is coming, and it's packing a lot of heat this time. From talk about sapphire crystal displays to new processors and cameras, the rumour mill has been buzzing for a long time now. Expectations are high from Apple's biggest (literally and figuratively) iPhone till date. Here's what Team Digit expects.

1 Bigger screen

The iPhone 6 is expected to have a 4.7-inch display, making it the biggest ever iPhone until now. The company is also expected to launch a 5.5-inch variant of the smartphone later. This would mean an increase in the screen resolution from 1136x640 pixels in the iPhone 5S – an essential move in order to retain the 16:9 aspect ratio. The magic figure could be 1704x906 pixels. Why? The iPhone currently uses a pixel doubling technique, where it takes a base of 568x320 and doubles it to 1136x640 to achieve the Retina Display quality. This could be upgraded to a pixel tripling technique, to get 1704x960 mentioned above.

2 Slimmer and lighter

The new iPhone has also been rumoured to be lighter and thinner than the iPhone 5S. While the current model is 7.6mm thick, the iPhone 6 is rumoured to be between 6-7 mm in thickness, quite close to the iPod Touch that's only 6.1mm thick. In addition, it could have thinner bezels than earlier models, along with a thinner chassis.

3 Sapphire crystal glass

The screen on the iPhone 6 may be made of sapphire crystal, which was seen on the Touch ID Sensor that Apple introduced with the iPhone 5S. This screen is much more durable than any other and has been rumoured to endure many pressure tests in various videos and reports online.

4 New SoC that goes beyond dual-core?

In a recently leaked analyst report, it was noted that the 5.5-inch variant of the iPhone 6 may have the more powerful Apple A8 processor. Apple's processors till now have been dual-core chipsets, but this new SoC may have more cores to use the extra available space.

5 Big camera upgrade

Reports have said that a new Sony Exmor sensor will be used in the iPhone 6. This will be a 13MP camera with the Sony Exmor IMX220 sensor, which is also capable of shooting 1080p videos.



6 Not so big battery pack

While the battery on the iPhone 6 will continue to be non-removable, some rumours have suggested that it would feature a 2,100mAh battery. There are speculations about Apple having increased



the battery life of the smartphone by about 15 percent.

7 Even more expensive?

If you were hoping to see a drop in the price tag of the iPhone 6, you'll be disappointed. Looking at the upgrades that Apple is bringing and the premium materials used in the phone, it should cost anywhere above ₹50,000, and quite possible above ₹60,000 even.

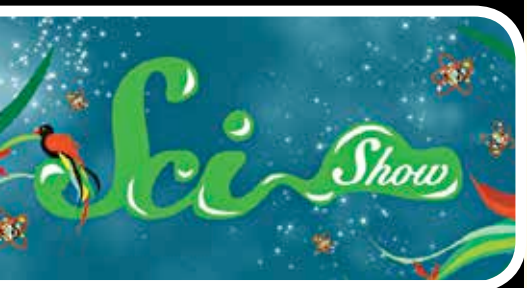
Its launch, however, could effect the price of the iPhone 5S, which is already available for below ₹45,000. This could further drop to ₹35,000-₹40,000, which would make it a very good buy for Apple fans. Not only that, it would push the prices of older Apple smartphone down, with the iPhone 4 expected to reach the end of its lifetime.

8 India launch sooner than normal

If Apple announced the iPhone 6 on September 9, then it should go on sale around September 19. But this is overseas. In India, the device should make an appearance either around Diwali or in December, around New Year.

SCISHOW

Get your dose of science news, history and concepts, with equal parts skepticism and enthusiasm. You get answers



to questions such as what "really" killed the dinosaurs, are blue eyes endangered and why dogs eat grass?
http://dgit.in/scishw

(QR Code)

For a list of all the links from this section, head over to http://dgit.in/wwsep2014
Or point your phone to the QR code above

(PRODUCT LAUNCHES)

XIAOMI MI 4



After a successful run with its previous flagship smartphone, the Mi 3, Xiaomi has launched the Mi 4 which has a 5 inch full HD screen, with a 13 MP front and 8 MP rear camera and 16 GB of storage space, costing around $459.

RAZER JUNGLECAT



iOS gamers rejoice! Razer is taking requests for its iOS Game Controller, the Razer Junglecat. The Junglecat also comes with an iOS companion app so that you're always up to date with the latest games optimized for controller play.
Price tag: $99.

SPICE FIRE ONE MI - FX1



Spice has announced its first Firefox OS smartphone that has 3.5 inch screens and runs on a 1GHz processor. It has a 2 MP rear and 1.3 MP front camera. With dual-SIM support, it operates in 2G and is priced only at ₹2,299 on Snapdeal from 29th August.

WORDJUMBLE

ABSOLUTE TIMEPASS

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

There are 20 tech terms in the above jumble. Find them all.

Top 3 YouTube Picks

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



Motorcycle ninja
Duration: 0 min 32 seconds
This miraculous and downright ridiculous escape from a potentially fatal motorcycle accident is worth watching.
http://dgit.in/mtracdnt



5 fun physics tricks
Duration: 5 min 27 seconds
The balancing cane mystery, the magnetised breakfast cereal... These simple physics tricks will blow your mind.
http://dgit.in/5phys



Bill Gates does it in style
Duration: 1 min 29 seconds
While thousands of idiots pour buckets of ice water on their heads, here's Bill Gates doing it geek style.
http://dgit.in/



How to attain world domination through open source software? All that and more with Gautam Rege of Josh Software Pvt. Ltd

DEF CON 22 Roundup

>>The annual hacker convention had some surprising participants>

DEF CON 22 concluded last month, it was held in Las Vegas as usual from August 7 - 10. The annual hacker convention has evolved and become more "mainstream" or as the regulars say, "oversubscribed". So now we have two hacker conventions happening side-by-side in Las Vegas. The other being "B SidesLV" (read as Besides-L-V) which was held before DEF CON on the 5th and 6th of August.



Some of the brainiest hackers on the planet attend this event

Tesla, the electric car company came down to DEF CON seeking the help of hackers towards making their Model S electric car more secure. Tesla's vehicles are known to use a fair amount of wireless technology, one of the uses being to transmit firmware updates on the go and also remotely monitor vehicle statistics. All of this makes the car much more tempting for hackers to fiddle with. The company is looking towards hiring 20 - 30 hackers in order to find vulnerabilities with their system before they can push new features onto the vehicle. The dashboard for example, is powered by a Tegra 3 which is a common SoC used in smartphones and tablets that can easily run Android applications. This brings the daunting task of ensuring that hackers have no way into getting control over the vehicle through an application and this is why the dashboard is yet to see this feature.

John McAfee stole the show(s) when he chose to speak at both the hacker conventions. If you've watched any of his recent videos on YouTube then you'd know exactly what to expect. McAfee went on a long rant about government surveillance with a few backhanded comments aimed at major companies. The rant evolved into him unveiling BrownList.com, a website where you can go and rant about companies that have wronged you. The motto for the service is "It's payback time". The website aims to bring these conflicts to a positive outcome by having the community vote on different courses of action.

The show floor had plenty of puzzles including the regular attendee badge and a T-shirt by the Electronic Frontier Foundation (EFF). Blackphone, the Android based smartphone geared towards privacy and data security made its presence felt at DEF CON 22. The phone recently started shipping pre-orders on June 30th. This one is created by SGP technologies and is not to be confused with the Boeing Black, a similar Android based phone. PGP creator, Phil Zimmerman who has been following the project keenly was one of the speakers at DEF CON. His talk was more focused towards how the surveillance society was doomed given that security and encryption technologies are becoming more mainstream and gaining more popularity. >

*side panel



*EFF's Puzzle T-shirt

>> Apart from the attendee badge, EFF's DEF CON 22 puzzle t-shirt was one of the most exciting puzzles this year. Check out the explanation behind the puzzle. Check it out here.

http://dgit.in/EFFTee

*Crowdcoding

>> Airocorp, a company working in AI has come up with a unique venture that involves crowdsourcing of programmers to work on their upcoming OS called FiOS.

http://dgit.in/AiroCorp

*Oracle IoT challenge

>> Bot-So, a social bot created by Edifixio, a Kolkata based company was declared one of the winners at this year's Oracle Internet of Things challenge.

http://dgit.in/EdifixioIOT

For latest news, updates and features, join us on Facebook at **facebook.com/devworx.in**

Does this code belong to you?

>>Ownership of code is one of the most important aspects of programming that most programmers don't know of>

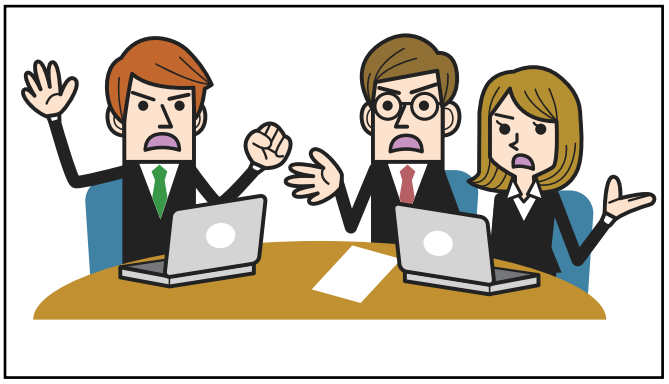
There are a lot of freelance and consulting programmers out there who work for domestic as well as international clients. The code that you as an employee write pretty much belongs to the company you are employed with unless you worked as a consultant or a freelancer on a particular project (that had different rules of engagement). Then comes the ambiguity over ownership especially if you happen to work on a project for a company based out of India, where things may not be spelt out as clearly as night and day. There are quite a lot of such scenarios one needs to be aware of, and it doesn't matter whether you are the company or the consultant.

Learn from these cases

The most famous case of code owner rights would be that of Microsoft and SCP (Seattle Computer Products). Neither company did anything wrong but this should tell you the importance of software licensing. Microsoft bought 86-DOS from SCP back in 1980 for $25,000 to which Microsoft had the right to sell it to someone else for unlimited use. This "someone else" was IBM who got 86-DOS for $80,000 and began shipping it out on the PC. Microsoft believed that they could make the code standard for all computers that used the 8086 or 8088 processor. Now, $80,000 was a pretty low fee for such a software license, and for such a low price Microsoft negotiated with IBM to be able to keep on selling the software to other manufacturers as well. It didn't take long for Windows to be the staple OS on almost every computer manufactured since then. This landmark deal is inarguably called the most important one in computing history.



There's a big difference between licensing or sales of software



To avoid litigation, it's important to thrash out the legalities on who owns what piece of code before working on a software project

What we need you to focus on is the fact that two sales happened here. One between SCP and Microsoft while the other was between Microsoft and IBM. If the folks over at SCP had the foresight to see the potential in their software, we'd see the logos of both companies now. Unfortunately, SCP didn't last long given the cut-throat PC market that emerged soon after.

Back here in India, there was a case recently where Gemalto had contracted Pine Labs for creating software in 2004. In the contract that was signed, Pine Labs assigned all copyright to Gemalto but Pine Labs came back in 2009 to contest that right. Were they wrong to do so after assigning the rights over to Gemalto? Absolutely not, Gemalto had forgotten to include the time period of the assignment in the contract and under Indian Copyright Law:

- 19(5) If the period of assignment is not stated, it shall be deemed to be five years from the date of assignment.
- 19 (6) If the territorial extent of assignment of the rights is not specified, it shall be presumed to extend within India.

That means the copyright for the code reverted back to Pine Labs after five years and they were now the rightful owners.

Sale or License?

Vernor vs Autodesk shed some light over the First Sale doctrine in the USA. Basically, if you sell software it becomes the property of the customer and they can do what they want as long as they aren't creating copies and in turn infringing piracy laws. Here in India, a similar tussle happened over textbooks where low-priced Indian Editions were being resold back to students in the USA by a firm in Delhi. Needless to say, the First Sale doctrine didn't apply

here as well. In the case of Microsoft Windows, before installing the software, Microsoft makes it mandatory for users to sign and accept its EULA (End User License Agreement), which isn't a sales receipt but a legal document that speaks about how you're entitled to a single license of Windows, and the ownership of Windows' code is still owned by Microsoft. Therefore, legally, 'sale' and 'licensing' are two completely different concepts, even though they may sound extremely similar to the common, ill-advice programmer.

So who owns the code?

If you are to be contracted to write code for another company or entity there are a few things you need to consider. Basically, the Author (person who wrote the code) owns the copyright the moment he/she actually writes the program. This ownership changes under three conditions

1. When the author is an employee
2. When the author "assigns" the copyright over to the client
3. When the work is defined as a "Work made for hire"

1. If you are an employee then the scope of employment comes into the picture. A lot of facts need to be looked at as to what role was the author employed to do and whether the work performed lies within that scope or was done otherwise. Needless to say, the employer is the owner in this case and there is very little that the author can do if a case is to be filed over ownership of the code.
2. Assignment is basically legalese for giving away copyright to the client. Under the Indian Copyright Act., the time period if not mentioned is set to five years after which the copyright becomes that of the author. Also, the copyright is transferred only in India if the territorial extent is not mentioned so the author can still re-sell or license the code outside India while the agreement is in effect.
3. If the work is defined as Work Made for Hire then the company that hired becomes the owner of the copyright of the code. If the code is derivative of some other project the hiree authored previously then that original software can be used by the hiree to create a similar software which the hirer would have no rights over unless a software patent regarding the current expression of the work was filed. Also, if the hirer has paid the hiree in full then and only then does the hirer own the copyright. If the work was not completed nor was the payment transferred the ownership is retained by the author.



Before writing even a single line of code, sign an agreement

An agreement is a must!

Whatever be the case, with all the amount of legal surfing we've done, the outcome of any legal battle comes down to the interpretation of the clauses present in the agreement signed between both parties. Moreover, the issue becomes much more complicated if the two parties are from two different countries. If you hire a consultant through an online platform then they come into the picture as well and often help in the resolution of the conflict before it can go to court but nevertheless, do not underestimate the importance of a well written agreement over the assignment of copyright.

Here are a few references to help you out:

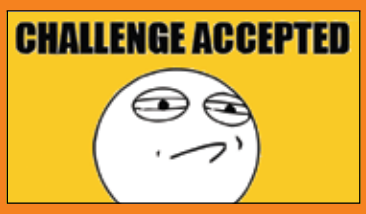
Who owns software created by contractors?
http://dgit.in/1veupM2

Beware copyright pitfalls!
http://dgit.in/1veuwr8

If you don't know who owns your code, it is probably not you
http://dgit.in/1vEDjzZ

A brief guide to software ownership for coders
http://dgit.in/YU8FrB

*coding matters



Daily Programmer

>>Love challenges? Especially the ones that require you to code? Reddit has a cool sub-reddit that incorporates challenges for every day of the week and has various difficulty levels on each day.

http://dgit.in/ChallengingCode



Learn D the right way

>>Fans of object oriented programming with imperative, multi-paradigm should definitely try out D and the best way to start is by learning it from the ground up. Head here to know it all:

http://dgit.in/DTutorials



Get started with SDL2

>>Running into trouble related to Simple Directmedia Layer 2.0 or SDL2 when coding using most languages? Well you need to refer sample codes to get an understanding of how it works.

http://dgit.in/SDL2_Samples



>>We discuss world domination through open source!>>

>>Gautam Rege, Co-founder and managing director of Josh Software Pvt. Ltd. >

By Mithun Mohandas

Would you describe yourself as a technology evangelist? ?

An evangelist tries to drum up support and adoption for a particular technology, and so in that sense, I am an open source evangelist. Not only on an individual level, but the company as a whole, every employee is invested into the vision of open source web application development. Current awareness levels in India with regards to open source programming languages and frameworks leave a lot to be desired. It is therefore, the need of the hour to spread awareness about open source frameworks, like Ruby on Rails, to the industry stakeholders. They offer a world of possibilities to the programmer and more importantly, the end user, which actually provides us with immense creative satisfaction.

What goes down at these meet-ups that you organize?

We discuss world domination through open source! On a more serious note, meet-ups are excellent from the point of view of getting our collective thinking caps on and moving together towards our vision of superior applications through open source. Though the industry is nascent, interest is strong. Indians also have a more community bent of thought rather than an individual style of working. All of this means that meet-ups are probably the best source of imbibing more members into the open source community. Most meet-ups are a good mix of technical discussions, tutorials and sharing and acknowledgement of great peer achievements.

Since the first RubyConf that happened in 2010, how has the response been for the past few years? How has it evolved through the years?

Since the first RubyConf, we have received a very good response which is above what we expected. From a core group of organizers in the first year, even our annual flagship event has taken on a open source look and feel with a big developer community pitching in to make it a bigger success each year. Now people are more eager to hear about the dates for next RubyConf. Ruby on Rails has a popular anagram 'MINSWAN' (Matz is nice so we are nice) celebrating the communities close knit and supportive culture. I would like to say that RubyConf is the physical manifestation of this culture.

>>Ruby on Rails was a significant improvement upon existing languages at the time of inception and the continued pursuit of perfection is ingrained into human nature.>>

What role does RubyConf play in the propagation of RoR as a technology for more and more companies to adopt? Is there a corporate connect program?

The world of Open Source programming really craves validation today. RubyConf delivers just that on one integrated platform. Consider it a meeting place of the beneficiary (end user), the developers (Ruby experts) and everyone else in the middle. Service requestors and providers can collaborate together to communicate, highlight and showcase advancements in application development techniques. We have a whole range of sponsors looking to leverage the platform for the benefit of their brands and it is a very convenient way for companies looking to leverage this technology to network with vendors.

Despite its enormous popularity, RoR is yet to be used on most major websites (Google, Youtube, Live, Facebook, Wikipedia etc.). What is it about RoR that prevents the top websites in the world from incorporating it?

For every website you have mentioned I can give you a whole host of names like AirBnB, Twitter, Shopify, Groupon, SlideShare, Hulu and Github. Notice the vast variety in domains? But as I mentioned, the awareness/popularity of RoR is at a nascent stage locally. In India we tend to have a wait and watch approach before adapting a new language. Main and foremost reason is infrastructure availability; internet penetration is not at optimum level in India, many businesses still operate offline. Established organizations are also resisting the change even though they know its benefits, as the change may require a huge paradigm shift in operations and extra costs, which basically that our domain is affected by market dynamics like most other technology domains.

What upcoming technology do you believe will be the "Next Ruby on Rails" and why?

Ruby on Rails was a significant improvement upon existing languages at the time of inception and the continued pursuit of perfection is ingrained into human nature. This means that we are always on the cusp of the next big thing. If I had to choose, probably Go (also called golang) seems best suited to take on this mantle



in the future. Loosely based on C language and open source in nature, it has the potential to fuel the innovation in this sector for the next couple of decades. We are excited about its future prospects and are actually in the process of bringing the first Go user conference to India next year. Stay tuned for more. >

XOLO
the next level

8X-1000

Tough Outside.
HIVE Inside.



Octa Core Processor
2 GB RAM
16 GB Internal Memory

12.7cm (5) HD display
with Dragontrail™ glass
Corning Gorilla 3 glass back

HIVE
Software Suite built on
Android v4.4 KitKat

powered by MEDIATEK

xolo.in

98 **Bazaar**
The latest and greatest products reviewed for you to decide whether you want to buy them or not



iPhone battery repair
Apple is offering to replace the battery of certain iPhone 5 batch of phones due to flakier battery life
http://dgit.in/ReplaceiPhone5



Jayesh Shinde
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FOR BUSINESS REASONS

Five brands, five business laptops; find out which one of them will best help you turn a profit

Most of the laptops we review here at Digit, are consumer laptops (over 95 per cent of them). Very rarely do we go out and compare laptops that are sold for businesses, for office use, for people who work in large organisations – laptops that you would mainly work on, and not necessarily share with people around you. By definition, these would be laptops that you would use differently from your home or personal laptop – no movie watching, and not too much music saved on it, and certainly no games installed... they'd probably be strictly controlled by your company's IT team, and probably not even give you admin access to install and uninstall software.

Though the line dividing a business laptop from a mainstream consumer notebook may have gotten finer, it still exists nonetheless. So is the usage the only thing that separates business laptops from mainstream / consumer notebooks? Not at all. The needs for aspects such as aesthetics, hardware features, connectivity options, and security features also differ. For example, business laptops need to be better built than most consumer laptops, but don't need to have too many entertainment features (dedicated GPU, powerful speakers, glossy screens, etc.)

What's common is the price ranges, and like in the case of consumer laptops, here too you have options that spread across a vast price range.

In this comparison test, we've managed to get five of the best business laptop offerings selling in the market currently from five different laptop manufacturers – Acer, Dell, HP, Lenovo and Toshiba. The laptops were carefully picked from various price brackets to give you a picture of what's the best in every price category, right from around ₹50,000 to

₹1,20,000. We should start by telling you that all these laptops are good in their own regard. Each one offers something unique to the business customer in their respective price brackets, making them attractive in their own right.

Finding a single business laptop that can satisfy everyone from office interns to CEOs, or junior and mid-level managers to board members is an impossible task. Some of these laptops will be used out in the field, while others will only ever stay in air-conditioned rooms and cars.

We believe we have a laptop recommendation for every single one of these people who constitute a typical business setup. Read on to find out which one of these five laptops is best suited for your various business needs.

HOW WE TESTED

Initial setup: We tested these business laptops just like any other laptop we benchmark. All laptops to be tested are first examined and everything about them is catalogued, including bundled software, accessories, etc. We then completely wipe all data on the laptops and install a copy of the Windows 8.1 Enterprise Edition. Drivers and essential software are installed from the manufacturers' website before running Windows update. This is done to ensure that the laptops don't have any bloatware or trivial apps, only essential drivers that will help the device's hardware to run at optimum performance without any software bottlenecks. Finally, the devices are set to run in performance mode in the BIOS as well as in the power options. After this, the laptops are ready to go into the grinder of our performance benchmarks.

Performance tests: We conduct a whole series of tests on the devices to measure the impact of every aspect of the system on overall performance – tests that stress the laptop's CPU, RAM, GPU, hard drive, screen, thermals, battery, and more. These tests include industry standard benchmarks including (and not limited to) Futuremark's PCMark 8 and 3D Mark, MAXON Cinebench, and others. We use PCMark 8's Creative test suite to evaluate battery life of each laptop, as well. Results are carefully catalogued. Screen brightness and contrast ratio is measured using the Spyder3 Elite test unit.

A series of subjective testing is also conducted that scores aspects such as a laptop's keyboard, touchpad, palmrest, screen readability, onboard speakers, look and feel, among others. These tests help complete the gamut of objective benchmarks with real-world test scenarios, allowing us to take a fairly homogeneous look at the laptop's overall performance.

The final performance score is arrived at which includes the weighted sum of all the scores catalogued. Weights are assigned based on the perceived importance of the components. For example, since gaming doesn't really matter or all that important on a business laptop, gaming benchmarks and scores from them are of lesser importance here than they would be on a home entertainment or gaming laptop. Stuff like battery life, screen brightness, CPU performance will be of significantly greater importance in a business setup.

Features score: The features present in each Ultrabook are tabulated and given weighted scores depending on perceived importance. For example, dedicated multimedia keys and volume keys are given more weightage than those that are shared with Fn keys.

Design and Usability: The scores for this parameter are largely subjective as they indicate our experience with the device. Items such as quality of the keyboard, responsiveness of the touch-screen, etc. are weighted and scored.

Final score: The final score that we arrive at is the sum of the performance, features and design scores with a 40%, 30% and 30% weightage, respectively. This is not a fixed weightage, and depending on the category of laptops we're testing, these weightages can be different.

A note on winners: The Best Buy laptop is awarded to the device with the best price to performance ratio based on a pre-determined formula. This is the ideal, value for money product in the test. The Best Performer award is awarded to the device with the highest overall performance score. The Editor's Pick award is awarded to the device that the reviewer feels is the best product that offers something extra or unique that none of the other laptops have. The Editor's Pick is an entirely subjective award, the decision for which is based on the reviewer's experience while testing the products.

ACER TRAVELMATE P645

The P645 is understated in its design. It's not something that'll stick out in a crowd because its beauty is understated. It's a simple, black, rectangular slab that feels very well built and it should feel that way because Acer uses carbon fibre on the lid. The hinge is also very solid and as with the rest of the laptop, is just very simple and elegant.

The laptop lacks a touchscreen, which is quite surprising in the laptop space and especially on a device at this price – we don't think business users will miss the feature much, but it would have been a nice addition.

That said, everything else seems to be intact. You get a perfectly adequate CPU and a healthy, 8GB of RAM. You also get a lovely keyboard and touchpad, not to mention a fingerprint scanner and three USB 3.0 ports.

The most impressive feature on this laptop has to be the keyboard. People who really need to type a lot will certainly appreciate the luxury of a good keyboard. Of course, the keyboard on the Toshiba Protégé and Lenovo S1 Yoga are just a tiny bit better, but this is mighty close. The same can be said for the Touchpad as well.

The performance front is where things get interesting. The device is powered by an i5 4200U, which is standard in this segment, but Acer's thermal management works very well, allowing the CPU to give its full potential, taking this laptop far ahead in our CPU performance benchmarks. At the same time, the battery life is quite good, with the device clocking in at a little over 4 hours in our tests. You can easily expect up to 8 hours of usage or more at a lower, more forgiving power setting and use.

What's really disappointing for us is that a device this good ships with a screen that bad! A contrast ratio of 70:1 isn't inspiring, and neither is the max brightness of 94cd/m^2. The screen is just adequate for daily use. A better screen would have gone a long way towards improving the desirability of this device.

Keyboard phone stand?
The Skeltr gaming keyboard from Roccat allow users to let them prop up their smartphone while gaming. **http://dgit.in/Skeltr**



Meet the new Leica
Purists, rejoice! The Leica M-P - a 24 megapixel full frame camera with a CMOS sensor has just been announced. **http://dgit.in/LeicaWowca**



Acer Travelmate P645

Our time with the P645 was one of mixed rewards and frustrations. We liked the battery life, loved the keyboard and were very impressed by the temperature management. At the same time, the lack of a touchscreen was a little frustrating.

We were constantly disappointed by the screen, despite the fact that the machine comes with good business features such as fingerprint scanner, TPM security, and more.

The Acer Travelmate P645 is a good device, and better than most business laptops. It's good for both those who work at their desks, or even those who travel. If all you want is a lightweight laptop that'll give you great battery life and a very good keyboard, this one won't disappoint you.

DELL VOSTRO 14 3446

This is the only business laptop in the comparison that we can call colourful, simply because it comes with a maroon screen lid. The Vostro 14 is nicely built, with a chunky exterior, and a textured plastic screen lid that's different from any of the other business laptops. If you want any semblance of colour on your business laptop, look no further than the Dell Vostro 14 3446. No complaints from the build of the device, apart from the fact that it's not an ultra-portable and feels rather heavy for a 14-inch laptop.

The Dell Vostro 14 has one glaring omission – while every other laptop in this comparison comes with an inbuilt TPM (trusted platform module) to enable hardware level data encryption, the Vostro, unfortunately, skimps on that feature (probably because of its entry-level pricing). It's a small feature, but something that business laptop seekers attach a lot of importance towards.

Apart from this hiccup, the rest is pretty much smooth sailing on the Dell Vostro 14 3446. Despite being the most inexpensive laptop of the bunch, the Vostro manages to beat everyone else (including laptops that are priced more than 2.5 times higher) in terms of pure brute performance. This is made possible thanks to a large part because of the bundled discrete GPU it has – NVIDIA GeForce 820M. As you can see from the table, it is clearly a big differentiator in propelling the Vostro right at the top of our performance chart.

The Dell Vostro laptop also comes with MaxxAudio for better-than-average audio, anti-glare screen for better viewing experience, and these features do make a difference for the better. It comes with all the features one would expect it to have, some geared towards business which come in handy, but the laptop slightly disappoints in two key departments – its keyboard and touchpad, both of which aren't as great as some of the other laptops in this comparison. Their feedback just doesn't feel top-notch, and maybe we're expecting too much from a sub-50k laptop. But it's definitely something to think about for Dell's engineers and product design guys to work on in the future. However, like we said, there's no other business laptop that can come near the Dell Vostro 14 right now and its price, too, is unbeatable, and for that reason alone this is a great laptop to purchase.



Dell Vostro 14 3446

HP PROBOOK 640 G1

Right out of the box, the HP ProBook is dressed in the look and feel that pretty much sums up any business laptop. Having said that, it has a nice matte finish on its shell, which doesn't attract any sort of fingerprints (which is something that you can't say about the shiny, glossy laptops that are made for home use). The colour-scheme of the HP ProBook is dark grey overall, and its two-toned silver aluminium finish lends it a bit of class and elevates its desirability from a visual and aesthetics perspective, at least over the other business laptops in this article.

The HP ProBook seems well built for a laptop that sells at the mid-range segment of business laptops, which is encouraging to see. If only more brands could work towards elevating the quality of builds seen on non-ultrabook laptops, the computing world will be better off. The central hinge and spine that hold the ProBook 640 G1's screen and bottom chassis together is quite tight, but doesn't totally stop the screen from vibrating whenever you are typing furiously. This is acceptable and not irritating enough to spoil your experience.

For a 14-inch notebook, the HP ProBook 640 G1 isn't the most portable of the lot. Compared to the Acer Travelmate P645, Toshiba Portege or Lenovo ThinkPad S1 Yoga, the HP ProBook (and even the Dell Vostro 14, for that matter) are a touch heavier – not uncomfortably so, but in an Ultrabook infested world, the HP Pro-



HP ProBook 640 G1

Book does feel heavy. Having said that, the HP ProBook G1 does have its set of benefits and unique features as well.

For a laptop selling at ₹55k, it's the most inexpensive laptop that bundles a trackpointer and additional mouse buttons at the top of its touchpad – this is of great use to business folk, and a very good design feature of the laptop's overall input mechanism. This makes the laptop more palatable among an audience that desires ThinkPad-esque features, but can't spend as much money for it. The ProBook also has a nice overall hardware feature set, all the necessary I/O ports, including a DisplayPort and SmartCard slot, which was surprisingly nice to see.

The laptop didn't put a single foot wrong and behaved just as we expected it to. It's not an entertainment machine, but can handle personal entertainment sessions quite well via the nice screen and good onboard speakers (by laptop standards that is). It's well worth your consideration for buying a business laptop with all the hardware configuration and features you'd expect. Plus, the trackpoint navigation is like the bonus cherry on the icing.

LENOVO THINKPAD S1 YOGA

Lenovo's Yoga series of laptops has always been held in high regard, as far as tablet-laptop hybrids go. The ThinkPad S1 Yoga is an attempt to convince business users (and common ThinkPad fans) that these two converging product lines can actually merge like a charm.

In terms of looks and design, the S1 Yoga is every inch a ThinkPad. It's not a glamorous, drop-dead gorgeous looking device, but its industrial dark gray look with a matte finish all around works for the people it's targeted at. What's more, it is functionally designed to be both rugged and innovative. Its unique 360 degree hinge design is the Yoga's crowning glory, giving the ThinkPad laptop the ability to morph into a tablet. What's interesting to note is the fine attention to detail given to the Yoga's overall metal exterior. For e.g., when you seamlessly tilt the screen all the way back to use the machine in tablet mode, the keyboard's raised keys are pulled in so that they merge into the same plane of the deck. As far as expensive business laptops go we thought the Toshiba Portege Z30t was very well built, but the ThinkPad S1 Yoga easily trumps that experience. The S1 Yoga is slightly heavier at 1.6 kilos, but in every other department, it shines right through and exudes great confidence in its build and design.

The ThinkPad S1 Yoga is primarily a business laptop, and to that effect it's great, similar to ThinkPad X-series ultraportables we've seen in the past. But we like the enhanced changes it sports, the raised tiled keyboard and the single-slab touchpad with a nice haptic feedback. In the tablet mode, the keyboard switches off, and you interact with the device like a regular tablet. You can either touch and feel the screen with your fingers or use the smart stylus (which snugly slides into the chassis) to either write notes or point and click. Both ways work very well, due to Windows 8's native touch-input support, on the S1 Yoga, and the stylus is especially one of the better ones we've used. However, using it solely as a tablet, the form factor of the ThinkPad S1 Yoga isn't close to ideal yet, as this laptop-tablet hybrid does feel too heavy to use compared to a full-fledged 10-inch tablet that doesn't come with some of its baggage.

The spill-resistant keyboard with island-styled raised keys is a joy to type on, not to mention the trackpoint stick addictive as ever once you get to used to it, and the palmrest is much improved in terms of response, texture and performance.

The only mild disappointment here is the placement of the Function key on the bottom left corner of the keyboard, traditionally where the Control key is. It's just a question of retraining your muscle memory, but still something that's irritating on an otherwise fantastic keyboard.

The ThinkPad S1 Yoga comes all the bells and whistles of Lenovo's proprietary software installed on top of Windows 8 Pro 64-bit OS. Lenovo ThinkVantage is a great tool to manage the various software and services installed on the device. Attention is also paid to the video-calling capabilities on the S1 Yoga with a 720p HD webcam and dual-array mic for clearer audio recording to ensure you get good quality business calls on Skype or any other solution you use. Sure, it doesn't have a display-sharing port and ethernet jack built into it, but attachments for the same (Gigabit Ethernet and mini-HDMI to VGA) give you a way to use these features if



Lenovo ThinkPad S1 Yoga

BEST PERFORMER digit SEPTEMBER 2014 | BEST BUY digit SEPTEMBER 2014 | EDITOR'S PICK digit SEPTEMBER 2014

					
Brand	**Dell**	**HP**	**Acer**	**Toshiba**	**Lenovo**
Model	**Vostro 14 3446**	**ProBook 640 G1**	**Travelmate P645**	**Portege Z30t-A**	**ThinkPad S1 Yoga**
Price (₹)	**47,000**	**55,000**	**67,412**	**1,00,000**	**1,16,400**
Warranty	**1**	**1**	**1**	**1**	**1**
Features (of 30)	**10.59**	**15.41**	**15.83**	**20.10**	**15.53**
Performance (of 40)	**27.52**	**22.41**	**23.25**	**23.26**	**23.81**
Build and Design (of 30)	**12.53**	**13.73**	**19.39**	**16.89**	**19.70**
Overall (of 100)	**50.64**	**51.54**	**58.47**	**60.25**	**59.03**
CPU	Intel Core i5-4210U	Intel Core i5-4300M	Intel Core i5-4200U	Intel Core i5-4200U	Intel Core i5-4200U
RAM (GB)	4	4	8	4	4
Graphics	NVIDIA GeForce 820M	Intel HD Graphics 4600	Intel HD Graphics 4400	Intel HD Graphics 4400	Intel HD Graphics 4400
Switchable Graphics	Yes	No	No	No	No
SSD capacity (GB)	NA	NA	NA	256	NA
HDD Size (GB)	500	500	500	NA	500
Bundled OS	Windows 8.1	Windows 8.1	Windows 8.1	Windows 8.1	Windows 8.1
Screen Size (Inches)	14	14	14	13.3	12.5
Touch Screen? (Y/N)	No	No	No	Yes	Yes
Screen Resolution (Pixels) (1080p=2, 768p=1)	1366x768	1366x768	1366x768	1920x1080	1920x1080
Weight (kg)	2.04	1.99	1.5	1.18	1.5
No of USB 2.0	2	0	3	3	0
No of USB 3.0	1	4	3	3	2
Connectivity (LAN / Bluetooth / Wi-Fi)	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
DisplayPort / VGA (Y/Y)	Yes/No	Yes/Yes	Yes/No	Yes/No	No/No
HDMI out	No	No	Yes	Yes	Yes
Headphone/Mic/Combo (1/1/0.5)	Yes, one	Yes, one	Yes, separate	Yes	Yes
Wireless Keyboard & Mouse?	No	No	No	No	No
Memory Card Reader (Y/N)	Yes	Yes	Yes	Yes	Yes
Fingerprint scanner?	No	Yes	Yes	Yes	No
Optical Drive (Y/N)	Yes	Yes	Yes	No	No
Inbuilt Webcam (Y/N)	Yes	Yes	Yes	Yes	Yes
Recovery Discs/Media	No	Yes	Yes	Yes	Yes
Docking port?	No	Yes	No	Yes	Yes
Benchmark scores					
PCMark 8 (Creative)	2076	2151	2073	1959	1945
3D Mark (Ice Storm)	52219	45653	46776	36194	43524
Sniper Elite V2 (fps)	20.5	10.9	13.2	10.5	13
Peacekeeper	4438	3997	4272	4137	4389
WinRAR (KB/s)	3244	3115	2803	3186	3196
Battery (minutes)	177	182	251	223	207
Screen brightness (cd/m2)	187	176	94.42	216.25	94.67
Contrast ratio	74.80	58.67	71.76	686.03	531.00
Temperature (max)	63	76	65	74	77
Build and Design					
Keyboard (so 10)	6	7	7.5	8	10
Touchpad (so 10)	7	9	8	5	9
Tablet mode?	No	No	No	No	Yes
Trackpoint navigation?	No	Yes	No	Yes	Yes

you really want to – perhaps during a boardroom presentation or an office environment with poor Wi-Fi strength.

In terms of pure performance, the Lenovo ThinkPad S1 Yoga provides good overall performance. It has a low-voltage CPU which can multitask with 8-10 apps at once, but can't really set the stage on fire. The onboard GPU is capable of casual browser games, if you're trying to kill some time on a flight, nothing more. This machine isn't meant for anything more in terms of raw performance.

That red dot on the extreme left is the stylus, which works nicely with the screen. Where it does surprise is its nice screen quality – not the brightest out there, but it has a very good contrast ratio, reproducing very good black levels, making it good for watching movies and reading text (anti-glare coating works like a charm under bright lights, too). The inbuilt speakers are good for personal entertainment, as they're both loud and largely distortion-free at high volumes.

The battery life isn't among the best we've seen in a business laptop, lasting just over 200 minutes in our tests, but it should last at little over 6 hours on a single charge under standard use conditions.

The ThinkPad S1 Yoga is a very good attempt to mold an iconic laptop into a functional tablet, one that comes with our full recommendation. It's still a bit heavy to use and operate in tablet mode only, but if you look at this primarily as an ultraportable ThinkPad with the added bonus of turning into a Windows 8 tablet, you will be quite happy with the experience on offer.

TOSHIBA PORTEGE Z30T

It's difficult to wax lyrical when talking about a tech product these days, but the Toshiba Portege almost succeeded in making us do just that. It's a lovely laptop that's designed at its core to cater to businessmen.

There's a fine line between an understated and elegant design, and a design that's dull and boring. The Portege comfortably pitches camp on the elegant side. Everything is brushed metal, a mixture of black and grey depending on your choice, and it's all nicely put together in a well-crafted body.



HP ProBook 640 G1

Everything seems to be very neatly slotted in, with none of the superfluous wobbling and leaking backlight and other issues that you'd find on cheaper devices. You'd expect nothing less for ₹1,00,000.

The laptop boasts of the standard set of features that you'd find on just about any other Ultrabook, but with a few additions – a LAN port (which is hard to add into a device this slim) and the TrackPoint, which is as good as any TrackPoint we've ever used; grippy too.

Also, Portege's keyboard gives the ThinkPad's a run for its money. It's among the most tactile and responsive keyboards we've ever used. The touchpad is, unfortunately, not as good. The tracking is decent and the buttons are a little hard to press, but we've experienced better ones. Still, this is onlyextreme nitpicking since there's nothing much wrong with the device otherwise.

The hardware is standard and basically consists of 4GB of RAM, an Intel i5 4200U and a 256GB SSD. The performance was a little below the average that we were expecting from that config, so there was obviously some bottle-necking happening, but it was still pretty good.

Regardless, the performance, in terms of pure CPU power, is adequate. Where this device shines is with the display – it's quite gorgeous and with a measured contrast ratio of about 700:1, the best we've seen on a laptop recently. Brightness levels are also high at around 200cd/m2, which makes the measured battery life of about 4 hours that much more impressive. At a lower brightness setting, and with a less strenuous workout (normal use), you can easily get a battery life of 50 per cent more.

This laptop is an excellent companion for daily use, especially when it's work that you want to do on it. The keyboard and screen go a long way in making for a joyous and comfortable computing experience. We do wish the speakers were a bit louder as they're just too quiet to really enjoy something like a movie on, but then again, the screen is so gorgeous that those who are used to lesser screens need to be prepared to notice colours in movies that they never saw before. The device itself is so light that you don't realise that you're lugging a laptop around, great for jet-setting business execs.

Toshiba have really created quite a stellar device in the Portege Z30T-A. It's almost an ideal laptop because it is very light, comfortable, portable, has great battery life, a great keyboard and a lovely screen. It's only let down by its somewhat bad touchpad.

WINNERS

The Dell Vostro is our Best Performer, hands down, beating every other laptop in this test when it comes to pure, number-crunching performance.

The HP ProBook 640 G1 won our Best Buy Award, purely because it appears to be the best well-rounded product you can buy without breaking the bank. It has all the business features, including trackpoint navigation.

It was a close call between the Toshiba and Lenovo laptops for our Editor's Pick Award, and in the end the ThinkPad S1 Yoga narrowly edged out the Portege Z30t-A, because it can morph into a pretty useful tablet and comes with a stylus, apart from having great build quality.

Bazaar

THE LATEST PRODUCTS REVIEWED FOR YOU

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

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

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



INSIDE


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105 | Intel Core i7 - 4790K
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106 | Gigabyte GA-Z97X-Gaming GT
107 | Acer Aspire E5-511

LG G3

The best that Android has to offer. That is all.

LG has been making a pretty legitimate claim on the smartphone market for some time now, but the company doesn't quite have the numbers to show for it. With its newest flagship, the company is launching a fresh assault.

The LG G3 has arguably the best design amongst the flagship high-priced smartphones today. It has a 5.5 inch display and is 8.9 mm thick with a plastic body with a brushed metallic finish. LG has devised a special film, which takes away the plasticky feel from the device and combined with the brushed finish, gives the phone very good look and feel value.



Moreover, what is really good about the G3's build though is how easily it fits in your hand. LG has done this by doing two things — one by giving the phone very slim bezels and two by giving it the curved back. While the former makes the phone as big as some 5-inch smartphones, the latter makes it fit right into your hand.

While the G3 doesn't quite suit single-handed usage, it does so much better than many other devices that have a smaller screen. It also feels very sturdy and once you get used to the rear buttons on the G3, you wouldn't want to have it any other way.

One of the differentiating features of the G3 is that it has a quad-HD screen. This is one of only two smartphones in India to sport a quad-HD display (the other one being the Oppo Find 7). The display is good, but to the naked eye, the quad-HD isn't that different from a full-HD, making this more of a gimmick for the consumer.

The G3's display is actually a little disappointing because of how sensitive it is to fingerprints. While this is a very bright screen, the fingerprint intensiveness really affects the sunlight visibility of the smartphone. There are plenty of devices in this segment that provide better sunlight visibility and it is something you would definitely want if you spend over ₹40,000 on your phone. It's a vibrant and bright display when you're indoors though. You would enjoy playing games and watching videos on it.

On the UI front, while LG has made a lot of changes, it has a simplistic UI compared to many others. This makes the UI easy to learn and use, while also adding something new to how the phone feels.

As flagships go, the G3 provides uncompromised performance with the 2.5 GHz Qualcomm Snapdragon 801 quad core SoC and the Adreno 330 GPU. The performance is fluid, with no lags in the UI or while playing high-end games like Dead Trigger 2, Asphalt 8 and Injustice: Gods Among Us. The phone does heat up quite a bit, but also takes very less time to cool down. Also, it doesn't heat up enough to feel uncomfortable, which is very good. Overall, no complaints with the G3's performance.

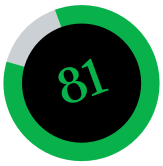
The quad-HD display isn't the only new feature on the G3. One of its biggest strengths is in the 13 MP rear camera, which has a laser autofocus system. The G3's camera is definitely one of the best that you can find today. We tested it against an iPhone 5S and found that the camera comes very close to the 5S in terms of white balance and overall picture quality. The G3 also surpasses the iPhone in low-light imaging. This we also tested against an Xperia Z1 Compact and the G3 did better than the Z1 Compact.

The camera UI also takes a cue from LG's overall UI and is very simplistic and fast. Considering the overall camera experience, the G3 could very well be the best camera that you can find on a smartphone right now.

Conclusion

The LG G3 has the best design amongst flagships right now and is possibly the best in that range as well. The phone provides a very good overall experience and leaves little room for complaint. If you have the budget for a flagship smartphone then this would definitely be our first recommendation.

Prasid Banerjee



Features 80
Performance 80
Build & Design 90
Value for money 75

Specifications

Screen: 5.5-inch, 2560x1440 res, IPS panel; **SoC:** Qualcomm Snapdragon 801 quad-core 2.5GHz; **RAM:** 2GB; **Storage:** 16GB; **GPU:** Adreno 330; **Camera:** 13MP (rear), 2.1MP (front); **Weight:** 151g

Contact

LG India
Phone: 1800 180 9999
Email: http://dgit.in/LGIndia
Website: www.lg.com/in



Prodigy goes colourful
The immensely popular Bitfenix Prodigy M case is now available in plenty of new colours. Check it out **http://dgit.in/RainbowProdigy**

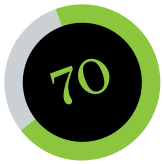


Fewer PCI-E Lanes?
Intel's upcoming Haswell-E based Core i7-5820K will reportedly have only 28 PCI-E lanes! **http://dgit.in/LessLanes**

Dell UltraSharp UP3214Q

Welcome to the 4K "UHD" party, it'll be worth your while if you care to attend it





Performance..... 79
Features..... 57
Build Quality..... 85
Value for money..... 60

Specifications

Resolution: 3840x2160; **Supported inputs:** HDMI, DisplayPort 1.2, Mini DisplayPort, 4xUSB 3.0, SD Card reader; **Measured Brightness:** 294.66 cd/m2; **Measured contrast ratio:** 546:1; **Refresh rate:** 60Hz (DP1.2 only), 30Hz above 1080p, 60Hz below 1080p (all inputs); **PPI:** 140; **Backlight:** LED; **Rated response time:** 8ms; **Warranty:** 3 years

Contact

Dell India
Phone: 1-800-425-4026
Website: www.dell.co.in

Screen resolution is a curious thing; the Internet abounds with arguments both for and against 4K, but our experience with superlative Dell UltraSharp UP3214Q puts us very firmly in the court that says that 4K should be as compulsory as a fundamental right (only for PC users, in this context) and those who argue otherwise, really don't know what they're on about.

The Dell UltraSharp UP3214Q is probably the first IGZO display to grace our test centre and it created a bit of a stir when it arrived. For those not in the know, IGZO stands for Indium-Gallium-Zinc-Oxide, a semi-conducting compound "used in the TFT backplane" of flat-panel displays. Without going into technical details, this semi-conductor allows for a faster transmission of electric current and this matters as it allows manufacturers to build displays with higher ppi (or better refresh rates).

Ignoring use case for the moment, the monitor itself performs at par with any IPS panel in its class. As measured by our Spyder 3 calibration too, the contrast ratio came in at a very decent 545:1, the brightness was also good at about 300cd/m2. In fact, the monitor scored quite well in just about all our monitor tests, managing to score well above average in everything.

One area where the monitor does stand out is with regards to build quality. It's a very large and somewhat heavy monitor, but it's exceptionally well built and very stable. The OSD is also the easiest we've come across and was a joy to use (the buttons are touch sensitive). One thing we did note is that the top of the monitor tends to get extremely hot but the screen itself doesn't generate too much heat, which makes for a pleasant viewing experience.

What we're basically saying is that this monitor is great and if you're looking for a 4K monitor for work, then you really can't get anything better than this. If you can afford it, buy it.

However, there are some serious issues with the technology that's built around 4K that makes using it a bit of a pain if you're the type who plays a lot of games or generally just switches resolution a lot.

Our test rig consisted of an Intel Core i7 3960x, 32GB of DDR3 RAM running at 2400MHz and a GTX760 GPU. This rig was specifically chosen with the GPU as a bottleneck to showcase the effect of 4K on a very capable mid-range GPU. From our tests we observed that many games were playable (at about 25-35fps in games like Bioshock Infinite) but we had to drop settings to medium or lower to hit that holy grail of 60fps. Obviously you need a beefy rig if you're going to game on this display.

While someone with a more powerful GPU (or multiple GPUs) would be able to work around this, the more important problem we faced was with regards to the way 4K is handled by Windows 8.1, the software on your PC and your GPU drivers. Firstly, you need a DisplayPort 1.2 ready GPU and cable if you want to have your display running at 60Hz (otherwise it defaults to 30Hz, which is painful). Secondly, almost every time your PC goes to sleep, half the panel doesn't wake up and you'll either be stuck with half the panel at one resolution and the other half at another, or half the panel switched off and the other, on (an artefact of the 4K manufacturing process).

Either way, it's mighty frustrating to use a PC like that with these minor irritants. The troubles don't end here. Considering that most apps are designed for 1080p at most, font and graphics scaling doesn't happen properly on a lot of third-party apps including uTorrent and even Chrome.

Obviously, all the above "issues" are software issues that will be ironed out over time, but at the moment, these issues are a little frustrating to deal with. That said, when it comes to doing real work, the true joy of a 4K display needs to be experienced to be believed.

Anirudh Regidi



Razer Blackwidow Stealth
Razer's popular mechanical gaming keyboard - the Blackwidow Ultimate now has a new, cool look. **http://dgit.in/CoolWidow**



Another Mini PC
Acer recently pulled the wraps off its new and powerful Veriton N4630G Mini PC with the top version powered by a 4570X. **http://dgit.in/VeritonG**

ZOTAC ZBOX OI520 Plus

A fresh design that stands out

59

Performance..... 63
Features..... 55
Build Quality..... 60

Specifications

Processor: Intel Core i5 4200U; **GPU:** Intel HD 4400; **Memory:** 4GB DDR3 (Single Channel); **Ethernet:** Realtek Gigabit; **Wi-Fi:** 802.11ac; **Bluetooth:** 4.0; **HDD:** 500 GB 5400 RPM; In-built card reader

Contact

Vardhaman Technology Pvt. Ltd
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Email: support@vardhamantechnology.com
Website: http://www.vardhamantechnology.com

The ZOTAC ZBOX O Sphere OI520 Plus is part of ZOTAC's new O-series which was launched earlier this year. ZOTAC is pretty good at making these mini-PCs in a variety of tiny shells. This particular model took most of us by surprise because of its especially odd design which you can see alongside. Now, we know it looks cute, but it isn't just a cosmetic thing, as opening up the O-Sphere shows that the motherboard inside has a circular daughterboard which runs around the opening. We advise caution to those opening the device so that they don't accidentally knock off any of the SMD components on the circular daughterboard. Most of the surface area is covered by just traces so it shouldn't be a problem.



Price ₹27,999

The Intel 4200U which this model has is quite common in laptops in the range of ₹35,000-50,000 and is a low TDP variant of the 4200M. The performance is hindered by the fact that the device only comes with one RAM DIMM despite being the higher version SKU in the series. Perhaps they might introduce a SKU with two DIMMs in the future. The performance increment in 3D Mark Cloudgate when an extra DIMM is inserted was 16 per cent. Being a low TDP processor, the device doesn't need much cooling and it uses a small 50mm fan which does a good job. If you are buying this model then do ensure that you buy an extra 4 GB RAM DIMM of the same specifications as the one it comes with isn't enough.

Mithun Mohandas

AMD Kabini 5350 APU

Embedded processing with easy upgradability is here

Kabini is AMD's answer to Intel's Bay trail. Both are aimed at the low power desktop computing segment. The processor we received was the Athlon 5350 which is a 4 core APU based on the Jaguar architecture. AMD has the potential of living up to its predecessors if they carry on with the same socket, targeting the budget segment. This is part of the AMD R3 line. OpenGL benchmark LuxMark gave a score of 108 when just the IGP was run and 128 when run along with the CPU. This puts the 5350 behind mainstream desktop processors IGP but we can't comment how it places it against Bay Trail since we haven't gotten the same to test. This processor isn't about gaming, forget Full HD gaming altogether when you even think of SoCs but when you switch off AA and bring the details a little lower you can manage with the top end games out today at a resolution of 1024x1280 or lower.



Price ₹4,490

Processing performance of the 5350 puts it slightly ahead of the AMD A6-5200 which also has a 25W TDP. The main advantage AMD has over the competition is as anyone would have guessed, the pricing. Bay Trail, however, is much cooler in comparison since it's TDP is at 10W.

Do remember, this is an embedded solution and the score is to reflect a comparison against similar solutions. Overall, the 5350 is a pretty good SoC if you want to assemble a computer for very less, the fact that you're likely to be able to upgrade the SoC in the future adds to its advantage.

Mithun Mohandas

62

Performance..... 62

Specifications

CPU Cores: 4; **Frequency:** 2.05 GHz; **GPU Cores:** 128; **GPU Frequency:** 600 MHz; **L2 Cache:** 2 MB; **TDP:** 25 W

Contact

AMD (Advanced Micro Devices)
Phone: 124 469 6000
Email: chandrahas.panigrahi@amd.com
Website: http://www.amd.com



Link it!
Corsair added another device to its LINK series of PC monitoring and control products with the Corsair Link Commander Mini. More here: **http://dgit.in/LinkMini**



ASRock WS Boards
X99 based boards are popping up and ASRock has revealed its X99 Workstation series board. **http://dgit.in/X99WS**

ASUS ZenFone 5

The master of budget



Price ₹9,999

The ZenFone 5 is the first offer which has a standard candy bar design with a 5-inch 720p display protected with Gorilla Glass 3. ASUS has used an IPS panel which offers pretty good viewing angles but somehow the display seems a bit dull.

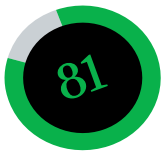
The back houses an 8MP camera with an LED flash, the loudspeaker and a couple of ASUS and Intel logos. The back panel is essentially plastic with a matte finish. The battery is non-user replaceable. The handset is said to be 5.5mm thick but since it has a curved back it essentially makes the overall thickness go up a bit. It does fit well in the palm and for under-10K, and well-built.

The smartphone runs on Android 4.3 Jelly Bean with ZenUI from Asus. This is a fresh UI with a bunch of transparent widgets, custom icons, colourful toggles in the notification bar and menus and so on. It is quite colourful and gave us a fresh change from usual stock UI. Apps work smoothly and are responsive and even multitasking is done efficiently thanks to the 2GB of RAM. Day to day usage is fairly good and we didn't notice any app crashes. ASUS has confirmed the Android Kit Kat update, too, for this.

We were quite eager to test the raw capability of the hardware as we wanted to know what kind of performance level the Intel Atom chipset can deliver. Benchmark results showed that it has the potential to conquer the Moto G.

To wrap up, we strongly feel that ASUS has definitely brought in a great smartphone in the budget category and it is one of our top recommendations in the low-price range of smartphones. Must buy.

Kunal Khullar



Features 79
Performance 77
Value 80
Design 90

Specifications

Display: 5-inch, IPS panel, 1280x720 res; **Battery:** 2110mAh; **Storage:** 8GB; **Camera:** 8MP rear with LED flash, 2MP front; **SoC:** Intel Atom Z2560; **CPU:** 1.6GHz dual-core; **GPU:** PowerVR SGX544MP2; **RAM:** 2GB; **OS:** Android 4.3 with ZenUI; **Connectivity:** 3G, Wi-Fi, Bluetooth, Dual-SIM

Contact

ASUS India
Phone: 1800 2090365
Website: http://www.asus.com/in

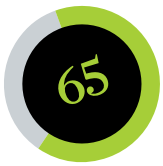
Brother DCP-J105

Frugal



Price ₹10,900

This is an inkjet-based MFD that uses Brother's "InkBenefit" ink cartridges that are supposed to offer a high page yield. The black cartridge for example, costs only ₹530, but yields 2400 pages, which should be very beneficial if you're in the habit of printing a lot of text-only documents. Considering that this is an office MFD, we suppose that this supposition isn't very far from the actual use case. Do bear in mind that the device itself isn't cheap at ₹10,900, but in the long term, especially if you print a lot, you will benefit from the cost savings. The print quality isn't spectacular, but it's acceptable and for an office, that's all that matters.



Cost of Ownership 48
Features 60
Performance 77
Value for Money 75

Specifications

Technology: Inkjet; **Cartridges:** C,M,Y,BK; **Display:** Single-line monochrome; **Input-tray capacity:** 100pgs; **Rated ppm:** 11/6

Contact

Brother India
E-mail: customercare@brother.in
Phone: 1800 209 8904
Website: welcome.brother.com

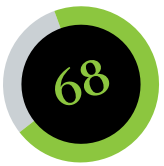
Cowon iAudio E3

A travel companion



Price ₹5,150

In keeping with the times (the PMP is dead), this is not a device that's claiming to replace anything. It's just a feather-weight companion that's designed to be almost imperceptible and comfortable; just hanging from a pair of headphones, strapped to your wrist or in your pocket, you won't know it's there. It comes with a pedometer, a voice recorder and the ability to play back flac and ogg files. It doesn't have a fancy screen or apps. It just plays music, records audio and keeps track of your steps in an elegant package. For some, that simplicity is highly attractive.



Music Quality 75
Bundled Accessories 50
Build Quality 80
Value for Money 65

Specifications

Capacity: 8/16GB; **Display:** 0.95" monochrome LCD; **Weight:** 20.9g; **Playback Time:** 11.5hrs; **Formats supported:** MP3/2 (320kbps), WMA (320kbps), OGG (320kbps), FLAC (0-8), WAV (48kHz);

Contact

Lipap Systems Pvt. Ltd.
Ph.No.: 022-29271307
E-mail: iaudio@lipap.com
Website: www.cowonindia.in



New AC router
The onslaught of 802.11ac based devices never ends as ASUS revealed their RT-AC87U AC2400 Dual-Band Gigabit Wireless router recently. **http://dgit.in/AssiTussi**



AMD SSDs?
AMD has partnered with veteran SSD manufacturer OCZ to release their very own Radeon R7 line **http://dgit.in/R7_SSD**

Kingston Mobilite

Something to help gear up for the wireless world ahead

65

Features 70
Build Quality 60

Specifications

Memory input: USB, SD, SDHC, SDXC and microSD; **Supported File Systems:** FAT, FAT32, NTFS, exFAT Wi-Fi 802.11g/n with WPA2; **Rechargeable battery:** Li-ion 1810mAh; **Dimensions:** 124.8mm x 59.9mm x 17.3mm; **Weight:** 98g; **Warranty:** 1 Year

Contact

Kingston Technology
Phone: 1860 233 4515
Email: sales_india@kingston.co
Website: http://www.kingston.com/

This product is a wireless streamer with its own battery backup. That makes it a niche category product, a niche but growing category. There are plenty of usage scenarios but very few would warrant the purchase of this product in particular. OTG flash drives are quite common now and those devices are ideal for most people, unless you wish to share your files with a lot of people. So it makes sense when you wish to carry your movie/TV series/audiobooks with you when you're travelling with friends and you all want to watch something or the other.



Price ₹4,000 (+Tax)

Coming to the performance and features aspect of the device, it is quite good. We streamed the same full HD movie to three devices, namely the HTC one M8, the Galaxy S5 and the Nexus 5. All three devices played the same video with ease while a Nexus 4 experienced stuttering, so playback is more centered on the mobile device rather than the streamer in this case. This goes for the formats as well, get a good media player on any platform and you're good to go. The device is capable of being a power bank as well but it can only manage one full charge. The app for the device seems rather hastily put together but is functional in all aspects. Weighing only 98 grams, this device is quite lightweight and slim. There are LED indicator lights for the mode that the device is operating in. The card reader slot accepts SD sized cards and the there is only one USB slot which means you can either use a flash drive or use it has a backup power bank. This product might have been more lucrative had they added more memory card form factors to it.

Mithun Mohandas

Xiaomi Mi3

An affordable phone in a flagship's clothing

79

Features 82
Design & Usability 70
Performance 81
Value 93

Specifications

Display: 5-inch IPS panel with 1080x1920p resolution (441 ppi); **Battery:** 3,050 mAh; **Storage:** 16GB; **Camera:** 13MP rear with Dual-LED flash, 8MP front; **SoC:** Qualcomm Snapdragon 800; **CPU:** 2.3 GHz quad-core; **GPU:** Adreno 330; **RAM:** 2GB; **Operating system:** Android 4.4.2 with MiUI; **Connectivity:** 3G, Wi-Fi, Bluetooth

Contact

Xiaomi India
Phone: 1800 103 6286
Website: www.mi.com/in

The Mi3 is every bit the performance beast and matches the expectations that you would have from a spec sheet like this. The camera takes some of the best shots that you can find in this price and it takes perhaps the best HDR pictures in the market. Also, the battery lasts long and can easily give you a full day on average usage.

The Mi3 also excels in terms of the build quality. While the 5-inch display does make it big, the rounded edges make it easy to hold. In addition, it is deceptively light and has a matte-like finish on the back.

The screen has Corning Gorilla Glass 3 protection, which gives the phone a very impressive touch experience. The screen is quite a fingerprint magnet, which affects the sunlight visibility of the device.



Price ₹13,999

The pricing of the smartphone puts it in a segment where there is no other that can compete with it. But the low price dictates some compromises, like the lack of optical image stabilisation on the camera and a headset in the packaging. But these are justified considering that you get this at less than half the price of any flagship. The only big compromise the lack of a memory card slot, meaning you will only ever have 16 GB of memory on it.

Overall though, the Xiaomi Mi3 is the David to the Goliaths and has the potential to turn the market upside down. It's a blast from the past with the specs of the last generation flagship smartphones. But its price makes it best in class in the affordable smartphone range. Definitely worth buying.

Prasid Banerjee



Big Nests on Trees
The Social Weaver bird builds nests so huge that it brings down trees
http://dgit.in/SocialWeaver



Archiving all the Data
Google is building something called the Knowledge Vault that wants to archive all the human knowledge in a database **http://dgit.in/KnowledgeVault**

HTC Desire 616 Dual SIM

The Desire goes octa-core

The Desire 616 looks and feels like a younger brother to the Desire 816. It's a chic looking smartphone with a 5-inch 720p display which feels right only when its brightness is above 50%. Viewing angles are very good and colours don't shift. Above the display there is a large speaker like grill but surprisingly it is the earpiece.



Price ₹16,599

The handset has a glossy back panel which leads to a lot of fingerprints and smudges. The design and feel of the smartphone is quite good, though.

The smartphone runs on Android 4.2.2 with a custom HTC launcher which includes HTC's news and social media aggregator app BlinkFeed as one of the homescreens and some custom HTC icons and menu drawer. Other than that, everything is stock Android which is very stable and we didn't notice any lags or any crashes.

This is HTC's first handset with an octa-core SoC with 1GB of RAM and the fluidity of the UI makes its evident that it is powerful enough to provide a lag-free experience. Our standard battery test where after playing a full HD video for 1 hour led to a loss of 25% in battery which is a bit disappointing. Keeping the heating issues aside, the chipset performs well in benchmark tests. It managed to get scores which were very close to the Moto X and better than the Samsung Galaxy Grand 2 which has now fallen in the same price segment.

Kunal Khullar



Features 75
Performance 65
Value 76
Design 70

Specifications

Display: 5 inches 1280x720 pixel resolution (294ppi); **Battery:** 2000mAh; **Storage:** 4GB; **Camera:** 8MP rear with LED flash, 2MP front; **SoC:** Mediatek MT6592; **CPU:** 1.4GHz Octa-core; **GPU:** Mali-450MP4; **RAM:** 1GB; **Operating system:** Android 4.2.2 ; **Connectivity:** 3G, W-Fi, Bluetooth, Dual-SIM

Contact

HTC India
Phone: 1800 266 3566
Website: www.htc.com

Seagate Backup Plus Slim 1 TB

The usual fare



Price ₹4,250

This is the upgraded version of the Backup Plus Slim, and it houses a Spinpoint ST1000LM024 which is pretty good when looking at performance. Sequential read and write speeds averaged at around 115 MBps. As with most Seagate drives even this one comes with the Seagate Dashboard software that has 4 GB of cloud storage and also a social media backup feature. The drive does not sport rubber feet or come in a protective rubber/silicone case so you do need to be a little careful while handling the device.



Performance 44
Features 70

Specifications

Model: STDR1000300; **Capacity:** 1 TB; **Interface:** USB 3.0; **Colour:** Black; **RPM :** 5400; **Dimensions:** 113.5 x 76 x 12.1 mm; **Warranty:** 3 Years

Contact

Fortune Marketing
Phone: 011 - 2641 4468
Email: Sales@fortune-it.com
Website: www.seagate.com

MSI Z97 G43 Gaming

Budget friendly Z97



Price ₹12,250 (+ Tax)

If you wanted a Z97 motherboard that's capable of crossfire for as low as possible then this board is one of the contenders. Note that we didn't say SLI since the second PCIE slot runs at x4 bandwidth. Since this one is part of the gaming series it does sport a Killer E2205 NIC and comes with a well designed audio portion among other things. There is no display port on the rear but every other video port is present to DP won't be utterly missed. A motherboard at this price point does come with a few conveniences like on-board power/reset switches and debug LEDs absent.



Features 57
Build 75

Specifications

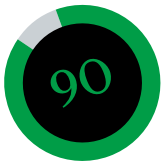
Chipset: Intel Z97; **Memory support:** 4x3000(OC)MHz upto 32GB; **LAN:** Killer E2205 Gigabit Ethernet; **Audio:** ALC1150 7.1; **SATA:** 6x SATA III; **Expansion:** PCIe x16, 1x PCIe X16(x4); **Dimensions (LxWxD):** 305 mm x 244 mm; **Warranty:** 3 years

Contact

Acro Engineering Company
Phone: 11-40525645
Email: saini@smcinternational.in
Website: http://www.smcinternational.in/

Intel Core i7 - 4790K

Devil's Canyon fixes what was wrong with Haswell



Performance..... 90

Specifications

Clock Speed: 4 GHz; **Turbo Frequency:** 4.4 GHz; **Cores/ Threads:** 4/8; **Lithography:** 22nm; **TDP:** 88W; **IGP:** Intel HD Graphics 4600; **IGP Frequency:** 350 MHz; **IGP Max Freq.:** 1.25 GHz

Contact

Intel
Phone: 802 854 2105 280,
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Website: http://www.intel.com

Devil's Canyon is basically an upgrade to two Haswell Processors, the Core i5 - 4690 and the Core i7 - 4970 which under Devil's Canyon are now 4690K and 4790K. The Major upgrade to the two processors happen to be the improved (TIM) thermal interface material between the Integrated Heat Sink and the processor die; and de-coupling capacitors near the power delivery circuit. If we are to compare the (TIM) on the Ivy Bridge processor to the Haswell process and then take a look at Devil's canyon we see that they've gone back to what appears to be the same TIM as present on Ivy Bridge. As for the decoupling capacitors, this makes Devil's Canyon more stable at higher overclock.



Price ₹22,300

When compared to the 4770K there is the obvious 500 MHz clock speed improvement which translates to roughly 9 per cent improvement in computing tasks under synthetic benchmarks. The IGP is the same and this means there will be no improvement in gaming performance unless you're playing a CPU intensive game, and we all know how few games actually are capable of utilising all cores properly.

Since this is the flagship mainstream desktop processor from Intel, it was no surprise when it went ahead of everything else we've tested so far. We will be comparing it to the Core i7 - 5960X Extreme processor when it comes out mid-September. We can barely wait!

Mithun Mohandas

D-Link DIR-803 Wireless Router

An affordable 802.11ac router



Performance..... 61
Features..... 56
Build Quality..... 55

Specifications

Wireless LAN Chip: Realtek RTL8881AQ & RTL8192ER; **Memory:** 64 MB DDR2 800 MHz; **Protocols:** 802.11b/g/n/ac; **Bandwidth:** 750(433ac+300n) Mbps; **Ethernet:** 4x LAN, 1x WAN; **Wi-Fi:** 802.11ac; Without modem; **Warranty:** 3 years

Contact

D-Link (India) Ltd.
Phone: 1800-233-0000
Email: sales@dlink.co.in
Website: http://www.dlink.co.in

Cheap AC routers play an important role in making the 802.11ac standard achieve mainstream popularity and this model is one such router. The build quality of the device isn't out of the ordinary, the main 802.11ac chip doesn't have a heatsink on it. We left the router on through the night and it didn't seem to heat up so that wasn't much of an issue. The non removable antennae isn't something we look forward to in a router but then again we at least have the option of being able to orient the antennae unlike many budget models. We experienced no connection drops through the duration of the course nor did we see any spikes while running the ping test. The router averaged 1ms on the 2.4GHz band while the 5GHz band would often have ping as high as 6ms and this was within 15 meters.



Price ₹2,990

The interface is simple and you can access options like port forwarding and virtual server routing without navigating too deep within the interface but quite a few options are not available. The option for transmit power is set to high by default which is optimal. We achieved a TCP+UDP bandwidth of approximately 90 Mbps on one client which should be enough for streaming HD movies to multiple clients with ease. The overall bandwidth is affected by the channel width being set to auto so you might want to change that if you are facing bandwidth issues.

Overall, it's a good 802.11ac router with a simplistic interface but we'd prefer more options in the interface as present in its higher SKUs.

Mithun Mohandas



Cleaning up polluted water
There are mussels and clams that can act as water filtration systems to clean up polluted waters **http://dgit.in/CleaningWater**



Mars Rover after 2 years
Being a little dirty and battered up, this is what the Curiosity Rover looks like after 2 years **http://dgit.in/RoverNow**

Harman Kardon Nova

Small package, big sound



Price ₹24,990

These speakers are wireless as far as the source input in concerned but they're not wireless when it comes to power and connectivity between the left and right unit. As with most small form factor speaker systems this one too depends on passive radiators at the back for enhancing bass frequencies. The reverb gets a little too much at times and some bass notes create a mild distortion which discerning ears will easily pick up. At the same time you get a well represented mid range and soaring highs. You get the latest in connectivity features (NFC et al.) and you get an unconventional iconic design – essentially an audio art piece on your desk. And they're on discount on the Harman Kardon India website too.



Features 78
Performance 70
Value 60
Build 75

Specifications

SNRatio: 85dB; **Speaker Type:** 2.0; **Frequency Response:** 70Hz - 20KHz; **Power:** 2*20W woofer + 2*20W tweeter

Contact

Tel: 1800 108 1234
Email: info@harman.com
Website: http://harmanaudio.in/

HP M126NW

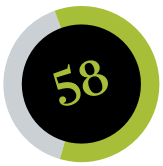
Expensive to run



Price ₹12,075

Laser printers are, traditionally, very frugal when it comes to printing costs and surprisingly, the M126nw is the exact opposite. At ₹2 per page and with an MFD that costs ₹12,000, the cost of ownership shoots up to ₹6 per page, which is about 20% higher than even the Brother DCP-J105 colour printer we reviewed this month.

That said, the print quality is stellar. This is by far the best monochrome MFD we've come across so far and while the text output is very good, the image quality and print speed are even better. If you're not into volme printing and care about quality, this is the MFD for you.



Cost of Ownership 33
Features 60
Performance 87
Value for money 50

Specifications

Recommended monthly volume: 250-2000 pages; **Print resolution:** 600x600; **Display:** 2-line monochrome LCD; **Input Tray:** 150pgs; **Dimensions:** 420x438x254mm; **Weight:** 8kg

Contact

HP India
Website: http://shopping.hp.com/
Support: http://dgit.in/1wkuOOH

Corsair Obsidian 450D

A costly case to recommend.



Price ₹8,999

The 450D has a professional brushed-metal look to the front facade although this time, the front panel has perforations on it to provide air to the two pre-installed 140mm intake fans. The front plate of the case uses not so durable push-to-release clips. The case is very roomy and component installation was quick and easy. The 450D was able to maintain a maximum PC load temperature of 44°C which is good although the price of this case makes it tough to recommend considering there are cheaper and equally feature-rich alternatives available like the NZXT Source 530.



Features 78
Performance 79
Build Quality 86
Value for money 52

Specifications

Form Factor: Mid-Tower; **Motherboard Support:** ATX, Micro-ATX, Mini-ITX; **Fans:** 2x140mm (Front), 1x120mm (Rear); **Drive Bays:** (x2) 5.25", (x2) 2.5", (x3)2.5"/3.5"; **Expansion Slots:** 7; **Dimensions:** 494(H) x 210(W) x 497(D); **Weight:** 7kg; **Warranty:** 2 Years

Contact

Corsair Memory
Phone: 9845651608
Email: indiaservice@corsair.com
Website: www.corsair.com

Gigabyte GA-Z97X-Gaming GT

No-nonsense enthusiast board



Price ₹ 24,200 (+ Tax)

A whole lot of focus is being put on the audio part of the motherboard with high-grade capacitors, swappable OP-AMPS, isolation of power as well as individual channels and variable sound gain; it's almost like the sound card could be rendered obsolete. Gigabyte has taken out M.2 and Mini-PCIe and used the PCIe lanes for enabling Quad-SLI which is something we haven't seen so far in Z97 motherboards. Moreover, they've even provided the SLI and Crossfire connectors for such niche configurations. Overall, this is a no nonsense, high-end, enthusiast board.



Features 70
Build 75

Specifications

Chipset: Intel Z97; **Memory support:** 4x3200(OC)MHz upto 32GB; **LAN:** Killer E2201; **Audio:** ALC1150 7.1; **SATA:** 8x SATA III; **Expansion:** 2x PCIe x16, 2x PCIe X16(x8+x8); **Dimensions (LxWxD):** 305 mm x 244 mm; **Warranty:** 3 years.

Contact

Gigabyte Technology (India) Pvt. Ltd
Phone: 22-4063322
Email: sales@gigabyte.in
Website: www.gigabyte.in

Intel Pentium G3258

20th anniversary edition, like a diamond in the coal mine



Price ₹4,775

71

Performance..... 71

Specifications

Clock Speed: 3.2 GHz; **Cores/Threads:** 2/2; **Lithography:** 22nm; **TDP:** 53W; **IGP:** Intel HD; **IGP Frequency:** 350 MHz; **IGP Max Freq.:** 1.1 GHz

Contact

Intel
Phone: 802 854 2105 280,
Email: enquiry@intel.com,
Website: http://www.intel.com

Devil's Canyon got all the publicity while the Intel G3258 tried to get by in the shadows, that is until the word 'overclock' got thrown in the mix. The specifications on paper don't look impressive at all, 2 cores with a thread on each. Moreover, under the Pentium series which almost everyone ignores in lieu of the Core iX series.

However, Intel did mention that the processor has potential and it has proven itself so. We read about multiple individuals easily overclocking the G3258 to impressive speeds with minimal effort, with one being overclocked to 4.8 GHz on air. That's a difference of 1.6GHz and all of this is happening on a Pentium processor. Compare this to the K series processors which hit 4.5-4.7 GHz on air coolers and require LN2 to go any further. And those processors cost about five times as this one.

Stock performance of this processor is similar to the Intel Pentium G3420 which was released about 9 months prior. As for AMD processors, it would lie somewhere between the A8-7600 and the A8-5500. But each processor when overclocked would result in a different frequency due to binning and if you are lucky you might get a G3258 that performs as good as a Core i5.

The current world overclocking record for this processor stands at 6230 MHz.

The processor is definitely worth the money but overclocking isn't for everyone and this one proves its worth only at stratospheric levels.

Mithun Mohandas

Acer Aspire E5-511

For really long lasting battery, nothing else will do

61

Features..... 60
Performance..... 58
Value..... 65
Design..... 60

Acer's Aspire E5-511 is a full-on budget laptop that excites and underwhelms. For a 15-inch laptop, the laptop is too plain jane with a dark gray look, and its screen (despite being matte) has a slight glossy surface which leaves fingerprint smudges. Beyond aesthetics, the laptop is built well, and it shows while handling it.

The laptop has a nice chiclet-styled keyboard which is a pleasure to type on, and the dedicated number pad is definitely an added bonus. But its single-slab touchpad takes time getting used to – there are no separate mouse buttons to click assuredly either, which is a pity. The laptop has a 720p HD webcam for pretty good video chats, apart from nice onboard audio.

Price ₹22,999



While the Aspire E5-511 doesn't glitter in terms of its performance – it after all comes with a Pentium processor – it does enough to keep basic users happy. Watching YouTube videos, listening to music, working on productivity apps, and nothing more. Its optical drive comes with M-Disc technology, which claims to offer great data longevity on supported media. But hands down the Aspire E-511's greatest feature is its stunning battery life, which lasted over 6 hours in benchmarks. That's head and shoulders above many of its more expensive competitors. For this trait alone, the Aspire E5-11 is worth considering.

Jayesh Shinde

Specifications

Screen: 15.6-inch, LED, 1366x768; **CPU:** Intel Pentium N3530 @ 2.16GHz; **RAM:** 2GB; **HDD:** 500GB, 5400rpm; **Graphics:** Intel HD 4400; **Optical Drive:** DVD RW with M-Disc technology; **Wireless:** Wi-Fi 802.11n, Bluetooth 4.0; **Connectivity:** Gigabit Ethernet, SD Card slot, VGA, HDMI, 1 x USB 3.0, 2 x USB 2.0

Contact

Acer India Pvt Ltd
Phone: 1800 11 6677
Email: ail.nbeasycare@acer.com
Website: www.acer.co.in

Of buying secondhand stuff

We show you how to go about and invest in used gadgets.



Agent 001
agent001@digit.in

The digital age is also the age of excess. Look all around you and you'll see it for yourself. Everyone's buying tons of new gadgets than anyone ever imagined. But do you know another result of all that incessant technology buying spree? A lot of second-hand gadgets that are ready to be off-loaded into the second-hand market for others to purchase and try. Should you be one of these potential buyers of second-hand tech? The answer is a bit more complicated than a mere yes or no. Let's set some ground rules to begin with.

How old is the device?

The electronics goods market is all about striking the right balance between how old a product is versus its cost – the older the product, the cheaper its cost, and vice versa. Unlike the automobile market, there are very few gadgets that last as long as cars. If you're buying a second-hand smartphone, tablet or laptop PC, I recommend buying products that are only up to a year old. Products like DSLR cameras, display monitors, wireless routers, graphics cards, television sets, and speakers, have greater shelf life in comparison, and therefore you can get away with purchasing even 2-3 year old products in these categories, if you find them at a bargain price.

Physical condition

As much as possible, avoid purchasing second-hand products without having a chance to physically inspect them. Photos and videos posted on websites don't tell the complete story of the life of a gadget, the trials and tribulations it's endured. Use websites and forums dedicated to second-hand gadgets trade to locate deals that are in your vicinity, contact the seller, and try and get to see the product before purchasing it, if possible. I know this can be cumbersome at times, but doing this is for your own good, trust me. In the case of a phone, try and verify if all its physical buttons work properly; play with its keypad and touchscreen to ensure there are no dead spots there, and most importantly check for signs of tampering – missing screws, scratch marks on its back panel, messy internals, etc. – to know whether the product has been serviced through its lifetime.

Warranty

The single most important criteria that has a direct impact on the cost of a second-hand gadget is whether or not is it in warranty. To that effect, always try to have a copy of the original bill of purchase or the original box with which the product was shipped and sold by its manufacturer, while purchasing a second-hand gadget. This is the only way to know for sure as to how old the gadget really is. Whether you're a buyer or seller of second-hand goods, always remember that products that have an original bill and box-packaging are sold and purchased the most.

Purchasing avenue

Just like e-commerce websites, online portals specializing in second-hand gadgets sale (OLX, Quickr, Ebay, etc), should be looked at equal amount of scrutiny. Hope for the best, but plan for the worst. Read their terms and conditions carefully. What happens when you aren't happy with the second-hand gadget you purchased? Does the portal protect buyers or sellers or both? For tech forum-based shopping, usually the buyers and sellers of tech products are in the know about what they're getting into, so there isn't much scope for discontent on either side of the table. Admins of such forums have a voluminous guideline and whetting process before they allow their turf to be used for trade / barter, if at all they do, to protect their users and reputation.

To extend Wi-Fi range, buy a repeater or a new router?

Hi Agent 001! My house has a Wi-Fi router – the Belkin n150 F6D4230-4 version 1 802.11n router with 150mbps throughput. I've noticed that there are some black spots in the house, so a lot of rooms do not get coverage. I read about repeaters but it said that repeaters have 50% or more throughput loss because they receive a signal and throw it back on the same frequency. So should I invest in a better router or should I get a repeater? Also please let me know if it's possible for a dual band repeater to receive signal from the 2.4GHz band and throw it on the 5GHz band? And what are your product recommendations for both cases?

–A. Sanghvi

A The router that you're using, that is the Belkin N150 though an excellent value for money device is still a basic router and hence the range that it provides is less as compared to some higher end ones. And to answer your question about repeaters, well yes, repeaters do start off with a



The Netgear WN2500RP Universal Dual Band Wi-Fi Range Extender

throughput of 50% but only when they use the same radio. There are models available in the market that have two radios and use one for receiving and the other for transmitting. Then there are models which are dual band and one band is given the job of receiving and the other does the transmitting. A popular model which does this is the Netgear WN2500RP, which can be purchased for about ₹5,000.

If you were to use this with the N150 - the single band router that you currently have, the repeated signal will be on the 5GHz band. So all the devices in the affected area need to be set to the 5GHz band. If most devices in the house aren't dual band then they'll switch to the 2.4GHz band which means you'll still experience the existing problem. So in this case, it will be prudent to go for a better router than an extender. Now comes the question of getting a better router. Now a more powerful router only does half the job, it'll be able to transmit to the farthest corners of your house but unless your devices have equally powerful antennae that can transmit all the way back to the router, it becomes a pointless exercise. If possible it would be best to buy another router and put it in another room and set it as an access point. Then use a CAT6 cable to connect it to the first router and then ensure both are transmitting on different channels. This method will work out the best but it means having an ugly CAT6 cable out in the open which other members in the household might object to. Try moving the router around the house to find a better position.



The Apple MacBook Pro 13

Repair old laptop or buy a new one?

Hey Agent 001, I own a Dell Studio 1558 with an Intel Core i5 chip and 4 GB of RAM. The laptop is in utter shambles: its battery has long been useless and the keyboard is broken. I'm tempted to purchase the Apple MacBook Pro 13, which is available for Rs. 64,990, and the guy at the store says that I should expect about 10k in exchange for my current laptop.

I really need a new laptop because my Dell has spent more time being fixed lately than actually doing any real work and be useful. What should I do? Do I go for the Mac, do I fix my Dell or do I look at anything else with similar specs as the Dell? If you pick option 3, any suggestions?

–Niranjan

A First and foremost, Dell's Studio laptop range is an old one, and last I checked they have discontinued that line for at least 2-3 years. And if something's giving you so much pain, as your laptop apparently is by constantly being in the service centre or repair shop than actually serve any real purpose that it intended to, I think it's a good plan to just sell it off and cut your losses. Because the laptop's clearly beyond saving by mere repairs. If you're enticed to swap it for the Apple MacBook Pro, and if you want to experience life with Cupertino-based products, the offer you're getting is pretty good. I'd have said go for it, if I only knew which MacBook Pro you're getting – just ensure it's the latest model and not a year or two older, which happens very easily since Apple Macs don't have a nomenclature that reveals their version instantly.

At the same price, let's assume it to be between 50 to 55k (ballpark price of the MacBook Pro), you'd get laptops from Acer, Lenovo, Toshiba, HP, and Dell with better configuration. But remember, Apple's MacBook Pro will trump all of them in two key departments – screen quality and battery life. Also, you need to assess which operating system do you prefer from among Windows 8.1 and Mac OSX Mavericks, as that is one of the other primary factors in determining which laptop to go for.



New USB 3.1 plugs
The USB 3.0 Promoter Group revealed information about the new USB 3.1 Type-C connector that can be connected either ways.



Dog cleaning gets easier
LeadaHose is trying to make cleaning your dog and keeping him cool an easier task.
http://dgit.in/DogCleaning

SPEND SMART

New tablets are pouring in like rain in monsoon and so we have listed out tablets between four major price based categories for you:



TABLETS BELOW ₹5000

Brand	Model	Operating System	Processor (in MHz)	Display Size (in inches)	Primary Camera (in MP)	3G (Y/N)	Battery Rating (mAh)	Price (in ₹)
AOC	Breeze MG70DR-8	Android 4.1	1500 Dual Core	7	2	Y	3000	4,242
Byond	Mi-Book Mi2	Android 4.0	1200	7	VGA	Y	3200	3,941
Datawind	UbiSlate 7C+ Edge	Android 4.0	1000	7	VGA	N	NA	3,989
Datawind	UbiSlate 9Ci	Android 4.1	1000	9	0.3	Y	3000	4,764
HCL	ME Tablet U1	Android 4.0	1000	7	0.3	Y	3600	4,444
HCL	Me Champ Tab	Android 4.1	1000	7	2	Y	3100	4,949
HCL	ME Tab U3	Android 4.1	1000	7	0.3	Y	3100	4,509
Micromax	Funbook P280	Android 4.2	1000 Dual Core	7	0.3	Y	2400	4,474
Micromax	Funbook P500	Android 4.0	1200	10	0.3	Y	5600	4,999
Simmtronics	Xpad Tab-X720	Android 4.0	1000	7	0.3	Y	2800	3,750
HCL	ME V1	Android 4.0	1000	7	2	Y	3200	5,000



TABLETS BETWEEN ₹5,001 TO ₹10,000

Brand	Model	Operating System	Processor (in MHz)	Display Size (in inches)	Primary Camera (in MP)	3G (Y/N)	Battery Rating (mAh)	Price (in ₹)
ASUS	Fonepad FE170CG-1B039A	Android	1200 Dual Core	7	2	Y	NA	8,998
Blackberry	4G Playbook 32GB	Blackberry OS	1000 Dual Core	7	5	Y	5300	7,999
Dell	Venue 8 16GB	Android 4.2	2000 Dual Core	8	5	Y	4100	10,000
Digiflip	Pro XT 712	Android 4.2	1300 Quad Core	7	5	Y	3000	9,999
HCL	ME V3 Connect	Android 4.1	1200 Dual Core	7	3.2	N	3000	7,198
iBall	Slide i9018	Android 4.2	1000 Dual Core	9	2	Y	5000	8,690
Intex	I Buddy	Android 4.0	1000	7	2	Y	3000	7,100
Karbonn	TA Fone A39 HD	Android 4.1	1000 Dual Core	7	2	Y	3000	7,150
Lava	E-Tab	Android 4.1	1200 Dual Core	7	2	Y	2800	7,272
Lenovo	IdeaTab A1000	Android 4.1	1200 Dual Core	7	0.3	N	3500	6,966
Lenovo	A7-30	Android 4.2	1300 Quad Core	7	0.3	NA	3500	8,416
Micromax	Funbook Mini P410I	Android 4.1	1200 Dual Core	7	5	Y	3800	7,312
Milagrow	M2 Pro 3G 8GB	Android 4.2	1200 Quad Core	6.5	2	Y	2800	8,990
Mitashi	Play BE 200	Android 4.0	1000	9	0.3	Y	3500	7,299
Oplus	XonPad 7	Android 4.2	1200 Quad Core	7	5	Y	3500	9,960
Samsung	Galaxy Tab3 Neo	Android 4.2	1200 Dual Core	7	2	Y	3600	9,979
Simmtronics	Xpad Turbo	Android 4.2	1200 Dual Core	7	2	Y	2800	6,299
Swipe	MTV Slash 4X	Android 4.2	1300 Quad Core	7	2	Y	3000	7,415
Videocon	VA75	Android 4.1	1000	7	2	Y	3000	5,890



Gas Detectors?
Google's Street View cars have been equipped with methane detectors to report gas leaks



Making of the Galaxy Alpha
Here's an article which talks about how the metal bodied Galaxy Alpha from Samsung was made.
http://dgit.in/HIWSamAlpha



TABLETS BETWEEN ₹10,001 TO ₹20,000

Brand	Model	Operating System	Processor (in MHz)	Display Size (in inches)	Primary Camera (in MP)	3G (Y/N)	Battery Rating (mAh)	Price (in ₹)
Acer	Iconia W4-820-Z3742G03aii	Windows 8.1	1800 Quad Core	8	5	N	4960	17,999
Apple	iPad Mini 16GB WiFi	iOS 7	A5 Chip	7.9	5	N	NA	17,900
ASUS	Fonepad 7	Android 4.3	1200 Dual Core	7	5	Y	3910	12,299
Dell	Venue 8 16GB	Android 4.2	2000 Dual Core	8	5	Y	4100	10,221
Dell	Venue 8 32GB	Android 4.2	2000 Dual Core	8	5	Y	4100	17,499
Google	Nexus 7 2013 16GB	Android 4.4	1500 Quad Core	7	5	N	3950	16,499
HP	Slate 7 Voice Tab	Android 4.2	1200 Quad Core	7	5	Y	4100	12,580
HP	Slate 6 Voice Tab	Android 4.2	1200 Quad Core	6	5	Y	3000	12,881
iBall	Edu-Slide i1017	Android 4.1	1500 Dual Core	10.1	2	NA	8000	12,015
iBall	Q1035	Android 4.2	1000 Quad Core	10.1	8	Y	6000	15,795
Kindle	Fire HD	Android 4.0 (Custom)	1200 Dual Core	7	1.3	N	NA	15,999
Lenovo	Yoga Tablet 8	Android 4.2	1200 Quad Core	8	5	Y	6000	19,764
Lenovo	A10 (Convertible)	Android 4.2	1600 Quad Core	10.1	5	NA	NA	14,200
Lenovo	A3000	Android 4.2	1200 Quad Core	7	5	Y	3500	15,120
Micromax	Canvas Tab P650	Android 4.2	1200 Quad Core	8	5	Y	4800	14,285
Milagrow	M8 Pro 3G 16GB	Android 4.2	1600 Quad Core	9.4	5	Y	6700	19,950
Notion Ink	Adam II	Android 4.2	1500 Dual Core	10.1	NA	Y	6000	16,900
Samsung	Galaxy Tab 3 T211	Android 4.1	1200 Quad Core	7	3	Y	4000	16,629
Samsung	Galaxy Tab 4 T231	Android 4.4	1200 Quad Core	7	3	Y	4000	17,226
XOLO	QC800	Android 4.1	1300 Quad Core	8	2	Y	4000	12,345
XOLO	Play Tegra Note	Android 4.2	1800 Quad Core	7	5	Y	4100	13,330



TABLETS ABOVE RS.20,001

Brand	Model	Operating System	Processor (in MHz)	Display Size (in inches)	Primary Camera (in MP)	3G (Y/N)	Battery Rating (mAh)	Price (in ₹)
Acer	Iconia W4-820-Z3742G06aii	Windows 8.1	1800 Quad Core	8	5	N	4960	22,901
Apple	iPad Mini Retina 16GB WiFi	iOS7	A7 Chip	7.9	5	N	NA	27,788
Apple	iPad Air 16GB WiFi+Cellular	iOS7	A7 Chip	9.7	5	Y	NA	37,800
Apple	iPad 4th Gen Retina 16GB WiFi	iOS7	Crusoe TM5600	9.7	5	NA	NA	23,760
Apple	iPad Air 128GB WiFi+Cellular	iOS7	A7 Chip	9.7	5	Y	NA	65,900
Dell	Venue 8 Pro	Windows 8.1	1800 Quad Core	8	5	N	4830	21,545
Google	Nexus 7C 2013	Android 4.4	1500 Quad Core	7	5	Y	NA	27,890
HP	Omni 10 32GB	Windows 8.1	1460 Quad Core	10.1	8	N	NA	27,900
Lenovo	IdeaTab Lynx K3011P	Windows 8.1	1800 Dual Core	11.6	2	N	6800	27,765
Samsung	Galaxy Tab 4 T331	Android 4.4	1200 Quad Core	8	3.15	Y	4450	23,480
Samsung	Galaxy Tab 4 T531	Android 4.4	1200 Quad Core	10.1	3.15	Y	6800	29,890
Samsung	Galaxy Note 10.1 SM-P601	Android 4.3	1900 Quad Core	10.1	8	Y	8220	44,599
Samsung	Note Pro SM-P9010	Android 4.4	1900+1300 Octa Core	12.2	8	Y	9500	60,170
Sony	Xperia Z2 Tablet	Android 4.4	2300 Quad Core	10.1	8	Y	6000	48,999

digit KILLER RIGS

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

Basic rig = ₹25,314 | HTPC = ₹28,409 | Entry-level gaming = ₹47,289 | Mid-range gaming = ₹61,407 | Ultra high-end = ₹3,48,285 | Optional Accessories= ₹40,681

BASIC RIG

Processor	Intel Pentium G3220	3,300
Motherboard	Gigabyte GA-H81M-S1	3,800
RAM	Kingston ValueRAM 2 GB 1333MHz	1,600
HDD	Toshiba 500GB	3,100
Monitor	Dell IN1914H	6,000
Graphics Card	None	0
Cabinet	NZXT Gamma	2,490
PSU	Corsair VS450	2,200
Speaker (2.1)	Creative SBS A120	1,250
Optical Drive	Samsung SH-224DB/IDDS	1,049
Mouse	Amkette Ash Black (Bundle)	525
Keyboard	Amkette Ash Black (Bundle)	0
Sound Card	None	0
Total		**₹25,314**

HTPC

Processor	AMD A8-5600K	6,950
Motherboard	MSI FM2-A75MA-P33	4,423
RAM	Kingston HyperX Blu DDR3 4 GB	3,100
HDD	Western Digital WD20EZRX 2TB	5,500
Monitor	None (your TV)	0
Graphics Card	None (HD7560D onboard)	0
Cabinet	Cooler Master Elite 120 Advanced	2,977
PSU	Cooler Master Thunder 450W	2,560
Speaker	None	0
Optical Drive	Samsung SH-224DB/IDDS	1,049
Mouse	Microsoft Desktop 2000 wireless combo	1,850
Keyboard	Bundled	0
Sound Card	None	0
Total		**₹28,409**

ENTRY-LEVEL GAMING

Processor	AMD FX6300	7,300
Motherboard	Gigabyte GA-970A-DS3P	5,805
RAM	G-skill F3-10600CL9S-4GBNT	3,000
HDD	Seagate Barracuda 1TB	3,700
Monitor	Dell S2240L	8,560
Graphics Card	Sapphire Radeon R7 260X 2 GB	9,300
Cabinet	NZXT Gamma	2,490
PSU	Cooler Master Thunder 450W	2,560
Speaker	F&D F680	3,000
Optical Drive	Samsung SH-224DB/IDDS	1,049
Mouse	Amkette Ash Black (Bundle)	525
Keyboard	Amkette Ash Black (Bundle)	0
Sound Card	None	0
Total		**₹47,289**

MID-RANGE GAMING

Processor	Intel Core i5-4440	11,200
Motherboard	Asus B85M-G	5,950
RAM	Kingston HyperX 8GB (KHX1600C10D3B1/8G)	5,000
HDD	Toshiba 1TB DT01ACA100	3,900
Monitor	Dell S2240L	8,560
Graphics Card	ZOTAC GTX 750 Ti 2GB	11,000
Cabinet	Thermaltake Versa H21	2,998
PSU	Seasonic S12II 620 Watts	5,750
Speaker	F&D F680	3,000
Optical Drive	Samsung SH-224DB/IDDS	1,049
Mouse	CM Storm Devastator (Bundle)	3,000
Keyboard	CM Storm Devastator (Bundle)	0
Sound Card	None	0
Total		**₹61,407**

ULTRA HIGH-END GAMING

Processor	Intel Core i7-4790K	24,500
Motherboard	Gigabyte GA-Z97X-Gaming GT	24,200
RAM	ADATA XPG 2 x 4GB (2 Kits)	12,500
HDD	WD WD30EZRX 3TB +Samsung 850 Pro 256GB SSD	22,949
Monitor	Dell UltraSharp 32" UP3214Q (4K)	1,32,000
Graphics Card	ZOTAC GTX 780 Ti	50,000
Cabinet	NZXT Phantom 820	16,836
PSU	Cooler Master V1000	15,000
Speaker	Logitech Z906 5.1	23,000
Optical Drive	LG Blu-ray WH16NS40 RW	6,000
Mouse	Roccat Kone XTD	5,500
Keyboard	Ttesports Poseidon	5,300
Sound Card	ASUS Xonar Phoebus	10,500
Total		**₹3,48,285**

OPTIONAL ACCESSORIES

Surge Protecter	Belkin 8 Socket Surge Protector	1,349
Controller	Xbox One Controller	3,999
UPS	APC 1000VA - BR1000G-IN	8,200
Webcam	Logitech HD Pro C920	6,270
Headphones	Sennheiser PX 100-II	2,299
Mousepad	Roccat Taito	625
Wireless Router	TP-LINK TD-W8968	1,799
Sound Card	ASUS Xonar Essence STX	9,000
External DVD-Writer	Lite-On eUAU108	1,650
Thermal Paste	Arctic Silver 5 (3.5 grams)	600
CPU Cooler	Cooler Master Hyper 212X	2,600
Fan Controller	Deepcool Rock Master V3	1,590
Case Fan	Corsair AF120	700
Total		**₹40,681**

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Hugo Barra talks Xiaomi's strategy and Jared Sewell let's us in on how tech is mingling with cricket.

118 **Smart SOHO**
Gamifying the workplace can work wonders for your employees. Read about some great examples.

Staying clued in to the Startup Scene

Where do you search for inspiration? How do you materialise that inspiration into a real project? How do you stay ahead of the curve? We tell you everything you need to know to jump headlong into the world of startups

Ronak Gupta
readersletters@digit.in

The word 'startup' is quite liberally used nowadays. A management or engineering graduate from India probably hears the word at least once in a generic conversation, such has become the fad. While there exists a formal definition of startup in dictionaries, it's safe to say that it's impossible to encompass the idea of a startup in one prosaic definition. Any new business that aims to fill a glaring gap in the way the world functions could be categorised as a startup. The new businesses are typically high risk, start off with little or no funding and have a small team at their core. Whatever a startup is, it has caught the fancy of a major chunk of the world and has transformed the way people look at a business model. A career in a startup is exciting as is building a venture. But, how would a young student or professional keep in touch with this rapid ecosystem? Read on.



An idea is the genesis of a startup

The Indian scene

It comes as no surprise that India, with its massive youth population, has finally warmed up to the idea of encouraging a startup business. What this trend has done is that it has led to a multitude of small enterprises springing up, which in turn has had a cascading effect, trickling down to colleges and educational institutions where even teenagers are dreaming of owning their own businesses and being their own bosses. Close to a decade ago, the whole idea of a startup was quite alien to the Indian population. Now, however, the whole climate has undergone a paradigm shift – technology has advanced, the digital divide has somewhat reduced and local talent is available in larger numbers. India always had potential with its incredible diversity and large number of avenues, but only recently have its people started exploiting this opportunity to generate revenue via large startups. Young businessmen realise that India, with its large population, allows a business to have small margins and still generate huge profit simply due to the volume of the playing field and increasing consumption power of the Indian middle class. India is now a good place for hopeful entrepreneurs.

An idea: a genesis

For a startup of any form you need a seed, an idea. Every great and successful startup is born from a great idea, simple

₹51.5 tr

A McKinsey report estimates that by 2025 close to 583 million people will constitute the Indian middle class. Their combined income is pegged at 51.5 trillion rupees! This represents tremendous potential to tap into for small business that target large audiences with moderate purchasing power

at its core but effective at targeting a very fundamental need of society. An idea can come from everywhere. Coming across a peculiar situation or attending a talk or demo might trigger an idea. The much publicised account of how Ratan Tata came up with the idea of the Nano when he saw a family of four struggling on a two-wheeler on a crowded Indian street isn't necessary a dreamy image.

An idea doesn't announce itself. So, the key to noticing its presence is to always be observant. The idea need not necessarily be a table toppling one. An improvement over an existing idea, addition of a game-changing feature, or increasing an idea's relevance to a specific target. All of these could be excellent startup strategies. A sterling example is the case of the Samwer brothers who've gained high visibility with their e-commerce focussed startup, Rocket Internet, by adopting the cloning strategy. Studies have shown that 'cloning' could lead to the fastest growing business. However, although copying a successful idea from another region, adapting it and selling it to the original proponents may have its benefits, it's without doubt a hindrance to genuine innovation. Keep your ear close to the ground. It will give you access to a galaxy of ideas, besides training you in execution, marketing and publicity strategies, among other things. Being in the thick of things always provides inspiration for cloning but it may also lead to a genuine Eureka moment.

Observing, reading and hoarding knowledge

Being observant entails continuously updating your knowledge about the latest trends in technology and business. In this fast moving space, news get outdated and redundant very quickly, hence knowledge updation is critical. Fortunately, there are a variety of resources such as websites, forums, tech blogs, magazines and online newsletters that allow you to know about the latest startup business and trends.

- **Betalist.com** – Overview of upcoming internet startups. Early access to few featured startups.
- **Yourstory.in** – Extensive coverage of latest trends and happenings in the entrepreneurial space in India. Features upcoming startups and interviews with budding entrepreneurs. Holds various meetups and conferences. Strong media platform for everything startup related.
- **alltopstartups.com** – Promising forum with great collection of articles and cover stories.
- **Wikindu.com** – Great interviews with young budding entrepreneurs.
- **Mashable and The Huffington Post** – Brilliant blogs pertaining to startup businesses.
- **NextBigWhat.com** – Another great resource in this category.

840 mn

An estimated 70% of India lives under $2 a day. A startup is yet to revolutionise this segment of close to 840 million people. Maybe your idea is the one.



Apps provide information and means to stay connected

70%

A 2012 USA specific statistic indicates that 75% of all startups fail. A dismal 25% fail in their first year itself.

- **india.startuplogic.com** – Collates links from a variety of Indian web sources.
- **Wall Street Journal** – Exclusive sections dedicated to small businesses and startups.
- **WSJ Accelerators blog** – Fast gaining popularity.
- **Pluggd.in and VentureWoods** – Good India-specific resources.

Apps and tools

The internet is today accessed more often from handheld devices than personal computers so it's no surprise that the app revolution has gained so much momentum. Loads of apps and tools available online can cater to your needs as a budding entrepreneur – be it finding information, staying connected, pitching your idea or discussing it.

- **Zite and Flipboard** – Versatile news grabbers with excellent feed.
- **Nextgen reader** – Allows you to pin your favourite web sources such as Mashable, Wired, Lifehacker, etc. Updates feeds regularly.
- **Bloomberg and Business Insider** – Highly rated apps in the business news domain.
- **Tapatalk** –Gives you access a plethora of online forums from a single platform.
- **Meetup** – Locates meetings in your field of interest around you.
- **Wired PR Works** – Business tips, latest news and development and strategies.
- **PitchEngine** – Targeted at brand building.
- **Kickstarter** – Probably the most famous crowdfunding source.
- **Indiegogo and RocketHub** – These crowdfunding websites are not only fund raising tools, but also serve as a reservoir of ideas.

Social media is more than just cat videos and selfies

It's important to keep a tab on all popular social media sites where there's considerable discussion about startup technologies and business-related issues. There are some really informative subreddits on Reddit, which might just be the source of the next big startup idea. Some examples are r/startups, r/DIY, r/Technology and r/Entrepreneur. r/AlphAandBetaUsers is a useful forum for testing products.

Harnessing the power and reach of social media is key to marketing and publicising an idea. Ayush Varshney, co-founder of the successful online merchandising startup Bluegape acknowledges the role played by social media in spreading word of mouth and claims that it's valuable when compared to traditional advertisement. He said, "Twitter and Facebook can actually be useful in developing a business and, at times, act as a fertile ground for ideas. Following relevant people can vastly improve your Twitter feed and can be a genuine source of information." When quizzed about the role of Twitter in staying updated with startup related news, Kushal Bhagia, founder of the innovative education startup Nayi Disha Studios mentioned that he gained plenty of knowledge from following the people in the tech startup scene on Twitter. "People actively talk about and share links to interesting stuff for budding entrepreneurs there. Say you're interested in Mobile/Android/e-Commerce...whatever – follow the founders in that space, follow VCs in that space and your feed automatically brings all the relevant news to you," he said.

What after the idea?

OK, you have an idea. What now? You implement it, execute it and test it in that order. It's always a good idea to bring out a beta product and test it. The best strategy is to have a minimal viable prototype ready to pitch. Then elicit feedback from a set of beta testers. erlibird.com is an excellent resource, but it has sufficient coverage only outside India. Plenty of young entrants in the startup scene use betalist and startupli.st for advertising their beta products. These tools are similar in core functionality, but differ in a few features. They're undoubtedly excellent sources to look for ideas as well as test and promote ideas. Some other options for beta product testing are Appstorm, Dribble and Frost, the last two of which have proven to be useful for design or UX/UI based products.

53%

According to a study roughly 53% of Twitter users recommend products in their tweets. LinkedIn is the most popular social media site to distribute B2B content.

If your product or idea is targeted at a specific country, then posting about that product on Facebook pages and forums might get you some beta testers, who can provide helpful feedback. Facebook forums are also a great place to market your product to a relevant crowd. Although internet penetration in India isn't very high, the number of eyeballs that Facebook and other social forums obtain is huge.

Targeting well read blogs like TechCrunch, VentureBeat or Wired will get your product noticed in the big circles. Speaking to the right people, specifically the influential kind, is critical. Also, often you must rely on giving talks and presenting demos about the benefit of your product. Although old fashioned and traditional, it has a benefit of establishing a direct connect.

65%

Here's a staggering statistic. According to a Forbes feature, a massive 65% of the jobs in the U.S. created since 1995 are in small businesses.

Team building and development

A startup needs a dedicated core team that may or may not be segregated by task. In cases when the startup is the result of an idea generated by a team, a few other members may be sought, else it's quite a task assembling a team to run a startup. Attending hackathons and job fairs can help in recruiting the right people for technical jobs such as website building. There are dedicated and motivated technical professionals willing to slog it out in startups rather than spend years in the comfort of steady jobs in multinational companies. Targeted and specific advertisements calling for job applicants can be posted on online portals such as Naukri, Monster, Internshala and twenty19.com.

Interacting with various entrepreneurs from varying age groups will help you refine your idea. Attending conferences and talks will put you in touch with such enterprising folk. It's also extremely important to attend a variety of events and camps organised across the country to keep a tab on the startup scene in India. TechSparks and MobileSparks are flagship events and feature many budding entrepreneurs under a single roof. There are various big events and conferences like unPluggd and BigMobility conference held every year, headlining the biggest names in the startup industry. Technical festivals in reputed engineering and management colleges usually have popular business contests that attract a large number of participants from the college crowd, a source of plenty successful startups.



A direct interaction-based product pitch

Valve most desirable?
According to a recent poll, game developers chose Valve as their most desired game company.**http://dgit.in/SweetValve**



Corrigendum
Apologies to our readers for misprinting the name of Mr Hari Vasudev, VP & Head, Yahoo India R&D last month **http://dgit.in/YahooDigit**

Changing Cricket with Tech

To redefine how cricket is "administered, shared, analysed and followed," a bunch of ex-cricketers have started CricHQ, a unique online portal that combines elements of social network with cricketing data and stats, and much more, to give followers of the game a new lens to look through. Excerpts from our exclusive interview:

Jayesh Shinde
jayesh.shinde@digit.in

Over 70 percent of CricHQ is owned by cricketers. What was their inspiration?

Sewell: New Zealand businessman Simon Baker founded CricHQ in April 2010 in partnership with international cricketers Stephen Fleming and Brendon McCullum. Simon's inspiration behind CricHQ was to combine his passion for cricket with his skills and experience gained in a successful international career in technology and business development. He dreamed of forming a global technology company that would redefine how cricket is administered, shared, analysed and followed. This vision required the involvement of the world's best cricketing brains and access to the Cricket data across levels. Simon approached New Zealand cricketing legend Stephen Fleming and current New Zealand Captain Brendon McCullum, who agreed to become founding investors. The company has grown from strength to strength and as of now, it has attracted investments from 20 international cricketers, totaling nearly $10 million. Well-known names like Ravi Ashwin, David Hussey, Michael Hussey, George Bailey, Albie Morkel, Faf du Plessis, Brad Hodge feature among the investors, includingthe New Zealand government.

Is CricHQ just another "social network" or is there more to it than meets the eye?

Sewell: There's definitely more to CricHQ than what people get to see. CricHQ is the world's first cricket technology platform with three distinct yet interrelated pillars: data, administration and social network.

As the first and a hugely critical pillar, CricHQ's data platform seeks to capture data around every ball that gets bowled in any professional Cricket match across



Jarred Sewell
Chief Marketing Officer, CricHQ

levels, across the world. What this means is in the near future, let's say a new Cricketer joins the Indian test team, you as a Cricket fan would be able to use the CricHQ platform to track and analyze his scores and performance right from the school or district level. For people who like watching Cricket, this will provide an unprecedented access to data and information about their favorite game and players.

Having the world's biggest database of granular cricketing information opens up some really exciting opportunities in the fields oh High Performance, Media and other data distribution outlets.

The second and related pillar of the CricHQ platform is Cricket administration. Our platform is used by many Cricket administration bodies around the world for scoring and managing tournaments for example. In India, we already have two Cricket associations as our clients, and we are expecting to sign more.

Finally, the third pillar is a cricket social network, designed exclusively for the Cricket fans, which allows them to follow their favourite players and receive notifications whenever they play cricket or share social updates. For users, the CricHQ platform is accessible through website and mobile apps available for iOS, Android and Windows devices. At the backend, we have a strong team of engineers, designers and visualizers, data capture specialists and analysts who are all working together to deliver a truly world-class experience to all users, be it a 12-year old fan, 21-year old amateur Cricketer or a senior Cricket administrator.

How is technology helping change the way cricket is played?

Sewell: In cricket, technologies like third umpire, hawk eye, hot spot and Speed gun have changed the game completely. It has made possible providing on the spot accurate game decisions and enhancing players' performance.

CricHQ is playing its part in revolutionizing the game. With its run-worms, graphs, instant calculations of key stats and visual representations, players can review their performances and coaches can deliver improved coaching at all levels. CricHQ effectively delivers what has previously only been available at the elite level of the game and provides that functionality throughout all levels of cricket. Players from all over the world can compile a history of their cricket and share their successes with their friends and families.

Keeping tabs on the performance of players at all levels and introducing new ways to analyse those performances helps unravel talents at a very early stage from across the country.

Read the full, unabridged interview online. Visit **http://dgit.in/CricHQDigit**

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Users will be able to buy things directly from Twitter as they plan on adding a 'Buy' button **http://dgit.in/TwitBuy**

Hugo Barra talks about India strategy and more

Chinese manufacturer Xiaomi has caused quite a stir in the market, but consumers are getting frustrated by the day, with every sale lasting for a matter of seconds. While that is the main question on everybody's mind, some have also asked about other things. We put those questions directly to the company, in a conversation with Xiaomi Vice President of international affairs, Hugo Barra. He talked about frustrated customers, Flipkart, the Mi4 and Xiaomi's plans for India.

Prasid Banerjee
prasid.banerjee@digit.in

At the launch you said that Xiaomi will partner with other e-commerce firms in India. Are you open to those who approach you?
Hugo: We said we were open to other partnerships, but we have no near term plans of working with other partners. We're very close with Flipkart and the partnership is working well. We are always open to companies that approach us with good ideas. We love hearing talking about interesting ways to do things. But we're a very, very focused company.

Xiaomi's strategy revolves a lot around building a community and ecosystem of its own. What are you doing in India and what kinds of response are you getting?
Hugo: There's a lot of things that we're doing. We have our social media communities, which are growing. We just crossed 30,000 followers on Facebook today. We also have the MiUI community, which is becoming stronger. These are Android MiUI fans, who have followed us for a long time and who want to try out the UI even before they hold a Mi device in their hand. In general we are very very happy with the fact that the Android community is embracing us. I had a get together with users in Bangalore on Sunday, where I just randomly posted "hey guys, why don't we get together for a few drinks..." and close to 50 people showed up with notice of a few hours. These were Android fans, MiUI fans, who were really curious to play with our devices and we spent a few hours just talking.



Hugo Barra
Vice President, International Affairs, Xiaomi

Indian users are very curious, receptive and demanding. I was always very excited about the idea of coming here, but I have been pleasantly surprised with how this community is embracing us.

So could you tell us when the Redmi 1S and Note will be launched in India?
Hugo: We're also finalising that. It will be in the next few weeks, but we haven't finalised a date yet. But Redmi 1S will be first.

Your numbers so far have been relatively low. Why is Xiaomi not increasing the number of units that it puts up on sale?
Hugo: We are. Steadily so. Our numbers for next week will be a little bit higher as well. We are coming in slowly. We had our manufacturing schedule set for months and I have to say that we had underestimated the demand here.

We have received some reports of issues, including the review unit that was sent to us. How do you plan to tackle these?
Hugo: If someone has any kind of issue with their device and we can not address their problem over the phone, they can immediately get a replacement. Even if they think there's an issue, software problem or the phone is not working the way it should, they can call our customer support. If we determine that it is a hardware or software fault, then we'll immediately replace the unit.

If you have to fix an unit, will that be sent to China to fix?
Hugo: Everything is fixed in India. We're working really hard to make sure that service centres have parts in stock and if the device can not be repaired in the service centre then it will immediately be swapped.

Are you planning to compete with the market leaders? Is there anyone you think as your main competitors?
Hugo: Uhh, don't really think about the world that way. We're always thinking about building the best devices and not thinking about which competitors to go after. We're an engineering company.

What kind of a timeline can we expect for the Mi4 launch?
Hugo: It'll be towards the end of the year, around December.

You can read the rest of the interview online at **http://dgit.in/hugobarrainterview**

Book Taxi from anywhere
TaxiForSure lets you book and track a taxi in an easier and faster way
http://dgit.in/TFSApp

Find your true love
TrulyMadly lets you find your soulmate using common interests and psychological matching
http://dgit.in/TrulyMadly

GAMIFICATION OF THE WORKPLACE

Who said work and pleasure shouldn't mix?

Mithun Mohandas
mithun.m@digit.in

Gamification isn't just a buzzword anymore. In fact, it's been more than just that since quite a while. A survey by tech research firm Gartner estimated that by 2014, about 70 percent of big corporations will incorporate gamification in some segment of their entire machinery. Many of these may be pilot programmes given that the concept has only recently gathered momentum. However, industry experts in an IEEE article (Find it here: http://dgit.in/IEEEGoW) believe that some form of gaming will be incorporated into 85 percent of the daily tasks in the workplace. Why don't we take a look at the reasons for so much traction of this concept.

Just to be clear...

We aren't talking about companies buying new rooms full of consoles where employees can go and dish out sweet justice onto their superiors in a bout of *Call of Duty*. That's not to say that a match of CoD won't help team bonding. Gamification is a concept that deals with many things such as incorporating company principles into a video game, using the video game's back end to actually contribute to a work process, training employees through a video game, boosting employees' physical fitness, incentivising work milestones, etc. If airplane pilots and soldiers can be trained for battle through simulators and games, then certainly a blue collar worker can be put through a similar iniative catering to the urban workplace.



A typical raid party in WoW grinding through a dungeon

Company picnic raid!

If you're still scratching your head wondering what we're talking about, then here's an example to help it make sense. There's this term called 'raids' in *World of Warcraft (WoW)*, a massively multiplayer online role playing game (MMORPG) which involves working as a team. There are instances in WoW when it's extremely difficult for any single player to complete. This is because there are diverse player character classifications which are unique in nature and suited to perform only certain functions. A 'Warrior' is capable of taking a lot of damage while dishing out a lot less in return. A 'Mage' is capable of dishing out an insane amount of damage over a huge area but is as fragile as a toothpick. Then there are support classes ('Bards'/'Acolytes'), which don't partake in either the offence or defense. Instead, they help other classes improve their abilities. So no one character or even a group that consists of just one character class can handle a raid instance. Hence, a 'raid' group consisting of up to 40 players of all character classes is formed which goes about trying to complete this instance. This group relies on the strengths of each individual at some point in the game to take the whole team forward.

Didn't this sound similar? Imagine programmers as warriors, sales and marketing as mages and managers as acolytes; and instead of a raid instance, consider the scenario to be a huge company contract. This is where the picture comes together and you realise how similar it is to a real-world scenario. Now, let's say your warrior just died (your programmer took a sick leave), your project should come to a halt and the same happens in these video games. There are redundancies and you learn when and where to use them.

While World of Warcraft is just one such game, there are many that happen to teach or train employees. John Seely Brown, independent co-chair of the Deloitte Center for Edge Innovation and Senior fellow, Annenberg Center for Communication at USC once said, "I would rather hire a high-level World of Warcraft

player than an MBA from Harvard." (Read more here: http://dgit.in/JSB_WoW) He noted how performance of individual players was graded at the end of each raid and how everyone was open to criticism from everyone else since there groups and the guilds that organise them were based on meritocracy.

Only the tip of the iceberg

There are other real-world scenarios where gamification has proven to be successful. NTT Data, a Tokyo-based company developed a game called *Ignite Leadership* in which employees were taught negotiating skills, time management and problem solving. And those who ranked high within the company were promoted to team leadership roles. There was even a 30 percent reduction in employees leaving the company and a bunch of money was saved on recruitment and training.

Miller Brewing, based in Milwaukee, U.S. developed a game that showed bartenders the way to pour the perfect glass of beer. Gamification isn't limited to just big corporations. It can be implemented in any vertical in any company – all you need to do is figure out your focus area.

Let's take a look at scenarios where you wouldn't have imagined gamification could work. Marriott International launched *My Marriott Hotel* in 2011 on Facebook. It has players take up the role of managing a kitchen. Tasks involved everything from shopping for ingredients and utensils to hiring and training chefs. Players were then directed to the Marriott website's employment page where they could do it all again, for real!

Sun Microsystems taught its new employees about its company values with the aid of two game titles: *Rise of the Shadow Specters* and *Dawn of the Shadow Specters*. These games taught the new hires about the company's structure, its past and work culture. Even Microsoft released *Ribbon Hero 2*, an add-on for Office that helps train people to use the interface effectively.

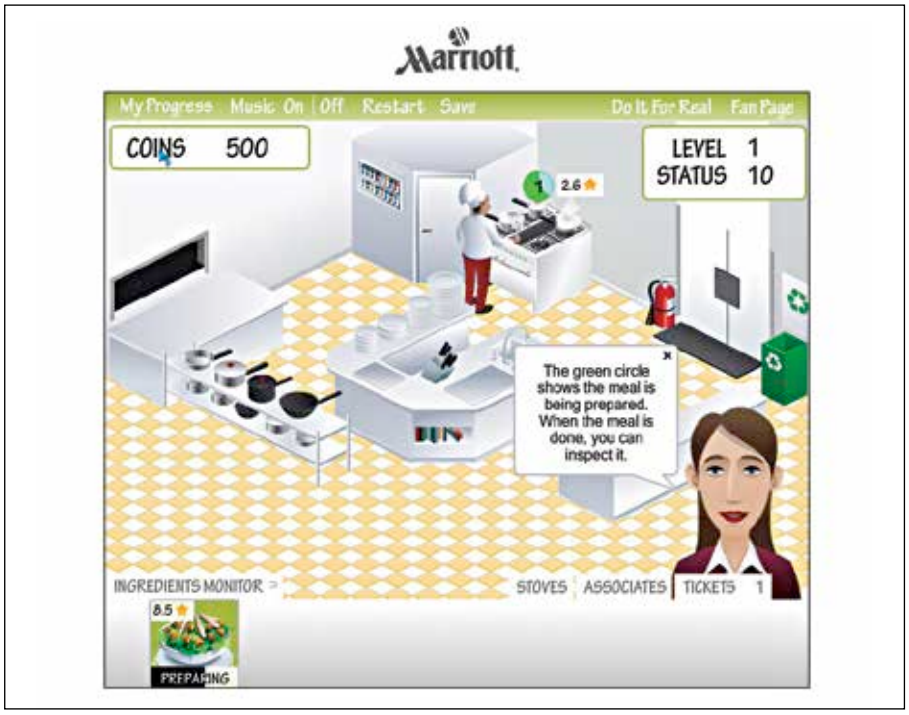


Give recognition and earn employee loyalty

An industry beckons

The gaming industry is huge, but that doesn't mean you can't carve a piece of the turkey for yourself. While working with established game developers playing games all day to test them would be lucrative, that's not the focus of this article. We're talking about working with companies that need developers, which will create games incorporating their company values into them. Alternatively, your next website could be gamified to reward its users the way Stack Overflow, Quora and Yahoo! Answers do.

Or you could be the next Badgeville. It's one of the many companies that help incorporate virtual rewards for employees within the intra-company network. If you've done a great job, then you'd be awarded a badge by your manager or if you were punctual, you could be awarded for that and so on. And at the end of the month, all these awards would be tallied and an employee of the month would be declared. The time is now ripe for the rise of the gamification industry. M2 Research, a market researcher has estimated that revenue from gamification software, consulting and marketing, which was around $100 million in 2011, will reach $2.8 billion in the U.S. alone by 2016.



My Marriott Hotel, a game where you play the chef

Begin today

You don't have to pay any firm a million dollars to develop a custom game for you. You can come up with your own system of rewarding employees and/or set up a game room with a few consoles where employees can encash their rewards. However, plenty of prior research is critical to ensure that you don't end up making the rewards so lucrative that employees start sabotaging the work of their colleagues just to get ahead of the rest. That would be poor management on your part. On the bright side, that may mean you need to be trained to be a better manager. So buckle up and RAID!

Tracking Ebola
An African mobile-phone carrier can help researchers predict the spread of Ebola for health support **http://dgit.in/PredictEbola**



Detect date-rape drugs
New nail polish changes colour when it is dipped into drinks spiked with date-rape drugs **http://dgit.in/UndercoverColors**

Solving the world's clean water problem... one sip at a time

The world is facing a severe lack of potable water. Let's look at some technologies that are daring to meet this challenge head on

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readersletters@digit.in

How is it possible that despite two-thirds of the world being covered in water, people still suffer from a shortage of drinking water? The answer lies in the oceans, which make up most of the world's water. If you've ever had the misfortune of ingesting a gulp of seawater, you'd understand exactly why it isn't suitable for human consumption. Desalination is just one of the issues perplexing developing countries, whose inhabitants – approximately one in nine people – lack access to safe drinking water.

Safe drinking water, as per World Health Organization (WHO) guidelines, is water used for domestic purposes, drinking, cooking and personal hygiene. It has microbial, chemical and physical characteristics that meet WHO guidelines or national standards on drinking water quality.

Access denied

However, the following figure is quite telling in regards to how many people have access to this elixir of life in its pure form: Every year, 3.4 million people die from water-borne diseases, such as intestinal diarrhoea caused by microbially-contaminated water supplies. Nearly 99 percent of these deaths take place in the developing world. Vulnerable groups are children under the age of five, pregnant women and HIV patients.

Improved drinking water sources such as public standpipes, bore holes, protected dug wells and protected springs



Still cribbing about not having a PS4?

are more than a kilometre of walking distance from homes, or 100 metres of climb in hilly areas. It's usually the women and young girls of low-income countries who must sometimes walk more than six hours to go fetch water from streams and ponds – more likely than not chockfull of water-borne diseases. That's precious time that could be better utilised in working to raise themselves out of poverty through education and being able to hold on to jobs. According to U.N. estimates, if the proportion of people without access to safe water and basic sanitation were halved, countries globally would save $7.3 billion per year in health care costs.

Deficient or non-existent sanitation and sewage disposal facilities are major reasons for non-potable water. However, the severity and reasons differ from location to location, and it's not just the rural poor who guzzle unclean water.



Fetching water from unclean sources

First world problems... for real

In August 2014, a Do-Not-Drink advisory was issued by the Toledo, Ohio government after above-standard readings for microsystin were reported in its water. It causes liver problems, diarrhoea and vomiting. While this was a one-off situation, the crisis lasting all of two days sent residents in a tizzy over getting hold of clean drinking water, in a scene that can only be comparable to the Black Friday sales in the U.S. Even earlier in the year, Charleston, West Virginia residents had to



Your Algae Margarita, sir

deal with a chemical spill in the Elk River contaminating their water supply. Millions of tons of toxic heavy metals such as arsenic, selenium, boron, cadmium, mercury and lead are disposed off in similar ways by coal-powered plants in waterways. Exposure to these dangerous chemicals has been proven to lead to birth defects, cancer and even death.

Mumbai, where approximately 40 percent of the population lives in slums, faces the challenge of providing safe drinking water to residents of such illegal settlements since they're, well, illegal. However, a survey conducted by the Office of the Reg-

istrar General and Census Commissioner found that 74 percent of slum dwellers have access to drinking tap water compared to 70.6 percent in urban areas! That said, 18.9 percent of slum dwellers still have no access to public or private toilet facilities and so, resort to defecating in the open.

Technology to the rescue!

While we aren't exactly on track to achieving the Millennium Development Goal of halving the population without access to drinking water and sanitation by 2015, we must do what we can to ensure that solutions are sustainable while also being cost-friendly. Technology provides such solutions in all cost ranges but let's look at the affordable options.

1. Bob, the rainwater storage bag

We can't talk about affordable options and leave out rainwater harvesting. One of the major obstacles to large-scale uptake of household level rain catchment is the high cost of storage and the difficulty of transporting large tanks to remote locations. Bob is an award-winning flexible 1,400 litre tank weighing only 3.5 kg . It has a built-in



A rural woman receiving Bob

filter and can fold up into a package the size of a large briefcase. The rainwater bag – purchasable from the open market in East Africa for $54/₹3282 (59 percent less than competing products) – is the brainchild of Joern Lutat, a Germany-based Mechanical Engineering college lecturer.

This solution will obviously only hold water, so to speak, in areas like Uganda and Ghana where drought and moderate to heavy rainfall are not impediments.

2. SlingShot Water Purifier

Created by Bionic Arm and Segway inventor, Dean Kamen, SlingShot is a water vapour compression distillation system. The system boils and evaporates any dirty water (yes, even sewage water), and then allows the pure water to condense and be collected. It can make up to 1,000 litres of water drinkable per day and requires as little power as required to work a toaster. It can be powered even by a generator running on cow dung. Notably, besides cleaning water, the Slingshot also generates small amounts of electricity – enough to light up a small village's energy-efficient light bulbs.

At the 2012 Clinton Global Initiative, Coca-Cola announced a partnership with Dean Kamen's company DEKA R&D to deliver Slingshot water purification systems to schools, community centres and health clinics in rural communities throughout countries such as Africa, Asia and Latin America. Each machine costing around $2,000 (₹1,21,580) will be deployed across 20 countries to serve 45,000 people by 2015. Coke won't directly profit from the program but will employ and train local entrepreneurs to operate what it's currently calling 'Ekocentres' – web-connected supermarket centres that will be dropped into targeted underdeveloped villages to provide basic necessities. Each red Ekocentre will house canned food, toilet paper, cooking oil and first-aid supplies. Solar panels on the roof will power wireless Internet and a television. The SlingShot, about the size of a mini fridge, will be built into the centre with two faucets dispensing free purified drinking water to villagers.

3. LifeStraw

Designed in Switzerland by Vestergaard Frandsen, LifeStraw is a device that promises to remove 99.9999 percent of waterborne bacteria through a super-fine filtration process. Each LifeStraw, suitable for one person, costs only $5 (₹300) to manufacture and can make surface water safe to drink for up to a year. Over a period of three years from the date of manufacture, the LifeStraw filters over 1,000 litres – a limit you know you've reached when water can no longer be sucked through it. Since no replacement parts are needed, there's no additional cost.

All you do is suck water through the straw and waterborne protozoan parasites are cut down to 0.2 microns in size, providing five times more filtration than the US Environmental Protection (EPA) standard considered "rigorous" at 1.0 microns for removing Giardia, E. Coli and Cryptosporidium. The award-winning point-of-use LifeStraw technology is not just a lifesaver for rural dwellers but also for urbanites when there's a boil-water advisory combined with a power outage or if you're trekking in the middle of nowhere and critically need access to clean water.

While the LifeStraw removes nearly all bacteria and protozoa, it should be noted that it can't filter out heavy metals and viruses or desalinate water.



The bodega style centre will serve small villages with basic supplies

4. Waterchip

This is where Kyle Knust's Waterchip comes in. Researchers at the University of Texas at Austin – including Kyle Knust, a 27-year-old Analytical Chemistry student – are working on a plastic water chip which has a micro-channel with two branches. By applying a 3.0 volt electrical charge, they create an "ion depletion zone" with an embedded electrode that neutralises chloride ions. Doing this, they're able to redirect the salts in the water down one channel, while the fresh water goes down another. According to the team, "like a troll at the foot of the bridge, the ion depletion zone prevents salt from passing through, resulting in the production of freshwater".

The Waterchip, small enough to fit in the palm of your hand, is still having its kinks worked out. While it can also remove harmful bacteria, heavy metals and parasites, the chip can currently only remove a quarter (25 percent) of the salt from seawater, clearly not enough to produce water fit for drinking. However, this is an important invention to look forward to given how quickly climate change is slowly making freshwater rare to find.

Paranormal mysteries!

We live in a world that's full of mysteries. Some have been explained, others still remain unsolved. Some are creepy, some are fascinating and some just plain ridiculous. The most interesting ones involve the paranormal. Here are six fascinating (horrifying for some) mysteries that have shaken many a sane man shaken to the core. What do you really believe?



112 Ocean Avenue

You just bought a two-storied house with an attic, your house has a boat-house that looks on a river and you move in with a wonderful family. But what do you do when green goo starts oozing out of the toilet, your kid's beds get tossed around in the air in the middle of the night? You run!

Ourang Medan

"S.O.S. from Ourang Medan * * * we float. All officers including the Captain, dead in chartroom and on the bridge. Probably whole of crew dead * * ** * *. I die." The rescue ship that responds to that S.O.S. arrives and finds a dead crew and narrowly escapes a fire that blew the Medan sky high!





Overtoun Bridge

Dog lovers will hate this place. The Overtoun Bridge has, over the years, developed a reputation for being a choice suicide spot for our canine companions. What is it about this place that forces a dog to premeditate its own death? Nobody knows. Whatever happens, don't take your dog there.



Freddy Jackson

A WWI mechanic dies, but he doesn't know that he's dead. His spirit is doomed to walk this Earth till he finds peace. What does that ghostly mechanic do with himself? If that ghost is Freddy Jackson, it gets its picture taken, much to the horror of its compatriots.

Shanti Devi

A four year old girl starts talking about her "real" home in a village she's never visited, a husband whom she's been married to and a death following child-birth. If that wasn't creepy enough, she found her "husband" and even berated him for not keeping promises he made on her deathbed.





Green Children

A brother and a sister are found in a jungle. They're green, speak a strange tongue and eat only beans. The boy dies a few days after being baptised and the girl, who eventually learns to speak, talks of an underground land of bean-eating green people. Scary, creepy or just plain daft?

Disney going with Drones

Following a few patent applications, it seems that Disney wants to turn drones into flying TV screens and puppet masters **http://dgit.in/DisneyDrone**



Clamp up a table from anything

Using the Floyd Leg clamps you could turn any table-sized material into an actual table
http://dgit.in/FloydLegClamp

How we unwind



But we Ingress...

We remember checking it out long ago but none of us ever got into it until the honourable Prakrit joined the Resistance. Mithun was next to join the blue cause and Anirudh followed soon after. The trio have been wrecking havoc in the locality going on long lunch breaks capturing portals and making fields.

You're the worst

A new TV series on FX that follows two toxic, self-destructive individuals who fall in love and attempt a relationship. Trust us, it's not your run-of-the mill mush fest. Set in L.A. the series pokes fun at hipsters and your typical hollywood stereotypes. We're totally hooked for now and hope the LOLs continue.





RIP "O Captain! My Captain!"

Robin Williams passed away last month. Apart from getting emotional and sad about how he touched all our lives, we decided to induce some nostalgia and pay our own little tribute to the man who gave us so much happiness. We watched some of Williams' best standup performances, movies and TV interviews.

digit DIARY

This month's diary is written by an impostor who sat on the usual biographer who documents the goings on of Digit staff through the month, crushing him under his enormous weight. Nope, not Jayesh "Big Daddy" Shinde sitting on Anirudh "r4gs" Regidi. That'd be too depressingly obvious now, wouldn't it? Good that you agree.

Not a normal month by a long shot, seeing what all Team Digit went through, as if the technology gods screamed "woe betide you all!". Well, not all. Two people, in particular. Siddharth and Robert. I'll start with Siddharth, and the minor hell he had to endure, not unlike Dante burning his hands while barbecuing kebabs on the North Pole (before he descended into the *real* hell). You see, Sid's wisdom tooth was removed, after it grew a mind of its own and tried to grow laterally and started pushing around teeth well beyond its years. They were having none of it, complained to Sid's dental nerve, and to cut a long story short he had to walk through dental hell. The subsequent jaw-drop he experienced after receiving the doctor's bill led to another minor injury not worth elaborating here. The poor guy's also been whacked around by the glum, depressing, virus-infested monsoon weather, coughing and sneezing heavily all the way from Independence Day till issue closing. Send him hugs and kisses, will you? Thankies.

Robert also had an unforgettable August, as a robber broke into his house but stole only his backpack lying near the window. Nothing else. No valuables, no money, but everything in his wallet and a product which he was testing – and his house keys, credit cards, car keys. Canceling or replacing these cards and keys proved to be too stressful than he thought it would. But what a lousy robber, right? These amateurs, I tell you. Maybe he watched Dane Cook's "Breaking and Entering" and took it too literally – http://dgit.in/BreaknEnter. Don't laugh too hard, be warned!

Siddhant "The Ant" Sharma returned briefly and Jayesh wasted no time in reminding him how the best place he would never be made fun of or ridiculed would be inside the privacy of his own bathroom. The hole that Ant left in all of Team Digit's heart is slowly being filled by its newest intern: Mr. Abhijit Dey. Instead of calling him the Bengal Tiger, Sundarban Superman or Howrah He-Man, Dey's day of reckoning still hasn't arrived – he's having to do with nicknames like TubeDey, Roshagullah, Jol Dey (Jaldi), and Dey & Night. The short man from Bengal is taking it all in his stride, though, much to everyone's amusement. Bongs are tough to crack down it seems – they're like the Irish when it comes to enduring psychoanalysis. A rock.

The team's on-again-off-again relationship with The Pony (Prakrit Dhondiyal) continued, as he returned from his "passion project break" last month. He wouldn't tell the team what he was up to, but everyone suspects that he was up to no good. Was he waxing eloquent about vapours of ether or was he discovering new species of geckos in the Western Ghats? Whatever it was, he wouldn't spill the beans. The rest of the team has a sneaking suspicion that he either dozed off like Kumbhakarna or isolated himself to a room to play through the entire Mass Effect trilogy. Knowing Prakrit all too well, you can never say for sure. He's completely capable of pulling off either of the two stunts.

Nothing much to report of Anirudh or Mithun's month, apart from the fact that their "mutual admiration game" (World of Tanks) leaves them writhing on the floor with uncontrolled excitement, like little girls giggling and gushing over their barbie dolls. It's adorable to see. Whenever the two start exchanging notes of their exploits in the game, they go into a cocoon, rambling on and on. The rest of us order popcorn and just enjoy the show.

SKOAR!

CHILD OF LIGHT

Prakrit 'The Pony' Dhondiyal
readersletters@digit.in

Ubisoft's recently launched RPG Child of Light is artistic and thoroughly enjoyable – and not as lengthy and time-consuming as most other role playing games. The game is a side-scroller Role-Playing game borrowing elements from classic Japanese RPGs. The game vaguely represents the Trine series in form but its visuals are more rustic and are made to look hand-drawn and painted.





The Story

The game starts with its lead character - Aurora - a princess of 1980s Austria lost in an alternate dimensional dark world called Lemuria. The tale starts off with her as a lost child awakening in Lemuria, as she takes on her quest to restore the light - the sun, moon and stars - in Lemuria which have been taken away by the Dark Queen Umbra. But her main goal is to find her way back to her father, The Duke She is joined in her quest by the unlikeliest of companions. Like a willow-the-wisp called Igniculus, a pair of rickety jester siblings, a rapier-bearing mouse with dreams of grandeur and a bumbling wizard (of course). Child of Light has a story that would take you back to the age of fairy tales. The entire story consists of eleven chapters and a very nostalgic fairy-tale story.

The Gameplay

Being a side-scroller, one would not expect the kind of detail and intricacy that Child of Light delivers. At first glance, it may seem childish with its character and storyline. And the game as a whole is admittedly not very difficult by modern standards of RPGs like Dark Souls or even other JRPGs like Final Fantasy and Septerra Core, but it would be a good reworking of games of the likes of Final Fantasy VII. The French game creators at Ubisoft Montreal show a vast knowledge of the JRPG genre, but twist it into something new with the story and artwork. The incorporation of obscure side quests, for example, require you to be alert throughout the game, for you never know when a background character's comment may be the key to finishing a quest.

The combat in the game (for what is an RPG without kids slicing and dicing monsters) is turn-based – a tedious process for some, but for someone who's grown up in the heyday of RPG games, its not very daunting. Using the trope of 'Oculi' to infuse your attacks with additional elemental damage, or simply boosting your health, defense or attack is also a classic.

The controls are also interesting. In addition to the keyboard controls, the mouse is used to control Igniculus, whose main purpose is to blind enemies (both in and out of battle).

The puzzles in the game aren't very challenging, but do require acclimatization of the gamer into the artwork that is the world of Lemuria.

Narration, Visuals and Atmosphere

One of the interesting features of the game is the narrative structure. The entire narration of the game is in a rhyme scheme. Something that plays into the game itself. Rhyme in the game is considered the polite and proper way of talking. For example, when the jester Rubella shows her inability to rhyme (and talk almost normally), other characters interject to correct her (and do so within the meter). The world's equivalent of 'comic relief'.

The game holds you in with the visuals and general atmosphere. The attention to detail is commendable. The artwork is intricate and gorgeous to look at, holding your attention through every attack, every boss fight and character dialogue, not letting the game get boring at any point of time.

Bottomline

All-in-all, Child of Light is built in such a way that it is almost impossible to do wrong by it. The game is built for gamers of all ages, and fun for anyone who isn't the kind of gamer who goes AAA-title-hopping for a dose of 'serious' gaming. *

MOAR!
Genre: JRPG-Platformer
Developer: Ubisoft Montreal
Publisher: Ubisoft
Platform: Windows, Playstation, XBOX, Wii





Missing the mark

Anirudh Regidi
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You've spent the last few hours scrambling through undergrowth, wading through knee deep pools of mud, picking off wandering sentries and camouflaged snipers. You haven't had time to relax, you're deep behind enemy territory and you know that your target is only 1,500m ahead. You find a nice spot, a tree that's overlooking the barracks, you carefully make your way to the top, making sure that you don't break any branches and you settle in for the long wait.

The actual shot is a calculated, controlled and exceptionally tense moment. A moment where you hold your breath, steady your heartbeat and gently pull the trigger. You hear the sharp crack of the rifle, feel the jolt of the recoil in your shoulder and get a whiff of gunpowder. The success or failure of the entire North African campaign depends on the bullet, it must not miss its mark.

The aftermath is no less satisfying, but less tense. All you see is a vague splatter of blood on a wall– you didn't miss. Soldiers are running helter-skelter, shooting randomly in your general direction. You're not worried, you chose your spot well and none of the shots are even coming close.



This is what you'd imagine the life of a sniper is like, this is NOT Sniper Elite III. SE III is a vaguely stealthy shooter that has you "sniping" enemies from 150m and masking your shots with the put-putting of a wheezy generator, a game where you can't shoot through the flimsiest of wooden planks but can observe the shattering of bones and muscle in the minutest detail, a game where an M1 Garand is a sniper rifle and a game where enemies forget about you once a certain amount of time has passed.

The game focuses too much on the death animations, which are, to be fair, excruciatingly well-detailed and fun to watch the first dozen times or so. Sadly, they get tiresome after a while. What you really want is a more visceral sniping experience, the ability to shoot through objects, longer range encounters, watching limbs fly.

The problem with this game is that it's too tame, the only highlights are the various death animations. There are too few occasions where you can really express your skills at sniping as most missions just boil down to finding the right spot, tagging all the enemies and picking them off one by one till they're all dead. The right spot is almost always a blindingly obvious one.

Verdict

Sniper Elite could have been so much more, the definitive sniping experience, a playground for elite snipers (and campers) but somehow, it falls short of that mark. Multiplayer is definitely a good enough reason to pick up the game, though sadly, finding a server with low enough pings is quite hard.

Should you pick up this game? Only if you're a hard-core fan of the series. For everyone else, Sniper Elite V2 still offers a much better sniping experience. *



MOAR!
Developer: Rebellion Oxford
Genre: Tactical Shooter, Stealth
Price: ₹1,499 (Windows)



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digit SQUAD

Every month we highlight some aspiring tech writers and their spirited attempt to get published in the magazine. Let's have more!

Secure Wordpress & Game engines



Kathakali Banerjee

6 Steps to secure your Wordpress access

The 21st century is flooded with technological advancements and as every development bears with it a negative impact, so does technology. WordPress is the most popular content management system (CMS) widely used by more than 60 million websites. A number of security breaches have been reported recently and the entire WordPress world is agitated due to it. To all the WordPress users, keep calm and take some easy precautions to protect your website from entering the hackers' domain. Here are SIX simple steps to secure your WordPress installation:

#1 Keep Your WordPress Updated

One must never download or install WordPress from any other website than the official one. Since version 3.7, WordPress has introduced automatic updates. WordPress Dashboard can also be used to get regular information about updates. Read the entry in the Dashboard or the WordPress Developer Blog to know the steps needed to be updated and remain secured. If you are an administrator in charge of more than one WordPress installation, use Subversion to make management faster.

#2 Use SFTP Encryption

You should always use SFTP encryption to connect to your server if your web host provides it. If you are doubtful whether your web host provides SFTP or not, just ask them. Using SFTP is quite similar to FTP, except that your password and other data are encrypted while being transmitted between your computer and your website.

#3 Configure Your .htaccess and Protect wp-config.php

.htacess is a configuration file that enables you to override your server's global settings by limiting file access, for the particular directory that contains it. One can either find it in the root of the website or can edit it using WordPress SEO plug-in by Yoast.Just copy and paste the following code snippet in your domain's root .htaccess file to prevent the external access to any file with .hta.

```
# STRONG HTACCESS PROTECTION
<Files ~ "^.*\.([Hh][Tt][Aa])">
   order allow,deny
   deny from all
   satisfy all
   </Files>
```

Protect your wp-config.php file with this code:

```
<files wp-config.php>
order allow,deny
deny from all
</files>
```

#4 Hide your Username from the Author Archive URL

It is highly recommended that you hide your username from featuring in the authors archive URL. This will create difficulty for a hacker to break through your website. Here's how you do that:

1. Login to your Hosting Account
2. Open phpMyAdmin to view your WordPress database
3. Select the wp_users table.
4. Change the code in the user_nicename column to something you wish to be displayed in the URL (preferably the code in display_name column). Make it different from the entry in the user_login column.

#5 Install a security Plug-in

There is a variety of plug-ins which can provide you with myriad of security options. Wordfence is generally recommended, because it starts working as the page loads. Wordfence claims to provide Enterprise class security and is still 100% free.

#6 Reduce Access

Give the users restricted access only to their field of action and remove them once they are done. This should be practiced across any type of information system - WordPress, FTP, your databases or any other logins. One must use an administrator account only while performing administrative tasks. This further focuses on two easy ways to prevent brute force attacks on their WordPress login page – /wp-admin or /wp-login.php. : Firstly, by enabling two-factor authentication on WordPress admin. You can use the Google Authenticator plug-in. Secondly, you must know that by default WordPress allows unlimited login attempts which enable hackers to brute-force passwords (or hashes) very comfortably. The Limit Login Attempts plug-in lets you limit the number of login attempts that can be made on your WordPress website. Thirdly, let's say a hacker manages to gain access to your WordPress Dashboard, he can now execute whatever code he wants to and can gain complete control over your website. In order to prevent this, disable file editing via Dashboard. You can do so by adding the following line to your wp-config.php file: 1 define('DISALLOW_FILE_EDIT', true); Being safe is not in your hands but being secured is. Instead of crying over spilt milk, it's better to take measures that will position you at a safer place.

Note: The Author works with Czar Securities, a security venture started by a bunch of Digit Readers.

COMMUNITY CREATIONS

The diverse digit community has quite a few enterprising individuals who've created PC software, websites, extensions, artwork, games and apps. We feature one such enterprising individual each month along with their creation.



V Subhash

Having written code in over a dozen languages since the mid-90s, including DOS batch files, DEBUG assembly scripts and Linux shell programs, Subhash is a veritable jack-of-all-trades. An encyclopedic knowledge that spans through multiple subjects including history, science, business, politics etc. puts him apart from the crowd. Subhash works as a technical writer cum webmaster cum sysadmin while pursuing multiple hobbies in his free time that include DIY electronics and mobile programming being the latest ones to grab his attention.

Creation: Subhash Browser



This browser takes after the pre-Blink Opera browser on the desktop but uses Chrome underneath in Android 4.x and AOSP browser in older versions. Thus, you get all of the power and none of the bloat! It has 25 search engines – all customizable and replaceable. Web programmers can extend the functionality of the browser using User JS and User CSS. The integrated RSS feed reader is its USP. Do check out his apps on the Google Play Store - http://dgit.in/VSubhash



Dileep M

Nex-Gen Game Engines

The hope for better gameplay, storyline and destruction means gamers aren't easily satisfied. Every engine has its own way of creating the ultimate gaming experience. Here are a few:

#1 Unreal Engine 4 (Unreal)

The fourth edition of UE features voxel – cone tracing for lighting. In most of the games, a scene's lighting is pre-computed and dynamic lighting occurs only when objects are hit with a direct light source. UE4 uses realistic global illumination. Depending upon the type of object (diffuse or specular) the colour, amount and the way of light bouncing off it will change as well. The volumetric particle system interacts with direct and indirect light. The engine also has subsurface scattering, enabling more realistic objects to be rendered. Two modes in the engine – 'Immersive' where you can interact with the environment you created and 'Editor' where you get dockable panels to manipulate objects.

- UE4 Features Demo - http://dgit.in/DCUE41
- UE4 Elemental Demo - http://dgit.in/DCUE42

#2 CryENGINE (4th Generation) (CryTek)

CyrENGINE's visuals are rendered using Physically Based Shading (PBS) model which simulates the interaction between light and objects using real world physics. The robust vegetation system allows for massive amount of vegetation to accurately render real world physics down to individual leaves. CryENGINE supports DX11 hardware tessellation for creating refined meshes and Pixel Accurate Displacement Mapping (PADM) for rendering massively detailed geometry without excessive amount of triangles. For developers the character animation tools has a lot to offer.

- Cryengine 4 Demo - http://dgit.in/Cry4Demo

#3 Snowdrop (Ubisoft)

The Snowdrop engine from Ubisoft is a 'node-based scripting system', which connects every object and action in the game together. In-game features include day and night cycle, volumetric lighting, global illumination and procedural destruction which enhances the precision of destruction of objects. There are no pre-baked destructions.

- The Division demo - http://dgit.in/DCSnow1
- 1 hour of gameplay - http://dgit.in/DCSnow2
- Snowdrop developer diary - http://dgit.in/DCSnow3



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