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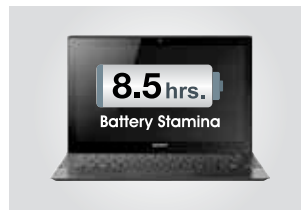
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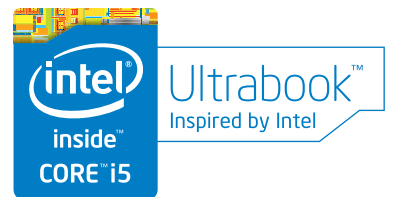


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Five Cs for the future

When you try and take a loan, a bank or a lender looks at five Cs for you – Character, Capacity, Collateral, Capital and Conditions. Character is your reputation – do you have a history of bad credit? Capacity is your ability to repay – a big enough salary, existing debts, etc. Collateral is what you're putting up to minimise the risk to the lender – property for example. Capital is similar, in the sense it refers to how much you have, and are risking from your own pocket. Finally, Conditions define the loan amount and the interest rate, based on your age – how close or far away from retirement you are...

No, I'm not going to give you a finance lesson this month, especially since I consider myself to be pretty terrible on the subject. The only reason I bring it up is because I've modified these five Cs of finance into my own little rules of what will govern the ultimate form factor of the future. I believe it's the convergence of these "five Cs of technology" that will drive the ultimate devices of tomorrow...

The first one is pretty straightforward – Computing. The entire reason that technology exists is that we've relied on shortcuts or machines to do complex mathematics. At first it may have just been to count, but later it was aimed at complex calculations – distance, speed, time, navigation, etc. Today, tasks are broken into calculable chunks and Computed by a CPU to give you answers – everything from currency exchange rates to rendering a game. Put simply, it's the need for as much Computing muscle as possible.

Capture is my way of saying "saving stuff". Everything from your movie collection to your photos, music, the wall paper on your phone, bookmarks in your browser, and just any chunk of data is you Capturing something, and saving it for later. A Google search is you accessing what Google Captured, your Facebook page is a Capture of your online social life. This is one of the most important tasks we need technology to do for us today.

Personally, I think Consumption is main reason the internet exploded at first, not the fourth C (Communication). We didn't want to connect the world to chat about the weather, we were hungry for knowledge, we wanted to Consume. Whether it's reading a web page, a Facebook update, watching a video, listening to


music, you're Consuming content. This is what devices today are best at achieving – your PC and your phone are equally capable of satiating this need of yours.

Communication is what is responsible for Facebook, cell phones, emailing, IM-ing, video conferencing, etc., Regardless of whether we communicate using PCs, phones or tablets, all form factors of devices of today seem to excel at Communication.

Creation is the real chink in technology armour, and has always been. There's always some device that's better at creating certain types of content than another. Your phone can click a photo like a dedicated camera can, make a call as clear as a landline, video chat like on your PC, consume just about any kind of content as on any other device, but it sucks at creation in many ways. It also can't capture as much as, say a PC can. PCs on the other hand are not portable and thus communication is impossible when moving, you cannot capture memories as they happen.

There are tough challenges ahead – for example text Communication and a lot of Creation still depends on the keyboard, while Consumption does fine without one. When it comes to Computing and Capture, your phone pales in comparison to the average PC, and a tablet finds the middle ground for Capture, but fails quite often on Creation.

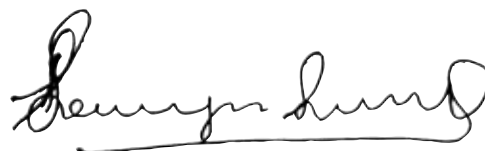
Each C is also best married to certain hardware and form factors – Consumption is best done on large screens, but Communication is best on portable devices (small screens). Good Computing capability is desired in any device, as is the ability and flexibility to Create, but then portability (Communication and Consumption on the go) suffers because of shorter battery life.

The form factor and devices that will win out in the end are going to be devices that give us the ability to experience the five Cs in the best way possible. Our cover story this month attempts to find just what permutation or combination of form factors, GUIs and the five Cs is most promising. 



Robert Sovereign-Smith
Executive Editor
editor@thinkdigit.com

"I believe it's the convergence of these "five Cs of technology" that will drive the ultimate devices of tomorrow..."



Liked or hated this column?
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Disclaimer
 For every Digit contest, there will be only one winner, unless specified otherwise.
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PRODUCTS REVIEWED THIS MONTH

Bazaar

- Sony Vaio Pro 13 (SVP1321WSNB)
- LG 32LN5150 Transform LED TV
- Lenovo IdeaPad Z400 Touch
- Logitech Extreme 3D PRO
- Asus S400C ultrabook
- Sony Vaio FIT 15E
- LG Optimus G Pro
- Zebronic Shield
- Galaxy
- GTX 770
- Lenovo K900 smartphone
- FusionStor Inova 400 NAS
- Fujifilm X-M1
- Toshiba DT01ABA100V
- AVG Mobilation AntiVirus PRO
- Toshiba Satellite P50-AI0010
- Creative HITZ MA350
- Nokia
- Lumia 520
- Micromax Canvas 4
- Lava Iris 504Q
- Samsung Galaxy Grand Quattro
- Xolo Q1000
- Samsung Galaxy Mega 5.8
- Videocon A55HD
- Huawei Ascend Mate
- Acer Aspire R7
- ASUS GTX 760 DCII

MFD Test

- Ricoh Aficio SP203SFN
- Ricoh Aficio SP 200S
- Ricoh Aficio SP100SU
- Panasonic KX-MB1500 SXB
- Brother DCP-1511
- Brother DCP-7060
- Brother DCP-7065DN
- Brother MFC-1811
- Epson L210
- HP Deskjet InkAdvantage 6525

Touchscreen Laptops Test

- HP ENVY 11 TouchSmart
- Asus VivoBook F202e
- Acer Aspire V5-471 (MS2360)
- Lenovo IdeaPad Z400 Touch
- Lenovo IdeaPad Z500 Touch
- ASUS VivoBook S550CA
- ASUS VivoBook S400CA
- Samsung Series 5 Ultra Touch (NP-540U3C)
- Sony Vaio Pro 13 (SVP1321WSNB)
- Dell Inspiron 15z with Touch
- Lenovo ThinkPad Twist
- Lenovo IdeaPad Yoga 13
- Dell XPS 12



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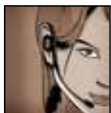
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TOUGHBOOK

Beyond the bull****



Siddharth Parwatay
Features Editor
siddharth.parwatay@thinkdigit.com

“Find out what makes things tick, and don’t get swayed like the rest of the sheeple out there.”

As a technology journalist, keeping up with this ever changing world can be quite a task. A new product is revealed, a software is updated, a startup is bought over, there’s something new every day, or every hour – it’s just mind boggling! Most of what I write about as state-of-the-art today has the shelf life of fresh cream. But that’s what makes it all the more exciting.

Take for instance my recent quest to get myself a new phone. I had so many new technologies, specifications, models and brands to choose from. Finally, I settled on one that had a TriPhoton sensor, ColdForge housing, and a Petamicron processor. What sealed the deal was the all new Anirobular display! This would be exciting news, except none of the technologies I mentioned actually exist.

The first three are just random rubbish, and *Anirobular* is in fact just an amalgamation of Anirudh and Robert – both of whom are always cribbing about every display they use.

Yes I pulled the 3 Idiots gag on you and my apologies for drawing you in, but I’m trying to highlight the growing trend of inventing marketing monikers and just renaming run-of-the-mill technologies to something fancy to make them sound groundbreaking.

Now when I hear words such as *UltraPixel*, I cringe and ask myself, “Is this a marketing buzzword created by ponytailed yuppies in a boardroom, or actually something born out of a bonafide research laboratory?”

As a Digit reader, you’re already aware that Apple’s Retina Display is in fact just a high-resolution LCD screen with a ppi rating of 300+ at close range, or that ClearBlack is just a regular AMOLED with a polarized layer packed in – much like anti glare sunglasses.

Why can’t companies just call things what they are? Why hide behind invented terms? It’s because they want you to buy, and you will if you are dazzled by their little gimmicks.

Companies also want to obfuscate the underlying technology, add a sense of mystery and leave things open to interpretation. Sony, for example, has been talking a lot recently about its *Triluminos* displays. If you go by marketing material, they use these mystical things called Quantum Dots to produce “true, natural shades of colours”. How? That’s left to your imagination.

Google Quantum Dots (QDs) and you find that researchers at MIT and QD Vision have been

working for a decade to use these QDs as actual pixels without filters, since they output a much purer colour than other lighting sources. However, it’s hard to achieve for large screens still. So has Sony finally cracked the technique?

No. Sony’s Triluminos displays are simply modified LED LCDs, which use pure blue LEDs (instead of white), and a couple of quantum dots per LED to get purer forms of colours going into the regular RGB filters. This isn’t technically a true QD display, more like a QD-supported LCD, just as LED panels are actually LED LCD panels, but most people won’t know that.

It’s not always the case though, because some monikers actually help describe a technology that is too technical to explain otherwise.

Sticking with display technology, take the example of the Kindle Paperwhite. The Paperwhite’s e-ink display has a front light that’s diffused onto the screen evenly using optical fibre that’s been flattened out into a sheet. This forms what Amazon calls a *Light Guide*, which really is something innovative, and all of this information is easily available.

At other times, there really is a completely new underlying technology for which a name just evolves. Electrowetting, for example, is currently being pioneered by a company called Liquavista. Displays based on the principle of Electrowetting use an oil that responds to electrical charge. Such displays are reflective (like e-ink), but with much greater refresh rates. When this technology becomes commercially viable (in all probability, combined with the Light Guide) you will have a new name to remember – something like OilectroD, OLit Display or OiLED – but that will certainly be more justifiable than calling something that already exists a new name.

** Points finger at Apple’s Retina display again **

It’s what we’ve always aimed to do at Digit: prevent you from falling into traps and getting swayed with jargon like the rest of the sheeple out there. While these new “technologies” may certainly be improvements over existing ones, you will always have the quiet satisfaction of knowing that while your friends sound amazed with the recently resurrected *Hyperloop* concept of 2012, you will be able to calmly point out that it’s merely a reinterpretation of the VacTrain (evacuated tube trains) from the 1970s! Here’s looking forward to many more years of cutting through the bull**** together on this exciting journey through technology. 



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CPU	Intel® Core™ i3 3220 Processor	Intel® Core™ i3 3220 Processor	Intel® Pentium® G2030 Processor
OS	Windows 8	Windows 8	Windows 8
Memory	6GB DDR3 at 1600MHz	4GB DDR3 at 1600MHz	4GB DDR3 at 1333MHz
HDD	1TB HDD	500GB HDD	500GB HDD
Display	21.5" (54.6cm), 16:9, Full HD 1920x1080, LED-backlight	21.5" (54.6cm), 16:9, Full HD 1920x1080, LED-backlight	20.0" (50.8cm), HD+ 1600 x 900, LED-backlight
Graphics	NVIDIA® GeForce GT610M 1GB	Intel® HD Integrated Graphics	Intel® HD Integrated Graphics
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The next-gen consoles from Microsoft and Sony are certainly gathering all the buzz

**My Tracks update**

Google's My Tracks has been updated with revamped status view and improved location tracking. You can download it directly from Google Play: <http://dgit.in/197Cc19>

✉ Hi Team Digit, how are you all? This month's issue was awesome. The "Mafia Sagas" cover story was great, specifically the story line. Usually I take a lot of time to read the articles but this time the storyline was so awesome that I didn't even take a bathroom break. All hail Anirudh Regidi! "Jahapana, tussi great ho."

You left out something important from the magazine – the BlackBerry. How could you even forget about Don Mikey Lazzardo's lack of knowledge about the number system (inspired by your title of "What happened to OS 8 and 9")? Or did you leave it out because you wrote the Fast Track about BlackBerry? In The RSS Feed, you said that the terms are in an alphabetical order so you could have found some place for 'B' also.

In regards to the article about "The Ultimate HTPC", you mentioned that the home theatre PC didn't cost you more than ₹68,000. In your Killer Rigs section based on the configuration, the cost of the HTPC is in the range of ₹26,000 - ₹30,000 while the cost of the ultimate HTPC is more than twice that amount. It's like a mid-range gaming PC.

Well, the complaints are over and now it's time to praise you guys for your hard work. Though you spent a bad month (known from Digit Diary), the new Digit Squad section was cool. I found out a lot about the Nokia Lumia 1020, which couldn't really be ascertained from rumours. The Geocaching article was another great article. The DGT supplement burned a hole in my father's pocket as I uselessly spent quite a lot of money on the shopping sites you mentioned.

Happy Raksha Bandhan to Team Digit.

Soumya Chowdburi

📌 Thanks a lot for your mail. It's readers like you that we write for :)

The cover story was a source of much controversy in the office. It wasn't just BlackBerry, we left out companies like Steam, EA, eBay, Nintendo, Atari, and many more. Quite frankly, our initial plan was to do a complete "Yakuza Papers" style retelling of the entire tech world and that would have been awesome. Sadly, a story of that magnitude would have filled a couple of magazines or more and we

Feedback for the August 2013 issue of Digit

had to take a call on where to draw the line. Yes, a lot of companies were left out, but we were hoping that the article would trigger off our readers' imaginations and send them on a quest to discover the entire story for themselves.

Coming to the HTPC, the plan there was to build a PC that would suffice for home use without compromising on performance but small enough to hide in a closet. The PC would have to be compact, cool, and powerful at the same time, hence the choice of components. The 650Ti for example, we could have easily plonked in a 780, but there didn't seem to be a point in it. A 650Ti is sufficient for gaming and runs cool and is small enough not to impede the air flow in such a tiny cabinet. The HTPC we normally mention is just the opposite, a bare-bones PC capable of playing back media and maybe the occasional arcade game.

Anirudh

✉ I just couldn't wait to write my first mail to you. You guys are awesome. I just love your reviews. I know that there's a lot of hard work put in to the magazine as it shows. I really want to thank you guys for making me the gadget guru of my school. Impressed by my knowledge of gadgets, my friends have also started buying the magazine and they love it. Don't take this as criticism but as an encouragement:

your cover story was great but it could have been much better. I know there was a lot of hard work put into it but it still came up short.

Despite that, you guys rock to the core so keep publishing the magazine. I pray that Digit never shuts down. I dream that one day my kids would also be reading your awesome articles and I'd be telling them "This is the best magazine ever!"

Anmol Dband

📌 Thanks for wishing Digit never shuts down. It's good karma from well-wishers like you that keeps us going month after month. With our readers' blessings we'll be around for quite some time. It's true what you said about the cover story. They're a tricky puzzle to tackle each month. Sometimes the concept is a hit while the execution is a miss, but we're constantly striving for utmost quality in both aspects. Hope we can make it up to you this time, after all it's master wordsmith Robert himself taking over the cover story this issue.

Siddharth

✉ Hi Robert, your work is admirable not only in terms of magazine text but also in terms of DVD content and new additions such as Skoar! and Fast Tracks which always rock. With changing times, CD/DVDs are legacy now and using a dual-

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Microsoft's ID@Xbox

Microsoft's come up with its brand new self-publishing program called ID@Xbox for independent developers. It is expected to make a debut later this year.



Google+ native translations

No plugins, no extensions! Google has introduced its native translation support to Google+, and started first rolling out to the desktop version

LETTER OF THE MONTH

✉ I'm writing to you for the first time. Digit is the coolest magazine in my view. I love technology and everything related to it, and Digit delivers information about the same, right from the best GPUs and laptops to cell phones and motherboards. I especially like the DVDs that contain ultra-cool giveaways catering to crores of Digit readers with different tastes. It would be great if Digit had a question-answer forum kind of thing. I'm learning to hack, protect, recover and create something wonderful from a single magazine called Digit. Many technologies are being discovered daily and



we're made aware of them, thus saving us from outdated technology. I wait every month, not for any occasion, but for Digit to be published and be in my hands. Hats off to you guys. Keep up the supercool job! I really want to know: do you guys get any holidays? Is tech your passion or job? My questions are endless so this is enough for now.

Supriyo Chakraborty

💡 Passion. None of us is here because of the Job aspect, which irritates our families :-)

Jobs you take breaks from, passions you can't.

Robert

layer DVD on my VAIO laptop is a highly tedious task. The laptop vibrates and creates a lot of noise as if it's going to explode and it also overheats.

I use my DVD drive for your DVDs only; the rest of time I use pen drives. Can you please come up with an alternative to DVDs. I prefer pen drives over even the internet since bandwidth is low in our country. If you have any other alternatives, please share. I know the cost associated with pen drives is high, but, it's high time for sure that you came up with an alternative solution for DVD content. Many other Digit techies must be facing the same problem.

Waiting for your positive reply.

Vaibhav Jain

💡 Yes we've been trying to do this for ages now, but the costs are just ridiculous. The cheapest deal we can get on pen drives would increase the cost of Digit to at least Rs 350 per issue, and that's not even taking into account the amount of losses we will incur if couriers and post start stealing the 16GB pen drives to resell them. A stamped DVD has no resale value for handlers, and yet many times those go missing. I shudder to think of what losses a perfectly reusable pen drive or memory card would cost us. Besides

don't you have a friend who can just dump the DVD contents for you on a pen drive? Once a month, should not take more than an hour a month :)

Robert

✉ I've been reading Digit since two years and I'm a big fan of yours. I can't tell you how I became such a big fan; it's a big story, so I'll tell you in my next mail. For now, I must say that you and your team have bought me huge respect from my friends. You must be knowing about the CTC quiz. Well, my friends participate in it and some of them have won also, but they thank me for telling them about your magazine but the appreciation rightly belong to you guys.

Yes, I do have some suggestions. I'll start with last month's magazine, more precisely with SKOAR! It was wonderful but some videos were not working. However, there's no need to worry since the videos can be seen on the DVD. Next is a concern raised by most readers - the DVD interface. You have the talent to improve it so it can be made better. Lastly, I'll come to the magazine's cover page. Please stop using the Kaspersky ad for the back cover because I'm getting sick of it. Whenever my friends ask me about anti-virus software, I always recommend Kaspersky. Yes,

Kaspersky is the best of all but please do something about it.

That was all the advice I could give. Now let's get to my favourites. The DVDs have always been a favourite but from the magazine, I can spend my entire day reading the ESC, Sci-Tech and, of course, Digit Diary sections. I won't ask you to increase their length but will say never stop publishing those sections. Keep doing a good job.

Sorry for any spelling mistakes as I'm not very good at writing in English.

Shubham Kumar Mishra

Thanks for your feedback, we really appreciate it. However there is nothing we can do about the advertising - just as the Ad-sales team is not allowed to tell the Editorial team what should and shouldn't be written, the Editorial team does not interfere with who should or shouldn't advertise and where. This is the only reason our magazine has always been completely unbiased and gets the respect it deserves.

In fact, most people do not know this, but sales people are not even allowed into the Editorial bay, and vice versa. We don't even encourage out of office friendships between members of the two teams!

I hope you understand why we take such extreme measures - remaining totally unbiased, and factually correct is the best way we can serve you, our readers.

I will look into your other suggestions and complaints. Thanks again for your letter.

Robert

✉ I want to thank you for changing my perceptive towards editorials, which I used to consider boring. The August editorial was so well written that it kept me interested from the beginning to the end. Now I look forward to reading the Digit editorial every month. The way the story unfolds in your editorials is quite amazing and it reminds me of some very good movies like 3 Idiots. And the good thing is that these editorials are becoming better with every issue of Digit.

Keep up the good work.

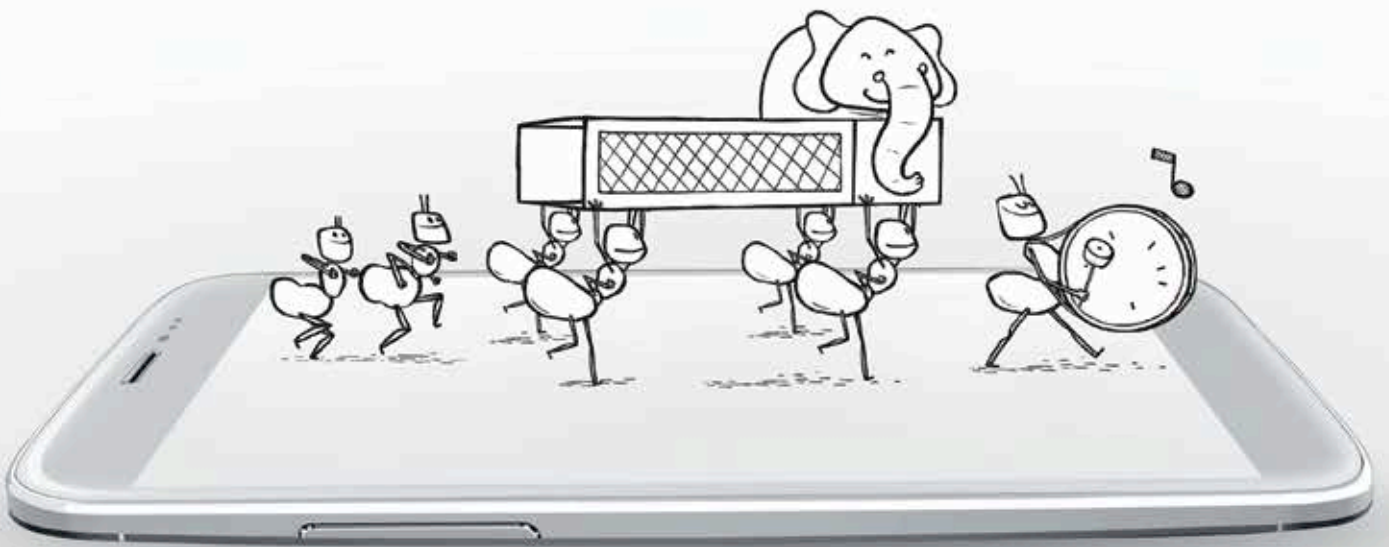
Nikhil Sharma

💡 Thanks Nikhil :)

Robert

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Nimbuzz updated

Nimbuzz, the social app for Android was updated recently. It brings in a number of new features with better file sharing options.



Roccat Kave XTD 5.1

A successor to the Roccat Kave gaming headset in the form of Roccat Kave XTD 5.1 was released recently.

Just Press Play

The next-gen consoles from Microsoft and Sony are certainly gathering all the buzz, and apart from looking at their respective Gamescom revelations, we celebrate the success of the Raspberry Pi!

Sony reveals PS4 launch date, line-up and price

Sony's Gamescom conference was home to some rather interesting and exciting revelations about current and next-gen consoles. The press conference kicked off with a world premier demo of the PS4 UI. More details here: <http://dgit.in/1duHEXH>

The highly awaited next-gen console from Sony got an official launch date for November 15 in North America, while in Europe it will be launched on November

no longer a certainty. This isn't too major a problem for the company however, as its biggest competitor in the console space, Microsoft, will also only be releasing the Xbox One in 2014 in India.

Other highlights from Sony's Gamescom 2013 press conference include the price slashing of the PlayStation Vita and PS3. PS Vita prices will drop to \$199, whilst the 12GB PS3 will be priced at \$199/€199.

Sony has continued to focus intensely on Indie games, and debuted original titles from indie developers — both already-existing games and original exclusives for the PlayStation 4.

The launch line-up for the PlayStation 4 includes 33 games for the system due to be released before the end of the year. Sony says that there will be 15 disc-based games (available as downloads),



Sony's PS4 is expected to be launched in India in 2014

29, with a total of 32 countries making the list. The PS4 is priced at \$399/€399/£349, and Sony claims to already have over a million pre-orders!

However, India has not been included in the list. Sony Computer Entertainment India Country Manager, Atindriya Bose told MCV India that a 2013 launch for the PS4 in India is

and additional download-only titles. The titles that will be available on the launch date will be *KillZone: Shadow Fall*, *Watch Dogs* and *Drive Club*.

Microsoft reveals Xbox One launch line-up, free dev kits

At Microsoft's Xbox One Gamescom showcase event,



ID@Xbox – Microsoft's attempt to add more Indie games to Xbox

the company announced independent publishing platforms aimed at independent developers who are considering publishing games for the Xbox One and are afraid it might be a costly affair. Independent Developers @Xbox is aimed at making the development and publishing of indie video games more accessible than it was on Xbox 360.

Developers can apply for the program, and post-registration will receive two Xbox One development kits, all free of cost. Program Director Chris Charla adds, "We want to be inclusive rather than exclusionary". To begin with, Microsoft is bringing in a smaller number of developers for approval, with more joining the fold as every Xbox One becomes development capable.

"The program is open to developers of all scales," says Charla, whether it's one guy in his basement coding the next miniature masterpiece, or an AAA studio.

Microsoft also revealed the full list of titles that will be

available with the Xbox One at launch, including: *Assassin's Creed IV Black Flag*, *Battlefield 4*, *Call of Duty: Ghosts*, *Crimson Dragon*, *Dead Rising 3*, *FIFA 14*, *Fighter Within*, *Forza Motorsport 5*, *Killer Instinct*, *Loco-cycle*, *Need for Speed: Rivals*, *Ryse: Son of Rome*, and more. Check out the complete list here: <http://dgit.in/14YbyTw>

ID@Xbox is the result of a poll conducted by Microsoft of more than 50 developers to learn what they wanted from a self-publishing program.

An exact launch date for the next gen console is yet to be announced, but Microsoft said at E3 that it would arrive in November. Microsoft also confirmed that Xbox One will only be launched in 13 markets in 2013.

Nokia to showcase Windows tablet in September?

At the time of writing this story, Finnish mobile manufacturer Nokia is reportedly all geared up to host an event in New

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Released the Kraken!

Razer unveiled the newer version of the Kraken and this time it is a 7.1 channel gaming headset.



Corsair Force LS

A new SSD from Corsair sees the light of the day with the new entry level Force LS series. This new series uses the Phison controller.



Nokia's rumoured Windows tablet

York in September, where it is expected to showcase its first tablet. WP Central reported that the handset giant may host an event on September 26-27. However, details regarding the event – whether it's a public press event or an internal meet – are still uncertain.

Rumours have it that the to-be-unveiled tablet could be powered by Windows. The tablet is expected to feature an 11-inch display. Nokia's rumoured Windows tablet was seen in benchmark results. A device named RX-114 popped up on graphics processor benchmarking website, GFXBench.

The results reveal that the alleged tablet would be powered by a quad-core Snapdragon 800 processor with Adreno 330 graphics processor. The device would presumably run on the Windows RT. However, not much has been disclosed in terms of other hardware specifications including RAM, internal storage, camera and battery. It could sport a display screen with a resolution of 1371 x 771 pixels, which possibly translates to 1920x1080, just like the Surface Pro.

Raspberry Pi goes past 1.5 million units sales

Developers of the Raspberry Pi, also dubbed as the \$25 computer, are overwhelmed by the massive popularity and demand

of the device across the globe. The Pi, which is a single circuit board the size of a credit card with no screen and keyboard, has sold almost 1.5 million units in the past one and half year.

“We're closing in on 1.5 million [sales] for something that we thought would sell a thousand,” reveals Eben Upton, executive director of the Raspberry Pi Foundation. “We've sold many more to children than we expected to sell, but even more to adults. They're using it like Lego to connect things up.”

The Raspberry Pi, launched last year, is considered to be an educational tool for children to learn coding. However, the device is now being used innovatively in various industries. According to reports, the device is now being used to power warehouse doors in Malawi, Africa, photograph astral bodies in the US and power robots in Japan.

Tokyo inventor Shota Ishiwatari has developed a small

humanoid robot run by a Pi, which tells the weather, manages a diary and even makes coffee. “I wanted to create something by using a 3D printer and the Raspberry Pi – two cool items,” he told AFP, adding that he wanted to demonstrate the potential of the device. “Many Raspberry Pi users did not know how to have fun with the chip. I wanted to present practical ways to play with it.”

Upton and his colleagues had first thought of developing of cheap computer suited to programming when they were teaching at Cambridge University. They noticed the children of then generation did not have access to the day-to-day experience of coding that helped the computer geeks in 1980s.

“They didn't have the grungy familiarity with the dirty bits, the hacking,” Upton told AFP. “The theory of computer science is math, but the practice is a craft, like carpentry.”

Sony and Panasonic working on 300GB discs for 4K movies

Sony and Panasonic have announced that they're working together to develop the next generation optical discs. These

discs will be capable of holding 300GB of data – considerably higher than the 50GB that a dual-layer Blu-Ray can hold at the moment – which can be read by standard players and hardware. Both companies believe that the discs will be ready for use by the end of 2015.

“Optical discs have excellent properties to protect them against the environment, such as dust-resistance and water-resistance, and can also withstand changes in temperature and humidity when stored.



Next gen discs will have 300GB space

They also allow inter-generational compatibility between different formats, ensuring that data can continue to be read even as formats evolve. This makes them a robust medium for long-term storage of content” said the joint press release from Sony and Panasonic.

“Both companies have previously developed products based on the Blu-ray format, leveraging the strength of optical discs. However, both Sony and Panasonic recognized that optical discs will need to accommodate much larger volumes of storage in years to come given the expected future growth in the archive market, and responded by formulating this agreement.”

It's easy to understand why Sony wants to support the evolution, with 4K content being critically important to its 4K products since these discs will be capable of storing 4k movies.



The sale of Raspberry Pi pieces exceeded expectations



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Web Watch

The vaporous, but tangible reach of the internet is encompassing every facet of our lives. We take a look at some of these news-making events.

App Watch

This time we show you how to stream to your tablet using Plex and cover some must-have utility tools and apps.

New Directions

With the competition in the mobile space only heating up, companies are looking in new directions to differentiate their products. Join us as we take a look at the biggest game changers this past month

BlackBerry board admits to considering "strategic alternatives"

The admittance of the fact has finally arrived. BlackBerry has announced the formation of a special committee that will "explore strategic alternatives". The company says this is to look at new ways of enhancing brand value, as well as accelerating BlackBerry 10's growth. The Special Committee of the Board is comprised of Barbara Stymiest, Thorsten Heins, Richard Lynch and Bert Nordberg, and will be chaired by Timothy Dattels.

But, the rather telling statement comes in the form of "These alternatives could include, among others, possible joint ventures, strategic partnerships or alliances, a sale of the company or other possible transactions." Quite clearly, the company has, to a certain extent, admitted that it needs to look at the option of selling. However, as expected, BlackBerry is still playing up the product BlackBerry 10, the cross-platform BlackBerry Messenger and the wider deployment of BlackBerry Enterprise offerings.

For this process, BlackBerry has hired J.P. Morgan as its financial advisor. Skadden Arps and Torys LLP will both be the legal advisors. However, the company has specified that this process may still not result in any significant changes. As



The not-so-secret watch from Samsung

per the statement, "There can be no assurance that this exploration process will result in any transaction. The company does not currently intend to disclose further developments with respect to this process, unless and until its Board of Directors approves a specific transaction or otherwise concludes the review of strategic alternatives."

Samsung's secret Galaxy Gear Smartwatch

Rumours about the existence of a smartwatch have been around ever since we saw Dick Tracy use it in the comics and then on the TV show. We've seen a few Android-powered watches hit store shelves, but they failed to impress us. In the past few months, we've heard rumours about Apple and Samsung working hard to launch a smartwatch.

New reports circulating on the internet suggest that Samsung will unveil its Galaxy Gear smartwatch to the world at an

event in Berlin on September 4. Samsung has sent out media invites for the event, and speculations suggest that the Galaxy Note III will also be unveiled at the same event.

The device will reportedly be called Galaxy Gear and be powered by the Android OS. Apps from Samsung's app store, as opposed to apps from Google's Play Store will be better suited for the Galaxy Gear. Besides having a resolution of 320x320 pixels, Wi-Fi, Bluetooth and NFC to allow for bump-to-sync and authenticate, the smartwatch may include a 2MP camera.

According to Bloomberg, "The global watch industry will generate more than \$60 billion in sales this year, and the first companies to sell devices that multi-task could lock customers into their platform, boosting sales of smartphones, tablets and TVs."

Android runs on 8/10 smartphones

A recent study by Strategy Analytics has found that Google's Android is the most commonly used OS with nearly 80% of handsets sold in the second quarter of 2013 (182.7 million handsets) approximately.

According to the firm, nearly 34.6 million Android tablets were sold in Q2 – double the number of iPads (14.6 million) sold in the same period. Neil Mawston of Strategy Analytics cites Android's numerous hardware partners and varying price points as the reasons for its success.

Apple's iPhone sales have dropped to 14% in the second



Restricted profiles on Android

quarter from Q1. However the IDS report adds that Apple's market share can still pick up in the coming year when Apple will release its rumoured "iPhone 5S" and the new iOS.

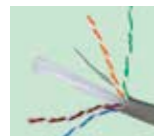
Microsoft's Windows Phone is doing well and has managed to grab the third spot from



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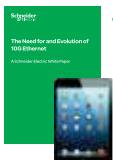


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Security Watch

As cyberattacks grow in frequency and intensity governmental bodies show grit, Twitter urges for transparency and MTNL hits a minor snag

BlackBerry OS. Windows Phone increased its market share to 3.7%, up from 3.1% a year ago and shipped approximately 77.5% more units. Nokia is the driving force and accounted for nearly 81.6 percent of the Windows Phone smartphone shipments during Q2.

BlackBerry has come down to the fourth spot with 2.9% of shipments, from 4.9% in Q2 of 2012. Its much-hyped BBIO OS has been unable to slow down the company's decline.

Android 4.3 update being rolled out to Nexus devices

The update brings in a host of new features to Android, without looking much different from the predecessor. Google also announced that the existing Nexus devices – the Nexus 4 smartphone and the Nexus 7 and Nexus 10 tablets will begin getting Android 4.3 from August via an Over the Air (OTA) update. This update retains the Jelly Bean family name.

With Android 4.2, Google had added support for multiple users on tablets. The feature has now been updated with Restricted Profiles, which allows for configuring per-user access to apps and games, as well as content on the device.

Google's own suite of stock apps has been updated – Hangout replaces Talk, Drive, Chrome and Maps have been given a refresh and Google Keep is now available on the device straightaway.

Android 4.3 adds the Notification history feature, just in case you need to go back and check the details of a notification from a few days ago. The new notification system will also sync notifications better across devices. Third-party apps will

get access to notifications – an indicator that devices like smartwatches will now work better with Android.

Gaming experience also gets an improvement, with Android 4.3 supporting OpenGL ES 3.0 – the latest industry standard for accelerated 3D graphics. Google also unveiled the Google Play Games app, which is the hub for accessing the game's leader-boards, and see how your friends are doing in the same game.

Bluetooth 4.0 with the power saving modes is now supported by the OS, something which relied on manufacturer provided drivers till now. The ACRCPL3 support for metadata streaming is also added, meaning your phone can now send the track's data to the music system it may be connected to, by Bluetooth.

Google has added the Dialpad auto-complete, which suggests phone numbers and contacts as you're punching in the numbers on the dial pad. With Android 4.3, you can use Wi-Fi to detect location all the time, without actually having to switch it on.

Moto X finally unveiled

Google has owned Motorola for about 14 months now and the entire tech world has held its breath in anticipation for what the two companies have under wraps waiting to be revealed. The cat's officially out of the bag and we have with us the Moto X – a quite interesting smartphone. It comes in two variants, 16GB and 32GB. Buyers of the smartphone will get 50GB of Google Drive storage space. That's in addition to the 15GB every Gmail user gets, bringing the



The customisable back panel on the Moto X

grand total to 65GB. The Moto X runs on Android 4.2.2 Jelly Bean, and a 2200mAh battery powers the entire package.

The Moto X has a 4.7-inch 720p display in a day and age dominated by 5-inch devices boasting of 1080p displays. The rear of the smartphone houses a 10MP camera while the front has a 2MP video-calling camera. Under the hood, a Qualcomm Snapdragon S4 Pro dual-core processor clocked at 1.7GHz with 2GB of RAM powers the smartphone. We have a complete breakdown of the S4 Pro chipset that's

housed in the smartphone for you to check out at <http://dgit.in/19jTUB2>

The Moto X is priced at \$200 for the 16GB variant and \$250 for the 32GB variant with a two-year contract. The carrier locked smartphone was launched in late August.

What's all this customization that Motorola has been hinting at? To start with, you'll be able to choose the colour of your smartphone. You can choose between 18 colours for the back, 7 colours for the accents, and two colours (white or black) for the

Connections Feature

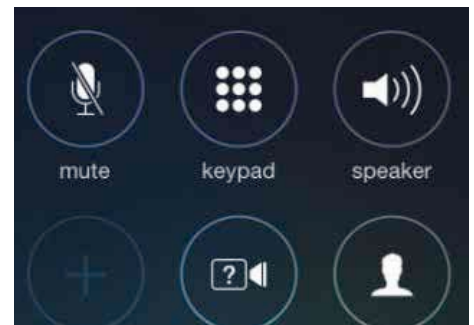
We take a look at how social networks and curation tools are altering the way you consume news online

front edges. Including the two storage variants, the smartphone will have an overall of 504 different permutations for customization. For more details about the Moto X, refer to our online coverage at the aforementioned link.

iOS 7 beta 5 launched

Apple has released the fifth beta version of its upcoming iOS 7 mobile operating system to developers and it appears that the new version makes the OS more stable. According to GSM Arena, beta users are reporting that while being more stable, the new version seems to have increased start-up time as well.

Screenshots of the iOS 7



The in-call menu on the new iOS 7 Beta 5

Beta 5, posted by 9 to 5 Mac, show that Apple has also incorporated some design and interface tweaks. The most noticeable of these changes are the redesigned icons in the settings menu with colour backgrounds added to the flat icons.

The version adds a Twitter icon to the contextual share menu and gives the ability to turn off the 'Control Center' panel, accessible at any time by swiping up. The 'Slide to Power Off' button has also been redesigned and so have the buttons in the in-call menu. **[1]**

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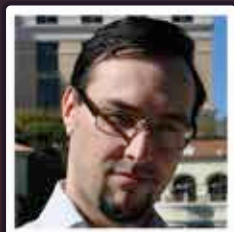
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Run Linux software on Win

This guide which will show you five ways in which you can easily run Linux software on Windows: <http://dgit.in/LinWin>

Tag Manager

Google recently launched Google Tag manager for mobile apps with Analytics services SDK: <http://dgit.in/GTagMgr>

Condensation Nuclei

The vaporous, but oh-so-tangible reach of the internet is encompassing every facet of our day-to-day lives. We take a look at some of these news-making events that took place over the last month

Google's 5-minute downtime plunges global internet traffic by 40%

On August 17, the unthinkable happened – Google, and all its services such as Gmail and YouTube, went dark for a duration that spanned a single minute to five minutes starting from 4:22 AM to 4:27 AM IST. As a result, global internet traffic crashed by 40% as users couldn't access any of the dozens of hugely popular services that the search giant runs. The number-crunching was done by GoSquared, a Web analytics company who also noticed that global web traffic spiked once Google was back up and running.

This number (scarily) proves how intensely everyone relies on Google. In spite of the clear effects that its health has on the global internet, Google has refused to divulge any details about why the blackout happened, responding merely with a statement that said:

“Between 15:51 and 15:52 PDT, 50 percent to 70 percent of requests to Google received errors; service was mostly restored one minute later, and entirely restored after 4 minutes.”

Facebook adds web embed support for public posts

Facebook has introduced Embedded Posts, which allow users to embed a public post on third-party sites. Currently, Facebook's new feature is avail-



Embedded Posts is not yet available for all users

able with CNN, Huffington Post, Bleacher Report, PEOPLE and Mashable. Broader availability is expected later this year.

“Today, we are beginning to roll out Embedded Posts to make it possible for people to bring the most compelling, timely public posts from Facebook to the rest of the web,” said Facebook in a post.

“Embedded Posts let people add public posts from Facebook to their blogs or websites. When embedded, posts can include pictures, videos, hashtags and other content. People can also like and share the post directly from the embed.”

Facebook's Embedded Posts is very similar to embedding features on Twitter, Vine, Instagram and YouTube. Read more about the Vine web embed and Instagram web embed support at <http://dgit.in/16sRMCP> and <http://dgit.in/18aNe8T>

There's also an option to visit the post's comments, photos, hashtags and other content on Facebook. To learn more, visit Facebook's Embedded Posts documentation at <http://dgit.in/1d4J4RT>

The social networking giant recently introduced hashtags, another popular feature on Twitter, in a bid to encourage public sharing on the network. However, a recent study claims the hashtags have failed to drive engagement on the social networking.

Google Search updated to show more in-depth articles

Google has rolled out a nifty update to its Search. Now, users can see more in-depth articles in the main Google Search results.

According to Google, the results are ranked algorithmi-

more than a quick answer. Our research indicates perhaps 10% of people's daily information needs fit this category – topics like stem cell research, happiness, and love, to name just a few. That's why over the next few days we'll be rolling out a new feature to help you find relevant in-depth articles in the main Google Search results.”

Yahoo acquires social web apps maker Rockmelt

Yahoo CEO, Marissa Mayer, has bought her 21st company during her stint at the web giant, and this time, it's social browser maker Rockmelt.

In-depth articles

On Censorship - The New Yorker

No writer ever really wants to talk about **censorship**. Writers want to talk about creation, and **censorship** is anti-creation, negative energy, uncreation, the bringing into being of ...

The New Yorker

Web censorship: the net is closing in - The Guardian

Eric Schmidt and Jared Cohen: Across the globe governments are monitoring and **censoring** access to the web. And if we're not careful millions more people could find the ...

Guardian

In Censorship Move, Iran Plans Its Own, Private Int...

Iran is taking steps toward an aggressive new form of **censorship**: a so-called national Internet that would, in effect, disconnect Iranian cyberspace from the rest of the world.

WSJ Wall Street Journal

Writers must understand the algorithms to draw in more traffic

cally based on many signals that look for high quality and in-depth content.

Google, in a separate blog, says: “To understand a broad topic, sometimes you need

Rockmelt had launched a Facebook-focused web browser in late 2010 but later shifted its focus to mobile applications and released an Android application for content consumption.



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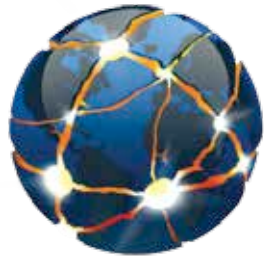
Beats wants HTC to go

The manufacturer of Beats by Dr. Dre headphones wants to buy out HTC's 25 % stake in the company.



Best writing apps

Take a peek at ten of the best writing apps available on the iPad. There's one for your every need: <http://dgit.in/WriteiPad>



RockMelt

Yahoo added that the four-year-old Rockmelt will shut down its apps by the end of August, but the company's technology would be used within Yahoo to bring in more traffic and revenue from mobile devices. According to a Yahoo spokesperson, "Thirty-two Rockmelt employees have joined our media and mobile organization. We aren't going to discuss specifics, but we plan to integrate the Rockmelt technology into our media platform in order to deliver content in new and exciting ways. Stay tuned!"

India's average internet speed expected to improve by 50%

According to a report by cloud computing firm Akamai Technologies, the average internet speed is expected to jump by 40-50% to 1.8 Mbps in the next 12 months. The hike comes on the back of increased investments in high-speed fiber network and affordable data plans.

India saw an average internet speed of 1.0 Mbps in the first quarter of 2012 which increased to 1.3 Mbps in the first quarter of 2013 – an increase of almost 0.3 Mbps, but India still remains behind 113 countries, according to Akamai Technologies Director of Products for Asia Pacific and Japan, Bruno Goveas.

The latest Akamai Technologies 'State of the Internet' report states that India has a peak speed average of 10.6 Mbps. India's average internet speed grew by more than 20% in the past year but lags behind other Asia Pacific countries such as South Korea (15.7 Mbps) and Japan (10.9 Mbps). The broadband adoption rate in India still remains below 10%.

Goveas adds that over the recent months, cable operators and service providers are adding high-speed fiber direct to homes and are offering high-speed data plans especially in Tier-1 cities. This comes on the back of users accessing high-speed internet on their smartphones and service providers giving some affordable data plans to meet the demand.

"We expect growth in speeds from users in Tier-II and Tier-III cities as well, and not just Tier-I, given the investments from telcos, and with users accessing the internet from mobile phones," Goveas further added.

UK Govt asks ISPs to block all pornography, unless users opt in for adult imagery

The UK government is working on laws that will compel internet service providers to block all adult imagery and pornographic



Prime Minister David Cameron

content on their networks, unless a subscriber specifically opts in. This was announced by the Prime Minister David Cameron, who also said that the broadband providers have a "moral duty" towards protecting users, particularly children, but were "not doing enough to take responsibility".

Cameron wants to make it harder for pedophiles to access child sex images. Search engines such as Google and

"This is, quite simply, about how we protect our children and their innocence."

Amazon adds Art category

Amazon.com has added a new 'Collectibles & Fine Arts' department that offers paintings and works of art from around the world. The online retailer has tied up with more than 150 galleries and merchants and is offering a shopping catalogue




The new section lets you buy Fine Art

Microsoft's Bing have been directed to make search results compatible with the family-friendly filters.

BBC reports that the Prime Minister has mentioned specifics on how the solution would be implemented: family-friendly filters would be automatically selected for all new customers by the end of the year, although they could choose to switch them off. And millions of existing computer users would be contacted by their internet providers and told that they must decide whether to use or not use "family-friendly filters" to restrict adult material. The filters would apply to all devices linked to the affected home's Wi-Fi network and across the public Wi-Fi network "wherever children are likely to be present.

that includes 45,000 works by more than 4,000 artists.

According to Amazon, the new art category allows users to browse all types of art works (mixed media, paintings, photographs and prints), ranging from \$150 to \$4.85 million for an oil painting by American artist Norman Rockwell. Many works by famous artists such as Andy Warhol, Salvador Dali and Marc Chagall are also added for sale on the site.

These original and affordable works of art from smaller galleries will benefit the most as the online store will help them broaden their reach while Amazon will get a standard 5-20% commission. Customers can avail of Amazon's return and shipping policies for extra reliability. 

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Du Battery Saver: Check it out

A comprehensive battery saving app, Du Battery Saver comes armed with a host of features and tweaks to maximize your Android device's battery life <http://dgit.in/19DmX0e>

**Adobe Creative Cloud update**

Adobe has started rolling out File and Typekit sync feature to its Creative Cloud users. Find out more about this update: <http://dgit.in/11QJaW5>

Plex: Stream the media library to your tablet

Getting the media library from your PC to your tablet doesn't necessarily mean transferring files to and fro. At least not anymore.

The fact that you're reading this means you need a solution for the media streaming conundrum. If you sail in the same boat as us, then you probably have a meticulously arranged collection of movies and TV shows sitting on multiple hard drives, connected to the PC. The question now arises as to how to get access to this entire library from your tablet? For the iPad and Android tablets, the solution is quite simple: the Plex application bundle.

What is Plex?

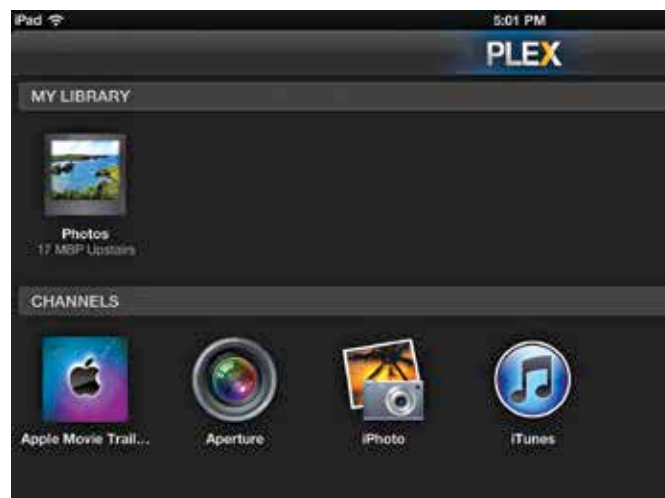
Plex is an XBMC-based cross-platform media centre application, that will aggregate the media (music, movies, TV shows, photos, etc) in the folders you point it towards. For movies and TV shows, it also pulls the metadata from the internet – content such as synopsis, fan art, movie posters etc.

How to install?

Plex has two main installation components: the server app and the client. The former needs to be installed on your PC. Initially, you'll need to point the server to the folders which hold the videos and other media that you wish to share on the portable devices. The app is capable of updating the library every time it detects a change in the contents of the folders it is moni-



All available episodes for a TV show will be displayed this way



The app will aggregate all the media on your PC in one place

toring, be it the addition of a new file or the removal of one. This application is free to download for Windows, Mac and Linux operating systems.

The client app, on the other hand, receives the data from the server. This app is basically meant to access the library and view content, and within that,

you get a decent amount of tweaks and settings for picture and sound quality. The client app is available for iOS devices (iPhone, iPad, iPod Touch), Android (tablets and smartphones) devices and Windows 8 machines (tablets, hybrids and even another laptop/ultrabook on the same network). The client

app comes at a cost though, but not a very high one seeing how it's in the region of ₹270 each, in the respective app stores of all platforms.

How does it work?

The Plex media server can send media to devices running the Plex client. Both machines need to be connected to the same network. The server transcodes media on the fly, whenever needed. What this means is that even if the device isn't capable of natively playing that file if it were sitting on its local storage, Plex would be able to stream it seamlessly.

Once you have the server app up and running on the same network, open the client app on any device, and within a few seconds, the library being broadcast by the server will appear on the device.

Playback

We tried the Plex client on Android as well as iOS, and the playback quality is impressive. The entire Plex set-up was able to stream a 1080p video file over a wireless "b" router (limited to 24Mbps – the one offered as default by Airtel), to the iPad without any stutters. Yes, there was the initial 50 seconds of buffering, but smooth sailing after that. During video playback, multimedia options are limited, however. **4**

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All you need to do is follow the QR Code alongside or if you like to do things the hard way here's a link: <http://dgit.in/sepapps>



Google's Project Loon

Project Loon is Google's initiative aimed at providing Internet access to rural and remote areas <http://www.google.com/loon/>

Must have tools and utilities

These are the nifty variety, the functional ones, the “Oh-what-would-I-do-without-you” type of apps

With millions of apps out there, your smartphone is as nifty as Batman's utility belt, or the fighter aircraft in SwatKats, which always had an unbelievable number of nifty things stored. Ok, maybe an exaggeration there, but there is seemingly no limit or boundary to what one can do with his or her phone these days. The apps mentioned below will add a whole new dimension to your smartphone. You've got apps that control downloads progressing on your computer from anywhere in the world, and ones that keep your kids from messing up your phone every time you give it to them to play games. There are apps that will help you save precious battery (which in today's smartphones almost never seems to be enough), or run a bunch of benchmark tests to gauge whether the phone actually is worth its printed specifications.

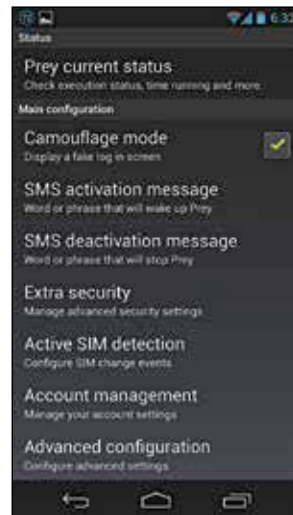
Prey Anti-Theft



If your phone doesn't have theft protection built-in, Prey is a neat app that can help retrieve your stolen phone back. Prey for Android can silently sending an SMS to a predefined number on SIM change. You can also set an admin password to prevent uninstallation of the app. Whereas in iOS, the app takes pictures using the front-cam and uploads them (the same feature for Android is coming in future versions). Common features

include remote activation that makes the phone send out location info using GPS and WiFi geolocation. Lastly, you can send a message to the phone for the person to see or even play a loud alarm.

Price: Free



uTorrent Remote



uTorrent is a pretty popular BitTorrent client for computers. With the remote app, you can control the activity of your file sharing on the move. You can check the progress of your downloads, stop or resume them. You can even add new downloads remotely. Unfortunately, there isn't an app for iOS, but they have a mobile-friendly website which can let iPhone and iPad users have the same functionality as the apps for other platforms. You can even create a shortcut on your home



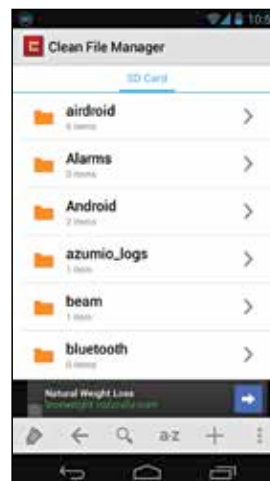
screen by opening the page in Safari and clicking the “Add to home screen” button in the Share menu.

Price: Free

Clean File Manager



Clean File Manager is a good choice in the endless array of file management apps for Android. Its trump card is the no-bull interface — cleanly laid icons and text and adopts the Holo theme design philosophy (for e.g side-swiping UI design to navigate forward or backward between folders). A menu to the left reveals easy to find shortcuts for logical places you'd want to go (like Pictures, movies, Camera roll etc). It



does basic task manager duties like renaming, cut/copy/paste, delete. You have an ad at the bottom, which you can remove forever if you pay 60 rupees.

Price: Free

SpeedTest

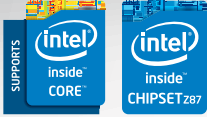


Internet companies love to advertise about speed. Maybe you're wondering whether you're actually getting what was promised? Or you have a hunch that your cable Internet is feeling slow all these past few



days. Having the SpeedTest app handy will give you clarity. Test can take from a minute to a few, depending upon your connection. But you'll come to know of the download, upload speeds and the latency between you and the server. Finally, it also keeps a history of all your tests, separating the ones run on WiFi and on 3G, to help you assess how your Internet has been.

Price: Free



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* The details of this 5 year warranty service may vary by different regions.

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Gigabyte G1.Sniper A88X

A new line of AMD FM2+ motherboards was launched by Gigabyte in anticipation of Kaveri.

Backdoor to Windows?

German government denies allegations that the "Trusted Computing" chip is in fact a 'back door' to Windows

Hedged-In

As cyberattacks grow in frequency and intensity governmental bodies show grit, Twitter urges for transparency and MTNL hits a minor snag

India must be more serious about cyber security: EC-Council

EC-Council has called for more stringent actions to secure cyber infrastructure in India. Citing the recent spate of cyberattacks on the websites of the Indian government, EC-Council has expressed concerns over the lack of professionals in the cyber security domain. It has suggested that the country should invest more into training young IT professionals as well as into creating a sturdy infrastructure for robust cyber defence.

At an event held in New Delhi, EC-Council Global President Jay Bavisi pointed out that China is estimated to have 25 million cyber security experts while 1.25 lakh are from the local government. The US has 91,080 experts in the government while India has just 556 experts. Bavisi also emphasized on the successful model of the US Cyber Security Plan, which envisages 15% more cyber security experts every year.

EC-Council pointed out a recent study revealing that 5.39 million local malware threats were detected on computers in India. According to the organisation, India is lagging behind in its fight against cyber warfare. Any attack will result in financial loss, no matter how sophisticated.

In regards to the government's Cyber Security Policy 2013, Jay Bavisi said the policy seemed to be great on paper, but there should be greater focus on its implementation. He was

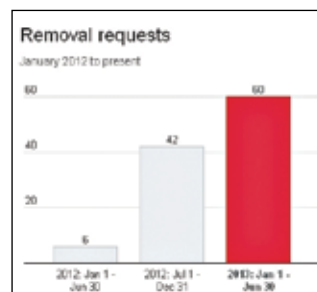


also sceptical about the government's target of creating a workforce of 5,00,000 professionals skilled in cyber security in the near future.

Relevantly, as many as 78 government websites fell prey to hackers in the first half of 2013, revealed Minister of State for Communications & IT Milind Deora in the Parliament.

Government requests to share user info on the rise: Twitter

Twitter has released its latest transparency report (January 1 - June 30, 2013), showing a significant 40% surge in the number of requests to release users' private information. The US tops the list with 1,157 requests for information about users - a 15% surge from the last transparency report.



Twitter also saw an increase in the number of withholdings, including the withholding of content in five new countries: Brazil, India, Japan, the Netherlands and Russia.

"An important conversation has begun about the extent to which companies should be allowed to publish information regarding national security requests. We have joined forces with industry peers and civil liberty groups to insist that the United States government allow for increased transparency into these secret orders," said Twitter in a blog post.

"We believe it's important to be able to publish numbers of national security requests - including FISA disclosures - separately from non-secret requests. Unfortunately, we are still not able to include such metrics."

MTNL Mumbai website hacked by Pakistani hacker

State-run telco MTNL's Mumbai website was allegedly hacked in August by a Pakistani hacker operating from Australia. The website was restored

soon after the attack, though some users complained about facing problems in accessing the site. An MTNL spokesperson said that this was due to the hacked homepage still being in the customers' caches and not refreshed.

MTNL's compromised website showed the following message: "MrCreepy Was Here. Napsters CrEw. Happy Independence Day Pakistan. <http://Facebook.com/m3creepy>. Greetings: SEEKER, Dr.FREAK, MKHAN SWATI, And All Pakistani Hackers :D".

Other MTNL websites including the corporate website remained unaffected. The hacker claimed on its Facebook page that it had also attacked the websites of Pune Traffic Police and janwani.org (a voluntary group). Both these websites were however found to be operational.

In June last year, MTNL's corporate website was disrupted by hacker group Anonymous to protest against censorship of the internet. Late last year the website of another state-run telecom operator BSNL was also hacked by Anonymous India.



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Lost your phone?

See the list of things you can do once you lose your Android phone in order to get it back:
<http://dgit.in/AndStolen>



UC browser No.1

UC browser for mobile which is owned by UCWeb of China is now the most used mobile browser in India

Curated vs. Recommended: The changing face of online news

We take a look at how social networks and curation tools are altering the way you consume news online

Nikhil Pradhan
readersletters@thinkdigit.com

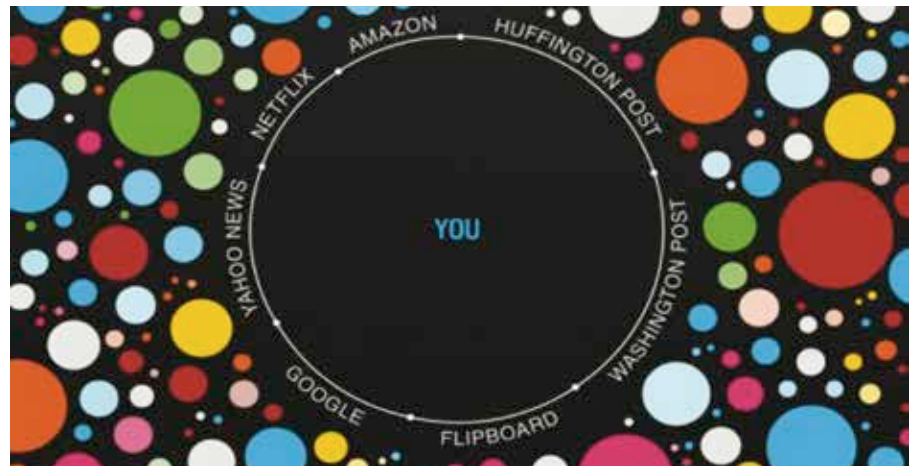
For some time now we've been living in what's been widely considered as the golden age of news. It was high time for the news industry itself to be shaken up. And then, like an invading army of Conquistadors, the Internet rolled in and did exactly that. The funny thing is that inspite of all the hue and cry about the inherent unreliability of online news and how newspapers were the only source that could be trusted, the news business has evolved to fit into the online era. Even with newspapers dying left, right and center, there has never before been such a tremendous availability of news in history. This is because news is no longer the sole domain of news organisations – social networks and news aggregation sites such as Mashable and ReDDit are massively important names even though they aren't in the business of reporting or journalism.

With such an infinitely large amount of news available online, it makes sense for you to be extremely selective about where you decide to get the news from. And since you were already spending a decent amount of time on social networks (say, Facebook), it also makes sense that Facebook attempts to fulfil that need.

Although Facebook's intentions were (probably) pure, having news driven to your newsfeed automatically by algorithms purely based on your behaviour on the social network can lead to what internet activist Eli Pariser calls the 'Filter Bubble'.

The Bubble

Let's explain this with an example: You have two new friends on Facebook – both very opinionated about politics and predisposed to sharing a number of related arti-



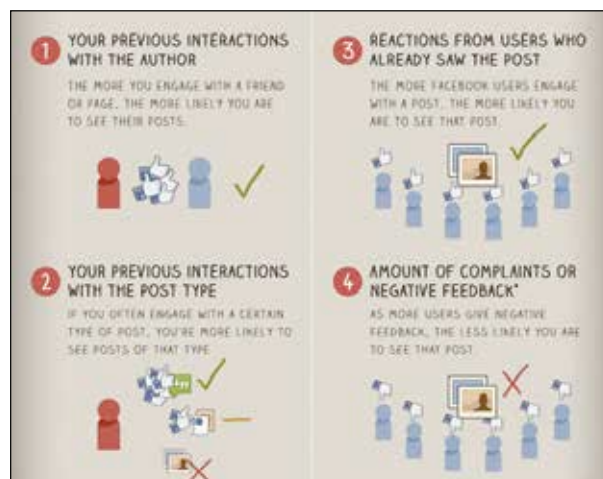
The Filter Bubble as depicted by Eli Pariser

cles everyday on the social network. The political beliefs of one friend (let's call him Friend A) only match yours by about 20%, however you have a lot more in common with Friend B and therefore his political beliefs match yours by up to 80% most of the time.

Now, let's say news stories shared by both these friends start appearing on your newsfeed. There's a higher likelihood of

you clicking on stories shared by Friend B than Friend A. Also, since you have more in common with the former it's more likely that you will have visited their profile page and interacted with them more often than Friend A. In due course of time (which may even be as short as a day), you'll notice that Friend A's stories have either completely disappeared or are much less visible on your newsfeed.

Okay, let's zoom out and look at this situation from a broader perspective. Even if you aren't clicking on the stories shared by Friend A, it doesn't mean that you aren't noticing them. You may be browsing through the headlines and may have even searched for the topic discussed in the story on your own instead of clicking on the story in Facebook. But according to Facebook's new EdgeRank algorithm (that places importance on your interactions with par-



EdgeRank explained. Infographic courtesy: PostRocket via BufferApp



Pinterest buys Punchfork
Pinterest, the pinboard style photo sharing website recently acquired Punchfork the famous recipe aggregator

All about SSDs

With SSDs growing extremely popular by the day, you should definitely know everything about them. Read this guide: <http://dgit.in/AllSSD>

Feature

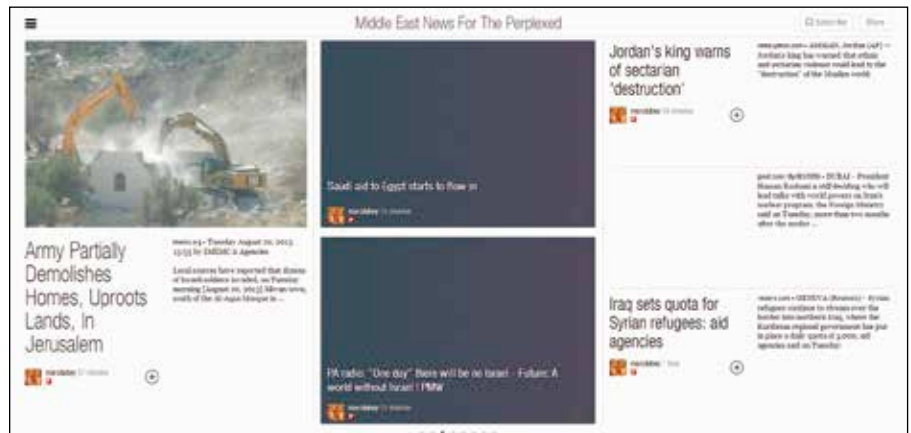
ticular friends, reactions to a particular post and your inclination to interact with a particular type of post), this is what's responsible for creating your newsfeed, so none of that matters. As a result, Facebook (with the help of your own unconscious or conscious actions) tries to set up a filter between you and a vast pool of news/content, only letting in things that comfort you or are considered clickworthy by you.

This is the filter bubble Eli Pariser has been speaking about since 2010. He also spoke about how Google searches were being tailored to fit a user's search history – a phenomenon that's actually difficult to replicate. However, the concept of a user being "shielded" from information is starkly apparent on Facebook.

News you want, not news you need

But why is this a topic worth talking about? Surely, people very seldom rely on Facebook for news? That assumption is no longer true, at least in parts of the world where Facebook is intrinsically part of a person's daily life. According to a study published by the Pew Research Centre in September 2012, 33% of young American adults (those under the age of 30) relied on social networks for news. Considering the vast leaps we're taking to catch up in matters of technology consumption to our Western counterparts, how long do you think will it be before young and educated middle-class Indian adults begin relying on Facebook (or other social networks) for a majority of their news, especially since Facebook already takes up such a large part of our daily lives.

Pariser noted in his excellent TED Talk how algorithms were giving us access to "the news we want, but not the one we need." The Facebook example mentioned earlier represents that phenomenon. People who rely on social networks for news tend to be exposed to topics that they're more likely to find comfortable rather than topics that they should know about but aren't inclined to follow up on. While the priority of stories in newspapers and TV news broadcasts is decided by editors, on social networks, you're essentially playing the role of editor.



An example of a user-created Flipboard mag on the Middle East

The upside: news curation

Playing 'Editor' and wielding the ability to curate news to our exact requirements can be a very powerful tool. In fact, the current availability of a huge number of news curation tools for smartphones, tablets and PCs means that we can keep ourselves up to date thanks to the constant flow of information on topics that we would otherwise not have access to, even through newspapers or TV news. Knowing the latest breaking news on a subject that matters to you as it happens even when we're nowhere next to a TV set is a privilege we shouldn't take for granted.

One of the biggest tools intended for this purpose is RSS (Rich Site Summary, also dubbed Really Simple Syndication), a format that allows regularly updated online content such as news to be viewed and exported in a standardised format. Even though Google Reader, the most widely used RSS-powered news aggregation tool recently called it quits, RSS is still used by a wide number of tools in

order to help users pick and choose content and sources.

There are a ton of tools out there that will help you tailor your newsfeed according to the kind of content you want. Flipboard, Pulse Reader and Feedly are already well known for their ability to do this and are extremely popular amongst smartphone and tablet users. These tools not only let you choose specific topics you may be interested in (such as Arts and Entertainment, Politics, Sports etc.) but also let you add news sources by exact keywords as well as individual sites. If you're looking to go beyond what social network algorithms believe you should read, take some time out to personalise one of these tools with topics and sources that interest you. Also throw in some new sources that cover topics that you wouldn't usually follow or have never delved into. It will expand your mind and broaden your perspective.

Keep in mind that these tools will work best if you actually make it a point to carefully select trusted sources and news. A tool like Flipboard actually also makes it very easy to succumb to convenience if you just decide to stick to your social network feeds or the pre-packaged topics on offer. At the end of the day, these tools, when used right, should help you create a library of news that goes beyond what your social network's newsfeed has to offer.



Eli Pariser speaking about the Filter Bubble at a TED conference

Unique cases

A smorgasbord of smartphone cases to dress those handheld devices trendily



Volkswagen SmileDrive

Volkswagen and Google have come up with the social app called SmileDrive which boosts up your driving experience: <http://dgit.in/19PkK4m>

Urbanears Re:Plattan

"Urbanears Re:Plattan is no ordinary pair of headphones," goes the line describing this curious-looking, rainbow-coloured audio device on its product page. The headphones is made using spare parts from previous Urbanears headphones. But not only does this reduce waste, the sale of every Re:Plattan Urbanears helps conserve five square metres of rainforest in Costa Rica, with its exact GPS coordinates. Buy this and you've successfully saved 500 ants, 30 meters of rising vegetation, 10 flowers, 5 spiders and 2 butterflies. Yipee!



Time to get your drool on



Husqvarna Automower 305

What better way to trim the grass on your lawn but by a robotic assistant? Behold the grand daddy of automated lawnmowers, the Husqvarna Automower 305! It can make unkempt grass prim and proper, covering an area of 500m² (or 0.12 acre) for about an hour – with no wire attachments. It's light at 6.7 kg, can be controlled through an iPhone app, and intelligent – it returns to its charging station when low on battery power. It also has an anti-theft alarm, in case your neighbour tries to steal the Automower from your lawn.



Instagram 4.1 is here

Instagram for Android and iOS has been updated to version 4.1. Are you excited? Find out more about it all: <http://dgit.in/16ww2Fz>



Bitly for feelings

Link shortener Bitly has unveiled a new feature in beta called "Feelings" which lets you add emotions to the shortened URLs. <http://dgit.in/1ceVMgD>

Drool maal

Panasonic Toughbook CF-AX2

Rugged laptops are a sight for sore eyes, and the Panasonic Toughbook series of laptops and notebooks (<http://dgit.in/13mxLOY>) is renowned for its near-indestructible build. The CF-AX2 is one tough business ultrabook with a convertible screen – the display hinges all the way back to make the device run like a Windows 8 tablet – kind of like the Lenovo IdeaPad YOGA. However, the CF-AX2's chassis can withstand pressure of up to 100 kg and drops from up to 76 cm – no problem whatsoever. If you have slippery hands, this may be for you.



Sony Action Cam (with Wi-Fi)

If you're into adventure sports (mountain biking, river rafting, skiing, etc) and always wanted to capture the adrenaline packed moments for eternity, check out the Sony Action Cam. It lets you record HD 1080p video, yes 4x slo-mo HD vids as well; it comes with built-in Wi-Fi and stereo mic, HDMI out for hooking it to an HDTV. And adhesive mounts that keep it glued onto your helmet or bike handle. The camera's petite, very light, and comes with a water-tight enclosure that's waterproof for 200 feet! If you're in the market for a POV wearable camera, this one's worth a shot.

Samsung Galaxy NX

Forget the point-and-shoot Galaxy Camera from last year, and feast your eyes on the Samsung Galaxy NX instead.

It's the world's first ever interchangeable lens camera running on Android and supporting 4G LTE cellular data. It lacks manual dials, but the Galaxy NX has a 20.3 MP APS-C sensor, 1/6000 shutter speed, built-in Wi-Fi, 16GB onboard storage, and a few other bells and whistles to push it into the high-end cameras category. It has a killer price (over Rs 1.2 lakhs approximately) for a mirrorless camera, but it also lets you upload pics directly to Facebook, and then some. Priceless, eh?





Capture an Asteroid?

Yup! this is what NASA's new plans show. They want to capture an asteroid and study it. <http://dgit.in/AstNASA>



Nexus 5 rumours

More reports add fuel to the fire that it may be LG who is going to make the next Nexus phone from Google <http://dgit.in/Nexus5LG>

Case in Point

Some unique smartphone cases to watch out for

Sameer Mitha

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So you've just gone ahead and picked up that new iPhone 5, Galaxy S4, HTC One or the trusty old Nexus 4. Just like millions out there, if you too are butter fingered, you will want to pick up a case with the smartphone before you drop and destroy it.

Here we take a look at some of the unique cases available for high-end smartphones that not only make the device look cooler, but add utility value to the phone as well. Depending on your requirement, be it ruggedness, increasing the battery life, making it water proof or just making the device look cool, there is a smartphone case available out there for everyone.

Revealing that back

Cases for smartphones such as the Nexus 4 are dime a dozen and even though you don't want to cover that beautiful device with a case especially since the case hides the back, trust us when we say that you will be compelled to do so once you have dropped the smartphone a couple of times and see some scratches on its back. The Rearth Ringke Fusion Case for the Google Nexus 4, iPhone and the Galaxy S4 is one that not only protects the smartphone, but shows off the beautiful back as well. Priced around ₹1,130 the Rearth Ringke Fusion Case not only provides you with a bumper around the smartphone but a transparent protection for the back.

Give me more battery life

If a case is going to make your smartphone big and bulky, it may as well give you some added battery life. There are however some battery-pack cases that are



Mophie Juice Pack

slim and others that are tough. Here are the ones we think deserve to be wrapped around your smartphone.

If you want to use the Galaxy S4 to its fullest potential you can't expect the smartphone to survive an entire day. Normally battery cases make the smartphone really thick and bulky. The Exolife battery pack for the Galaxy S4 provides an added 2600mAh battery to the smartphone. The case boasts of being a mere 16 mm in thickness and weighs 99 grams, so the added bulk isn't uncomfortable for users. It snaps onto the smartphone and on the front has an LED indicator to check the battery status. It is available for \$79 (₹4,800 approx.).

If you don't mind the battery pack being a little bulky, you have a lot of options to choose from. Mophie is one that is highly recommended. The price of the Mophie cases ranges from \$80 (₹5,000) to \$130 (₹8,000). If you are someone who travels a lot or does a lot of work on your

smartphone, then a Mophie Juice pack is the accessory for you.

Available for most popular high-end smartphones, the Mophie Juice pack unfortunately isn't available for the Nexus 4. For the Nexus 4 you can take a look at the Mugen Power 4500mAh Power Case. As the name suggests, the pack adds 4500mAh to the 2100mAh battery housed in the smartphone. The 4500mAh battery pack ensures that your smartphone has enough juice for more than a day.

Back of the Galaxy S4 too plasticky for you?

One of the geekiest cases out there has to be the Iron Man Hard Case for the Samsung Galaxy S4 priced at ₹2,690 approx. This case uses proximity communications and NFC making Iron Man's eyes and Arc reactor on the case glow. The case will totally make your Galaxy S4 look like the geek's dream device and will take all the attention away from its original simple



Iron Man Hard Case



Samsung Galaxy Gear

Here is some more dope on Samsung's purported Galaxy Gear Smartwatch project <http://dgit.in/SamGear>



Miniature Arc reactor

Ever wondered about the concept behind the Miniature Arc reactor seen in Iron Man? See this Quora thread to know: <http://dgit.in/MiniArcR>

Feature



Defender Series Build Your Own Case

plasticky look. The case also protects the smartphone from drops and impacts.

Sticking with the Galaxy S4, how about a wireless charging cover? A case would make the smartphone thicker than it is. If you don't want to add a case to the device, how about replacing the back? A back cover is available for the Galaxy S4 that gives the smartphone wireless charging capabilities. Users can simply remove the original S4 back cover and replace it with the S4 Wireless Charging Cover. The case has a built in magnetic alignment between the wireless charging pad and back cover making sure the phone is always correctly placed on the mat for optimal charging. You can pick up the wireless charging cover for \$60.99 (₹3,650 approx).

OtterBox makes a lot of cases for smartphones but there is one that we will like to recommend above the rest. Priced at \$60 (₹3,600 approx), the Galaxy S4 Defender Series Build Your Own Case gives the user the ability to customize the case you purchase. Users can choose between nine colours for the colour of the plastic and eight colours for the Slipcover giving you the ability to make your smartphone look as good as you want it to look.

When you customize the case, you have instant access to view what the case looks like, through a 360 degrees view. Just give it a try and you'll never see your Galaxy S4 in the same light.

Turn your iPhone into a Swiss knife

What if a case threw everything at you but the kitchen sink? That's what the ReadyCase for the iPhone 4 and iPhone 5 plans to do. To start with the case protects your phone. The rear of the case houses a USB stick (available in 8GB and 16GB variants), so you always have a USB drive stuck to your iPhone wherever you go. The USB stick doubles up as a kickstand that lets you prop up your phone at different angles, very handy for YouTube viewing. The lens ring of the case is magnetic giving you the ability to attach three small lenses – macro, fish-eye, or wide-angle. The case also has a headphones clip that lets you wrap your earphones around the smartphone without it getting entangled. Last but not least, the case also houses a multi-tool blade – standard blade, serrate blade, flat head screwdriver and a bottle opener. You can pick up the case for \$40 (₹2,500 approx.) starting February 2014.

My phone's stronger than the hulk

If you have a toddler in the house that likes to toss your smartphone every time he loses at Temple Run, you need something that can withstand a few nasty falls. The Defender Series from OtterBox is available for a large



Tank iPhone case

number of smartphones. The Defender Series offers users a robust, 3-layer protection that helps the smartphone withstands drops, bumps and shocks. It also houses a built-in screen protector. It covers the ports of the smartphone, too, protecting them from dust and debris. The case also has a holster-style swiveling belt clip included. Prices for the Defender Series starts at around \$45 (₹2,800 approx.) and goes higher. The defender series of smartphone covers are available

for smartphones from a large number of manufacturers such as Samsung, Apple, HTC, LG, Motorola, Nokia and more, covering all the popular smartphone models from the manufacturers.

The Tank iPhone case is designed to meet or exceed the standards of the U.S. Military. The case is constructed with a rugged polycarbonate exterior and a soft, cushioning silicone interior to protect the smartphone. It features a retractable screen and a holster clip. The case is tested to endure shocks, drops, vibrations, wind, rain, sand, and dust, and won't break even if you smash the kitchen sink on it. Since the case comes in black, it's ideal to make your smartphone, the Batphone!

I go scuba diving with my smartphone

Ok, so scuba diving may be pushing it a bit, but there are cases available for your smartphone that can resist water to a certain level. If you have a trip to the beach planned, you may want to house your smartphone in one of the following.

Even though the Otterbox Armor Series is there to protect your phone from physical damages, it also has the ability to sustain under water up to 6.6 feet for a period of 30 minutes. If that isn't good enough for you, there are a series of cases designed specifically for waterproofing your phone.

You have cases such as the Life-proof, Krusell Sealabox and OBEX cases for smartphones that make them waterproof. These cases essentially seal off all the ports from access. Some of these cases boast of the ability to interact with the device while under water but we wouldn't recommend that.

If you are taking a river rafting or kayaking trip, we suggest you use the Over-Board Waterproof Pro Sport Arm Pack, which straps to your arm and promises to keep your smartphone safe from all water damage. This case is waterproof at up to 19 feet of water and floats on the surface when dropped – easy to locate your phone if it pops out. There's also space to store your keys and wallet. The only downside is that the smartphone is concealed and you can't access the display. It is priced at \$30 (₹2,000 approx.).



THE PC REDEFINED

Everyone is out to redefine what a PC is and the way we interact with it. Does it really need to be redefined and if so, how do we start?

Anirudh Regidi

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Advancements in technology of any sort inevitably seep down to the lowest strata of our existence and it does this in such a subtle way that within a couple of years you won't be able to imagine your life without it.

Take for example the daily routine of an average person. You wake up to the sound of your tinny alarm on your phone, empty your bowels while reading books on your kindle/phone/tablet/phablet, the TV seems so dull because it doesn't offer

the variety and quick fix that YouTube offers. Your daily commute has to be accompanied by another bout of reading or music and everyone around you is doing the same. No one is looking at the road or even out of the window, almost all eyes are completely engrossed by the digital data that is constantly fed back to them by their little screens.

What about work? You can't work without a PC anymore, your browser is more important than any other program and your keyboard, essential. You browse through Amazon and eBay, hunt for deals, read or watch reviews online and zero in on your next purchase without

ever entering a store or maybe even looking at the actual physical device prior to purchase. Google Now is your constant companion, telling you where you are, "Oh, look! You've just crossed the Red Fort" and you tap the link and read about it without even glancing out the window. Or take the weather, do you even care anymore what the weather is actually like? It just seems so cool when your phone flashes those little lightning strikes informing you that there's a thunderstorm outside.

Coming home and getting to bed is also such a long process. Getting to sleep is more like a long-winded powering down

phase for a supercomputer. Your brain doesn't just switch off anymore, it needs that constant stream of information going. You watch something on your PC, enjoy a game or two on the Xbox or PS Vita or whatever console you have; you sink deeper and deeper into the chair as you desperately try to beat the high-score in Super Hexagon and then finally, when you're too drowsy to play, you grab your kindle paper-white and snuggle into bed with it, only sleeping when you nod off with the words a muddle in your mind.

All the key events in your life are seen through the eyes of your camera. Your baby's first steps, you're watching it on your iPhone as you frame the video. Uploading to Instagram and facebook is second nature and any device which doesn't let you do that is shunned. Companies like Microsoft have even gone to the extent of hinging their entire sales pitch for Windows Phone on that very factor.

The point we're trying to make isn't that technology is taking over our lives, it already has. The point is that we want a screen in front of our eyes no matter where we are and what we're doing. Anything that pulls us out of our digital cocoon is a strict no-no. Touch screens help us consume this content better so they're now the norm; you wouldn't have even considered a smartphone without a keyboard before the iPhone, but now a keyboard is only for the fuddy-duddies on their BlackBerrys (Robert will have blood on his hands when he reads this) who still swear by their keyboards.

To change or not to change

Our devices define our lives, a fancy phone is like a holy totem that you want to keep within reach at all times and never let go. Just caressing it will probably send

waves of pleasure coursing through our bodies and manufacturers want that device to be theirs. The standard designs that we've been used to over the years haven't evolved much, though interfaces have evolved to some extent.

To that end, manufacturers and designers are bending over backwards to find something new and innovative that will be THE device. A new form-factor that will be dominant over everything else and one that they can claim to be the first to introduce. Some of the designs we've seen are downright wonky, others are intriguing and some don't seem to have a point.

As a matter of course, here's a refresher of what you've come to accept as the norm and what you can expect in the near future.

The Classics The Desktop PC

These were the first devices that gave the first true taste of computing power to the



masses. A PC at home was an unthinkable reality that people weren't willing to believe in during the 1980s, but they got around to it, and how! You still see desktops everywhere and no matter what people will say about the changing face of the PC and the death of the desktop as we know it, they're here to stay for a long time yet.

There is, even now, no viable alternative to the true computing power and convenience that a desktop offers when it comes to doing actual work. Take this article for instance, this author wouldn't have been able to type it out at almost 60 words per minute if it wasn't for the ₹10,000 mechanical keyboard at his fingertips; the designers couldn't have laid this out without the power of InDesign and Photoshop running on a decent PC and even those awesome Showdown Effect and Quake sessions would be a distant memory. A keyboard and mouse combo is still unbeaten when it comes to precision and there's nothing that can be done about it, yet.

Laptops

Laptops haven't evolved much at all these past 10 years. They've gotten slimmer, their battery lasts longer and they've inevitably gotten more powerful over the years. Regardless, they still don't offer

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Micro SD Slot with Support for Up to 32GB ASUS WebStorage

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VIA WM 8950 1GHz • Android 4.1 Jelly Bean • 17.8 cms (7) WSVGA (1024x600) • RAM 1 GB DDR3 1333 • Storage 8 GB EMMC • WLAN 802.11 b/g/n • 1 Mega Pixel Front Camera • Battery Backup Up To 7 Hours** • 1 Year Global Carry-in Warranty • Colour Sugar White / Titanium Gray / Cherry Pink **Best Buy Offer ₹7,999/-**

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the power of a true desktop but at least they offer portability and sufficient power for most work. The traditional laptop is one we're all familiar with— a hinged screen (up to 160 degrees), keyboard and touchpad.

Tablets / Phablets / Smartphones

These are essentially the same, just enlarged versions of each other. A flat slab of glass with a touch-sensitive coating that the user interacts with. All the magic that happens here is via the software rather than the hardware. Some of these, especially the tablets, come with keyboard docks that let you at least believe that you're doing something productive with these most indulgent of devices. These devices usually give us the longest battery life of any portable computer, but they only manage to do that because they do so little.

Modern designs

Hybrid devices

These have popped up from time to time but have recently started gaining in popularity with the advent of Windows 8 (read all about UIs in the second part of this story). These devices look like traditional laptops at first glance but have some sort of twist to them. Almost all have touch-screens, but some have screens that flip over by almost 360 degrees (the Lenovo Yoga), or screens that you can pull closer to yourself (the Acer Aspire R7) or just screens that can be reversed and folded onto the keyboard to force the device to function as a tablet.

The Microsoft surface PRO is a rare example of a hybrid laptop that is more tablet than PC. A device with the form-factor of a tablet, but with the power of a regular laptop. Unfortunately, the final verdict isn't yet out on that one.

If that wasn't enough, you have devices like the ASUS AIO Transformer, a device that attempts to give you the best



of both worlds, Android and Windows. It also attempts to give you the best of both form factors, a tablet and a PC. It's an interesting concept that also hasn't gotten much traction.

Voice control

Voice control is suddenly picking up momentum. Siri first introduced herself to the world in October of 2011. Her voice was the promise of a future world where your voice would have power. One word (more actually) from you and all that you wanted would be at your fingertips. That vision has not turned into a reality yet but the big three, Google, Apple and Microsoft have made great strides in this area and are working as fast as possible to seamlessly integrate voice control into all their products and services. Devices like Google's Moto X for example, have a dedicated chip just for processing innumerable voice commands.

Gesture input

Another field that is garnering a lot of attention but is yet to show something truly concrete for the masses. This

technology is still in its infancy with only something like the Kinect giving us a vision of what the future can be like (we're not counting the Wii here as it's nowhere near as flexible as the Kinect). The next-gen consoles have showcased their implementations of gesture-based games and interfaces to much acclaim and it won't be long before robotic arm gestures are so ingrained into our lives that we'll be using them in our day-to-day interactions with each other.

In all the cases mentioned above, it's the software that is the main limiting factor. UIs have still not evolved enough to meet our ever-changing needs and once it does, we won't even know. It'll be so well implemented that we'll take to them like a duck takes to water and we'll completely forget that the past was different. Till then, we've got our old classics to fall back on.

PC(future)=?

So what is the PC of the future? There are so many Permutations and Combinations of the various components involved. Do you need a keyboard or not? What defines a seamless experience according to you? Is it to be a single device that lets you do everything while giving you everything that you want? Is the ultimate PC a device that is so flexible it learns and adapts to your needs, the ultimate in Personal Computing? Maybe. Only time will tell. Join us as we explore the possibilities and potentials of PC design in the following chapters.





TL-WR740N



TD-W8951ND

Meet TP-LINK's **Hot-Sale** 150Mbps Wireless Router and Modem Router



150Mbps Wireless N Router **TL-WR740N**

- Long-range Wi-Fi signal and high reception sensitivity
- Bandwidth Control/Live Parental Control
- WDS function to expand Wi-Fi coverage
- One-button security



150Mbps Wireless N ADSL2+ Modem Router **TD-W8951ND**

- All-in-One: ADSL Modem, Wireless Access Point and NAT Router
- WPS and Wi-Fi On/Off button
- 4000V lightning protection



IMAGING: SHIGIL NARAYANAN

U + I = WHEE!

The UI game needs to change. It shouldn't be about making icons look prettier, it should do away with them once and for all and end their 30+ year reign

Robert Sovereign-Smith
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Let's face facts, we've been saying this for some time now, but a big change is needed in computing, and everyone knows it. We're at a crossroads of sorts, because finally ideas and prototypes of actually new computing devices are appearing and being talked about. Some actually seem like viable options, or a step in the right direction even, while others just appear to be throwing some permutations and combinations of form factors together to find a way forward in a hit-and-miss manner.

Everyone went crazy with touch thanks to Apple bringing touch into the main-

stream, and yes, it's earned them a lot of money, and cost us consumers an arm and a leg to get the latest and greatest releases. However, over the past year or two, things are getting crazier.

A lot of us own phones that cost us more than our laptops, and yet we keep running back to the good old laptop to do anything of use. It's the wife and mistress analogy from old Bollywood days – the mistress was hot, looked good on your arm, cost you a lot to keep, but she was never able to give you the love and satisfaction that your faithful wife could. A clichéd moral, sure, but it's probably more factual in the PC/Phone conundrum than the wife/mistress one.

If you're a student, have you tried writing out submissions or doing research only

on your phone? If you're working, have you created a presentation, done some deep research into any topic using only your tablet or phone? Of course, there are many who do this, because they choose to not have a laptop or desktop, and only live on a tablet or phone, but even they cannot truthfully say they haven't missed the trusty computing devices of yore at least a couple of times a day.

I can't get no...

As the popular Rolling Stones song goes, there just isn't any one device out there that gives you total satisfaction. Way back in 2005 we talked about convergence in an anniversary issue, and what it promised. We're still waiting... Yes, almost everything has converged into a single device that you keep in your pocket, but there are still a few critical things that need to be added to the mix.

Back in the old days, we also foresaw that we consumers would go from being gullible walking wallets to prosumers. We have become exactly that. Look at the simple change in yourself: what used to be a simple buying choice earlier (ask a few friends, listen to a salesman and pick one), has become akin to doing enough research to be able to write a thesis on the subject. We compare the minute details, ask a thousand questions, and even while making the payment for the product we've chosen, have a tiny voice in our heads screaming "Wait for something better!" or "Are you sure this is the best?"

Yes, we all enjoy the post purchase endorphin rush that tells us our device is better than anyone else's "for my needs", but deep down, we all know something's missing.

So what are the problems?

A lot of the problems we face today are really no different from a decade ago. We all want computing devices to be insanely fast, able to do everything we demand of them, and yet we want them with us 31.5 million seconds a year, want batteries to last a day (or more) and also expect them to be affordable. Deep down, we're all greedy toddlers with insatiable appetites, crawling around touching everything and screaming "I want..." Not that there's anything wrong with that; because at Digit we're the brattiest and fattest little bunch of technology babies you'll ever meet.

Bandwagons are the real problems. Not just that a bunch of top manufacturers jump onto them all at once, but the fact that they're forced to, because all of us buy into whatever bandwagon is trending at the moment. If Apple's making billions off you for touch, do you really expect the others to ignore touch and try something different?

Touch was new, and exciting, and did away with pesky keyboards and tiny screens. We loved it because as any other bratty baby, we also wanted to paw at stuff. We wanted to participate with a phone's screen instead of holding it up and staring at it. Older interfaces seemed primitive in comparison, because although on a PC we were so used to the dexterity of a mouse, on mobile devices, cursors and selections were a pain. It's just so much easier to tap on what you see than use a scroll and button combination, right?

However, the real problem is, touch isn't an innovation in UI design, it's just another way of doing the same old things. How radically different is tapping on an icon as compared to clicking on one with a mouse? Changing the input method is not really changing the UI – because you still need to scan a bunch of stuff on a screen, locate the one you want (swipe through pages of icons) and then select the one you want (click, touch, tap, whatever).

This is ideal when “browsing” for ideas, like with the old Start Menu on Windows. It was great for people wanting to figure out what they wanted to do. With newer versions of Windows we saw that same Start Menu get more organised, more search-based, because more and more people knew exactly what they wanted to do, and just wanted a quick way to start doing it.

Increasingly, technology is becoming a background tool. You might want to quickly start up your PC and start researching for an article or thesis you're writing, or you may just want to fire up Angry Birds on your phone to pop some pigs – regardless, you are now pretty sure of what you want to do with all of your computing devices. Even new apps rarely take more than a day for you to figure out; contrast this with a decade ago when getting a new PC or loading a new OS had a significant learning curve associated with it.

The problem with interfaces today, is that they're mostly touch-based. Very few seem to be pushing away from that, and perhaps that's because very few of us want



Closing running apps in iOS 7 is actually more painful

anything different for the moment. However, touch just doesn't cut it. In fact, some of the innovations seem to be digressing a bit when they attempt to improve.

Take iOS 7 (the developer versions, as of writing this), where the old way of closing background programs has been changed. All you had to do was to double-tap the home screen, the running apps bar would appear, hold down any icon till they start shaking, use the little close buttons on the top left of every icon to close them one at a time. Anyone who's given their iPad to a kid will tell you, when you get it back from them, you find scores of running programs open, which can be irritating to scroll through to find your list of apps.

With iOS 6.x and earlier, all you had to do was the steps we mentioned above, and then tap like 40 times in the same place (usually the running app on the extreme left) and you closed everything. With iOS 7 (so far) this has been changed to a swipe up motion. Sure the animation looks cooler, but sometimes when you're trying to swipe up the touch sensitivity thinks you're trying to go left or right, and scrolls through running apps instead. What we'd have really liked is a small counter here that told you how many apps were open, and maybe a Close All button or action. Yes you can use multi-touch to swipe up with up to 3 fingers to close up to 3 apps at a time in iOS 7, but it's still irritating and tiring to swipe up to close 30+ running apps. We actually prefer the BlackBerry 10 way, where you swipe up once to see running apps, and then just close the

ones you don't want, but then that platform has its own share of problems... as does every other platform.

Coming back to the point, touch is still just an implementation of the old way of doing things. Replacing a mouse with a finger – Control + Scroll with pinch, clicks with taps and scrollbars and other actions with various swipes and gestures. It's still an icon-based UI, which is the way it's been for more than three decades now.

So what are some of the possibilities that are being worked on or have been attempted? Let's take a look at some problems and the innovations that are trying to solve them. Some innovations are still within the touch-world, and some are truly new ways of doing things.

Keyboards

Whether you like it or not, text is here to stay for quite a while longer. It loads quickly on a page, is a nice silent communication method, and is what you're reading right now. Why? Because it's still a damn good way to convey content and ideas. It's when you get into the 5Cs (see page 1), and realise that three of them – Consume, Create and Communicate – still rely heavily on text, that you realise that keyboards are still important. However, typing is the bane of every touch device user. Even if you don't type a lot, you still could use a better more accurate way to do it.

We were recently contacted about a product called TREWgrip, which is basically a keyboard for touchscreen devices, but with a difference. Instead of killing your thumbs while typing, TREWgrip placed the keys under the device, so you use your fingers to type and hold the device, and your thumbs only to balance and grip. We're reserving judgement on the product until we see and use it, but it's an interesting example of innovative thinking. Interestingly, even if you're the kind of per-



TREWgrip allows you to type more ergonomically

son who needs to look at keys when typing, TREWgrip offers visuals of keys on the top of the product with LEDs to indicate what key you pressed below. Although we still think of this as a stop-gap measure in the UI race to perfection, it certainly has the potential to improve the one experience of touch devices we all hate.

If typing on the back of your phone is too weird an idea, then there're always alternatives to on-screen keyboards. Minuum, for example, is a single line keyboard that relies heavily on auto-correct to get typing right. It's currently available on the Google Play store for android users, but it goes way beyond that. The aim of the company is to give you the ability to make almost any surface a keyboard. Using a smart ring, or a wristband, or a game controller, or even your own forearm, you can input text that's wirelessly transferred to the device you've paired with. You can read more about the proposed technology at minuum.com.

Plus, Google is also thinking along similar lines for project Glass, and is experimenting with a laser projection capability that would allow pretty much any surface to become a keyboard, or a text input device. Perhaps simple laser displays and Minuum-type keyboards will allow us to just type out stuff anywhere, with our phones never even being visible.

Such research is of the utmost importance, because we truly believe that the old Icon-based UI just has to go, but however also realise that touch or text just isn't going anywhere in a hurry, so these are technologies that will bridge the gap and allow us to experiment with UIs that are actually made for devices that are used on the go, instead of just scaling down UIs that were built for large, immovable displays. But what about said displays? Should we get rid of those altogether?

No screen

With everyone selling phones based on screen sizes, and actually trying to advertise an almost tablet-sized 6-inch screen as



Smart watches are all the rage now

bigger is better on a phone, we're sort of regressing. Some manufacturers are just trying to get us back into the old LCD monitor war days where inches were everything. At the risk of being risqué, it's not how many inches you have people, it's how you use them! This whole bigger is better race seems to be encouraged by the fact that people are giving up, and opting for phablets because they have realised that they just need a bigger screen for some tasks. For this, some of us are willing to look like dorks with large Bluetooth devices in our ears, or worse, willing to hold up a tablet-sized device to our ears to make phone calls. Yes larger devices have larger screens, and videos look good on them, as do web pages, but they look funny in your pocket, ridiculous when held to your face, have huge batteries that take longer to charge, but the same time to run out, are heavy, and are just not the answer.

Google Glass and other wearable screens are one way ahead, because you can project virtual screens (the virtual screen appears to be a 15-inch display, or 17-inch, etc) when you need them – to watch videos or look at a large web page, etc. However, these glasses also allow you to keep things limited to your peripheral vision, so you're updated with your notifications, but not at the cost of being distracted with what's in front of you. They have audio features also, and allow you to do tasks with spoken commands, or take calls without touching your phone. The problem is they look too dorky, but that's also fixable. What isn't fixable is that some idiot is eventually going to mow down school children crossing a road because he wore his glasses while driving and forgot to turn notifications off, or worse, was talking to his co-passenger and said, "Ok, you ass, you tell me what's the fastest way to MG road?" and his glass heard "Ok Glass, what's the fastest way to MG Road" and promptly popped up a map, or started talking in his ear, and distracted him long enough to kill someone!

Apart from this, voice recognition in general is OK, but only in situations where you're alone or won't be disturbing anyone, or perhaps when you don't mind people overhearing your commands.

Divergence


Another interesting area that's become popular is smart watches,



Meet Minuum, the single-line QWERTY

which basically allow you to do all of your basic tasks on your wirelessly connected watch, using your phone's processing power, and since this is a second device, it works well for all applications that don't need a large screen. If a smart watch is paired with a phablet, you can have the best of both worlds, in a way, by having two separate devices. If people start selling these as bundled products – Apple might sell an iWatch and iPhone combo, or allow the iWatch to bring phone functionality to the iPad – then this does become a way of separating UIs for varying tasks. To make or receive a phone call, you barely need anything more than the two line displays of yesteryear. To play a game or a movie however, you need the high resolution displays of today. Perhaps the future is really diverging products as per their usage scenario, and designing custom UIs that are purpose built, and thus perform those set tasks better.

Of course what we're facing today is sort of divergent – your phone or tablet for fun and your laptop for serious work – so perhaps there really is no way forward, and we've reached the pinnacle of human ingenuity in terms of mobile devices... No, we don't really believe that either! Why on earth would Google be spending so much time researching ways to do away with screens completely. It's not just to sell a product like Glass, it's a valiant attempt to finally replace the ageing icon-based system.

There are hundreds of more ideas for both divergent and convergent devices, and the UIs that will rule will be decided by what form factors of devices we are drawn to. At our end, we just hope that more powerful and more flexible devices will win in the end, so that we can finally be rid of the need to buy and operate multiple form factors just to get through an average life. 

TRUE POTENTIAL

A peek into the future, and what we really should be heading towards

“Good morning class!” said Victoria out aloud. It was 10 PM on a Tuesday, but this was normal for her.

Humanity had used technology to lick a lot of the world’s problems, but time wasn’t conquered just yet. She immediately got 39 varied but quick replies, “Good morning Ms Shaw!” Time zones were tricky, and some of the kids were sleepy after just waking up, some were sleepy because it was nearing bedtime, and others were just annoyed because it was the middle of the day and they were too full of energy to be made to sit still – yet the world always adapted, and so would this little virtual primary classroom.

“Wait. 39? Who’s missing?”, and as she thought that her Retina display told her that Arun was late, again. She sent out a quick ping, which sounded in little Arun’s home, and this immediately brought Arun’s mother running into her picture. “Sorry Ms Shaw, he’ll be here in 30 seconds”, said Savita. “Thank you Mrs. Radia. We’ll wait in that case” replied Victoria. There were giggles all around – young kids find everything funny.

Victoria heard a bustle and some incomprehensible yells and Arun soon appeared

in front of his iLearn station. “Sorry ma’am”, he said sheepishly, and there was even more giggling that promptly turned his face red.

Arun put on his skull cap – another Mapple rental, because kids out grew them so fast there was no point buying them one – and now everyone was ready.

“Today, class, we’re going even further back in history, to look at some events that caused a radical change in technology”. This class was well behaved, but her TruSense app could sense the groans that the kids were dying to let out. “Now class, remember what we discussed. We cannot afford to ignore the past, because it holds the key to the future. Did anyone do any research on the subject?”

She got more feelings of despair from most, but little Arun sent out mixed emotions – a cross between embarrassment and enthusiasm. Thankfully she knew her little classroom as well as she knew herself. “Arun? Do you want to present something?” She knew his own tardiness and the class’ giggles had made him unsure of himself, and wanted to encourage him to participate. Although most of the kids here were between 8 and 14 years old, Arun was only 5. It was normal for the

youngest and oldest kids to be picked on a little, because the younger you were the smarter you were thought to be, and obviously everyone else wanted to cut your ego down to size, whilst the older you were, the more the other kids looked at you as slow learner, and made fun of you.

“I’m not sure ma’am. I was working on something all of last night, but I don’t think it’s ready yet,” he said sheepishly. “Surely you can give all of us a taste of it, and if we feel it still needs work I’ll cut the feed. Is that an acceptable compromise Arun?”

“Yes ma’am”

“OK class, please put on your Googles and sign in”

There was bustle all about, as invariably some of the kids always had untidy iLearns, and some components were always out of reach. Soon enough they were all hooked up and it took only microseconds for their Googles to quickly sync with their iLearn and activate their Retina displays. She eased her iLearn chair into Receive mode, hooked up her own Googles, set her TruSense to monitor mode and relaxed.

It was still marvellous technology for someone in her generation, but these kids always adapted so easily. Somehow

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they were all now ready and waiting to peer inside the Dreamy that little Arun had thought about all night, and view it through him. Not just his eyes, but his emotions, his thoughts on the subject, his confusions, and of course his knowledge. She still had to remind herself not to get too engrossed, because as the teacher, she still had to monitor the thoughts of the others, and allow them to make observations and pass on emotions to the rest when it was necessary to get more diverse opinions in. She would have time later to go through Arun's Dreamy on her own, and grade it accordingly. Thankfully the Googles would do most of the moderation on its own, cutting out all data unrelated to the topic, and TruSense would allow her to silently send encouragement to the one or two students who would inevitably get bored and stop participating.

The presentation began, and everyone gasped as they were given an artificial feeling of moving through time randomly, with images of events flashing by. "Amazing how every younger generation seems to get even better than the previous one at making Dreamys. I'm the last generation of pre-Dreamy humans", thought Victoria to herself.

"Historic Moments in Technology"

Victoria could swear the voice that spoke in everyone's heads was Morgan Freeman's – that oldies actor whose movies she loved. What she would later realise is that Arun was so skilled that he had only added code to use the most authoritative voice that the viewer knew, so for most of the other kids it was their parent, family member or a famous Interweb star of some sort who said those opening lines.

They were all quickly transported back to an image of the iconic Philanthropist Bill Gates announcing his retirement from his old company, Microsoft. TruSense sent out a feeling of uncertainty, perhaps because Arun was too young still to master human

emotions; or perhaps, Arun really wanted to convey uncertainty, since they were viewing the little historic video as core members of the Microsoft team way back in the 2000s. Then they moved forward in time quickly to Steve Jobs announcing the iPod in 2001, and the feeling this time was of excitement. "Maria Ivanova, pay attention please," said Victoria in her head, and her iLearn sent out the message to her Russian student.

The Dreamy went through all of the historic events of the 2000s, showing snippets of old videos of the announcements made by all the old companies – Apple, Microsoft, Google, Samsung and the likes. Most of those companies were still in existence today, but were more like branches of the World Technology Association (WTA).

The Dreamy spent a little less time than it should have when showing the passing of the great Steve Jobs, and Arun could have made the outpourings of grief a little more believable, but it was still impressive for a child. He was able to add in humour by showing people some videos by Steve Ballmer, and even spent just the right time on the eventual failure of Facebook, and its takeover by Apple. He covered the merger between Apple and Microsoft to form Mapple well, going through ranges of emotions. The odd narrative was a little childish, but then he was really just a child still.

He worked his way well through all of the more modern inventions, but then again all the kids would have done the same. His conclusion was that it wasn't until technology became wearable and implantable that it really started to progress at a pace that was needed. He also formed the opinion that it was only when the WTA was formed, and geographical borders blurred, and as a result the competition between companies died out, did humanity really start working towards using technology to improve the planet, instead of using it to make rich people richer. Although this was a simple fact

that everyone already knew, Arun wasn't able to convey the right emotions associated with a world shifting from a profit centric ideology to just doing good. He did find an interesting link between each spurt of collaboration the world experienced, and the death of some of the world's richest individuals who left their fortunes to their causes. And given that every person who was filthy rich in the late 2000s was always a technology persona, it was obvious that their money always went towards building public technologies such as the very iLearn and Googles they were using.

She cut the feed, opened her eyes, which automatically switched her brain input from the Googles to her Retina display, as did everyone else in the virtual class. She could see a simple graph in her peripheral vision that told her most of the class was quite impressed with Arun's Dreamy. Some of them were already running searches to find more funny videos of Steve Ballmer, while others were reading up about how Bill Gates started the trend of leaving billions to the world after his death.

She would have time to give him personal feedback later, for now, all she said was, "Well done Arun, that was quite interesting – especially your finding that it was the deaths of the rich that kick-started the interest in philanthropy when the world needed it most."

She knew he needed the encouragement, and even allowed the feelings of congratulations, awe, and even the odd feeling of jealousy from a classmate to be passed on to Arun.

Technology or no technology, in person or virtually, there was still no better feeling in the world for her than seeing every one of these children smile and feel proud of their work and innovation.

"At last, technology has achieved its true potential," Victoria thought to herself, as she wrapped up her history class for children with physical and mental disabilities. ■

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Not the movie, this is probably named after Jupiter's wife

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National Aeronautics and Space Administration, or more commonly known as NASA is one of the most premiere Space Agencies in the world. It was formed on July 28th 1958 under the watch of the then President of the United States Dwight D. Eisenhower, who stated that the purpose of the agency was to engage in peaceful space exploration (civilian rather than military).

The agency just passed the 55 year mark of being in existence, and in those long years it has accomplished many successes, starting with putting the first satellite into space, to putting a man on the moon and not to mention The Hubble Space Telescope, which in itself has led to some incredible advances in our understanding of not just our galaxy, but the universe as a whole. It even launched the most sensitive telescope in the world, the Chandra X-Ray Observatory, which relies on X-Rays instead of visible light to create images and observe the happenings of the

universe. The Chandra X-Ray Observatory has even captured particles right before they disappeared into the abyss that is a black hole.

NASA's come an incredibly long way in not just expanding our knowledge of the universe, but also in racking up its achievements. They've put man-made instruments of measurement on alien planets, photographed dying stars and colliding galaxies and not to mention, developed a reusable shuttle that can perform repeated missions. Let's not forget the fact that NASA played a key role in transporting components of the International Space Station into space. However, as amazing these achievements may have been, NASA has several programs in place that will be coming to fruition over the next two decades or so, which focus a lot on exploring and understanding our neighbouring entities. For your reading pleasure, here are some of the really exciting ones:

Lunar Atmosphere and Dust Environment Explorer (LADEE): September 2013

The LADEE program will collect and analyse samples of any lunar dust particles in the tenuous atmosphere. These measurements will help scientists address a long-standing mystery: was lunar dust electrically charged by solar ultraviolet light, responsible for the pre-sunrise horizon glow that the Apollo astronauts saw. The instruments on board are a UV and Visible Light spectrometer that will determine the composition of Lunar Dust by analysing the

Sound of a star

Scientists have found a way to create 'sound' from a star's light and using it are able to decipher its size and stage of evolution

When are they going to admit it?

Now even NASA astronaut Chris Cassidy saw something floating around outside the ISS. Can the source get more credible? The world is ready to know.

light signature of materials present and the third is a Neutral Mass Spectrometer that will measure the variance in the moon's atmosphere over several lunar orbits.

Mars Atmosphere and Volatile Evolution (MAVEN): Late 2013

NASA made huge news with the successful deployment of the Curiosity Rover onto the Red Planet. While the rover takes readings and samples from on-ground, NASA feels that some chemical analysis can only be performed from measurements made high in the atmosphere, which is where the MAVEN program comes in. MAVEN will orbit high above the surface so it can sample the upper atmosphere for signs of what changed over the eons and why. The mission will be the first of its kind and calls for instruments that can pinpoint trace amounts of chemicals high above Mars. The results are expected to let scientists test theories that the sun's energy slowly eroded nitrogen, carbon dioxide and water from the Martian atmosphere to leave it dry and possibly desolate.

Magnetospheric Multiscale Mission (MMS): 2014

The Magnetospheric Multiscale mission is a Solar Terrestrial Probes mission comprising of four identically instrumented probes that will use Earth's magnetosphere (the area around Earth that is effected by its magnetic field) as a laboratory to study the interaction between the Sun's and the Earth's magnetic fields and their effect on various particles.



LADEE – pronounced “laddie,” not “lady”

New Horizons: 2015

The New Horizons mission actually commenced back in 2006, when NASA launched spacecraft to Pluto. The probe has just passed the moons of Jupiter and will be the fifth to venture so far out away from our Sun. The New Horizons spacecraft will be performing a flyby mission of Pluto (and its moons) and will gather any observational data it can about what lies on the fringe of our solar system. NASA hopes to get a good glimpse and understanding of the former planet and its five known moons. NASA hopes to discover more with the New Horizons mission about the former planet and its surrounding moons. The spacecraft is expected to conduct its flyby sometime in 2015.

Juno: July 2016

No, this isn't the movie we're talking about there, but an unmanned spacecraft that is currently travelling at about 7 miles per second towards the largest planet in our solar system. The mission draws its name from Greek and Roman mythology, being named after Jupiter's wife. It was only Juno who was able to see through the veil of clouds Jupiter had cast around himself to hide his mischief. The mission is an attempt to take on that very nature, as Juno is set to arrive at Jupiter in July 2016 with the aim of understanding the giant's atmosphere. The spacecraft will also determine how much water is present in the planet's atmosphere to test the various theories of planet formation. It will also study the effect of Jupiter's magnetosphere along with deciphering the composition of the planet's atmosphere.

InSight: March 2016

Interior Exploration using Seismic Investigations, Geodesy and Heat Transport or InSight for short, is NASA's mission that seeks to understand the composition of the Red Planet. The mission will see NASA placing a single lander on Mars that will study its deep interior by drilling into the planet's surface. Since Mars lacks a tectonic plate system, NASA says the interior of the planet has a more accurate record of Mars's planetary evolution than the mountains and canyons we have been



InSight lander, launches in 2016

studying so far (as they are subject to environmental degradation and meteor and asteroid strikes).

Solar Probe Plus: July 2018

Apparently some scientists at NASA discovered energy signatures in the solar winds as they were picked up and measured by an aging probe, leading them to form new theories about nuclear fusion. To make more measurements, NASA will be launching the Solar Probe Plus towards our closest star, the sun. The probe will travel to the Sun's outer atmosphere, the farthest any spacecraft has ever gone. At its closest to the Sun, NASA says the spacecraft will be about 7 million kilometres from the star. Solar Probe Plus will have to withstand temperatures greater than 1400 Celsius and survive blasts of radiation at levels not experienced by any previous spacecraft. The probe will sample the sun's plasma and magnetic field at the very source of the solar wind.

Manned Mission to Mars: 2030

So far, all we have is President Obama's word on putting a man on Mars in the 2030's, the preparations for which are already underway. NASA says that within ten years of landing the second probe on Mars in 2020, they will put a man on the planet. Interestingly, Mars One, a privately funded venture, aims at putting the first two-member team on Mars by 2023. **d**



Land speed record

The current land speed record achieved by Andy Green of ThrustSSC stands at 1227.986 km/h

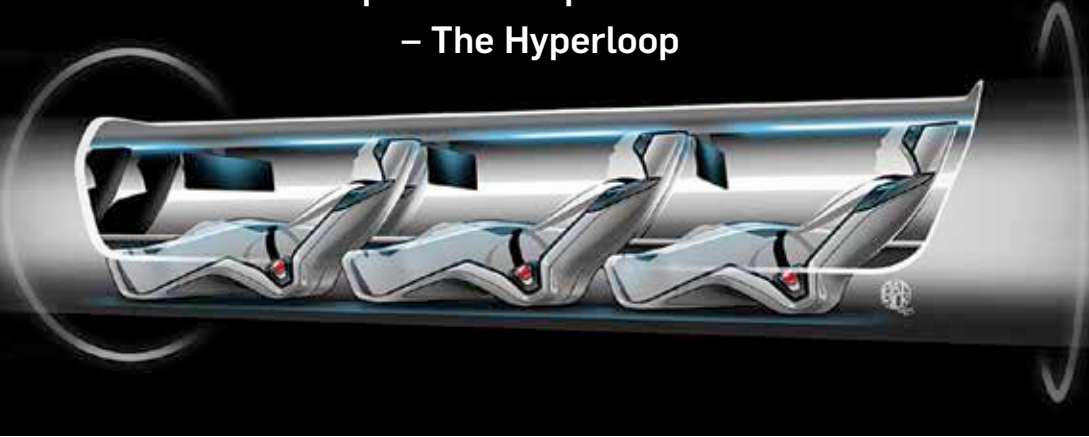


PS4 launch titles

Launch titles list for the PS4 has been revealed finally. Take a look: <http://dgit.in/16TAH8o>

The Usain Bolt of bullet trains

Elon Musk, the man behind Tesla Motors, PayPal, SpaceX and SolarCity has envisioned the next generation of high-speed public transportation
– The Hyperloop



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Rail transportation is already pretty fast, the fastest bullet train travels at 300 km/h but that doesn't seem to be enough for Elon Musk so he has proposed the Hyperloop, a transport system where you have pods which travel at really high speeds through low pressure tubes. While there have been several proposals regarding similar vactrain technologies in the past, this one seems to have worked on the shortcomings of the older ideas while coming up short on a few points.

With Elon Musk the entrepreneurial attitude set in at an early of 12 when he designed a computer game and sold it for \$500, then sold an online service - Zip2 for over \$300 million. The next thing he helped co-found was Paypal which was bought out by eBay for \$1.5 billion. The figures have kept on rising ever since. The guy has been likened to Tony Stark in the media. He is smart, entrepreneurial, charitable and one of the fastest money making machines in the world. His green energy venture - SolarCity is currently the fastest growing company in the solar energy sector. SpaceX, the space transport company has already been con-

tracted by NASA to supply the International Space Station having conducted its first docking with the ISS in May 2012. Some might wonder that he is just a good CEO but it so turns out that he is the "Chief Designer" for the Falcon rockets and also the "Head of Product Design" at Tesla. The guy seems like King Midas high on caffeine or another Tony Stark.

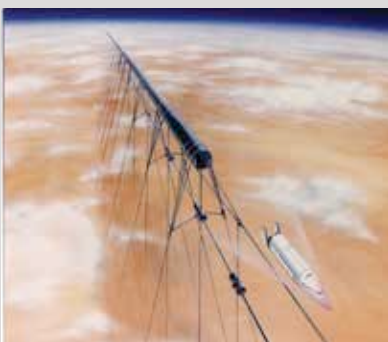
So why a Hyperloop?

Apart from being a real fast mode of transport, the Hyperloop is Elon Musk's answer to the overpriced "California High-speed Rail Project", the hectic traffic and as a means to satisfy his set of criteria which are as follows:

- Safer
- Faster
- Lower cost
- More convenient
- Immune to weather
- Sustainably self - powering
- Resistant to Earthquakes
- Not disruptive to those along the route

The propulsion is provided using maglev technology but current maglev trains are open ended and not enclosed in a tube all throughout. This gives rise to the problem with air pressure and resist-

StarTram



The Hyperloop does seem a bit far-fetched but as you read into what all information Elon Musk has provided it starts to seem closer to reality. But as far as ambitious ideas go, the Hyperloop is small change compared to the StarTram - space launch platform.

That's right! It's a proposed system that would use maglev technology to propel a launch vehicle through a vacuum tube into space - 22 kilometers from the surface of the earth.



3D Printed Hyperloop

A 3D printing startup just took 24 hours to build a model of the Hyperloop <http://dgit.in/FruitLoops>



Xbox launch titles

Launch titles list for the Xbox One has also been revealed. Take a look <http://dgit.in/1549XCB>

From the labs

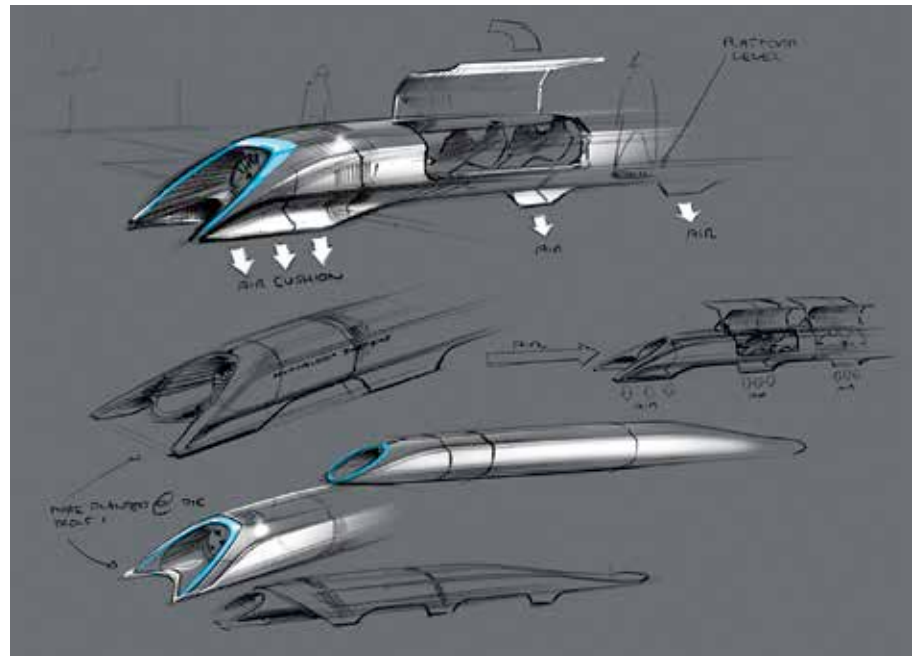
Travel times

The proposed route from Los Angeles to San Francisco is 960 kilometers long, a car takes five hours to cover that distance while current public transportation could take as much as 14 hours. Hyperloop claims to cover the same distance in approximately 35 minutes! For an Indian perspective into this scenario, a trip from Mumbai to Indore in just half an hour.

ance. There are a few ways of implementing the concept, one involves having the tube filled with air and the pods are pushed by the air pressure created behind each pod. This concept has been proven on a smaller scale with vacuum tubes which were used to transport small parcels and messages within a building, however, on a larger scale it's quite difficult to pull off and the friction due to the air present wouldn't have allowed for greater speeds than current generation bullet trains.

The other option is to reduce the volume of air within the tube to create a hard vacuum. This eliminates the problems of air compression and drag, however, maintaining vacuum in small contained areas is still a difficult prospect. Ensuring the same for a tube that spans the length of 350 miles is not possible given that there are going to be up to ten number of joints which will have to be sealed completely shut and even a simple crack anywhere could cause the section to implode. So with the Hyperloop, Elon Musk has proposed an environment of low pressure thus hitting a balance between the two extremes which were earlier proposed.

Each pod is to have an air compressor built onto it which takes air from the front of the pod and creates a compressed air cushion underneath the pod. This compensates for the Kantrowitz limit which states that if the gap between the pod's outer walls and the tube's inner wall go below a certain threshold then you'll have the equivalent of a giant syringe. The pod will have to push the air in front of it which in turn would use up more power. Then comes the trouble with



A schematic that's hand-drawn by Elon Musk. Nah we kid. But looks cool doesn't it?

“Speed has never killed anyone. Suddenly becoming stationary, that's what gets you.”
- Jeremy Clarkson

powering the air compressor using a battery on the pod and since these folks are the ones behind the Tesla electric car they handled the battery problem with ease. So to summarise, we have a pod with humans elevated by electromagnets, has a curtain of compressed air underneath it and has enough battery life to power the compressor the whole 350 miles (563 kilometers).

What could go wrong?

For starters, this is a massive straight tube across a vast landscape. In order to maintain a straight tube the gradient of the natural terrain must be compensated, this requires a lot of different shaped pillars / pylons. Mass manufacturing isn't exactly feasible given the varying heights of each pylon. Then comes into play thermodynamics which states that the increased pressure due to the air cushion would lead to an excess of heat to be generated thus making the tube an oven of sorts.

The pod is practically a bullet, if any of the pylons give away when a pod goes over it there is no easy way to stop the pod in time and save the lives of the people on board. Statistically, the casualties will be less given the low capacity per pod but even that wouldn't go down well with anyone.

Another surprising revelation was that Elon Musk was not interested in building the project on his own, he'd rather prefer it if several investors pitched in and made it a reality. Primarily because in the last two ventures that he began the initial concept and the final product were quite different, here you can't utilise the same approach given the enormous cost and waste of infrastructure that would arise by changing plans towards the end of the process.

Can he pull it off?

Not in the near future. There have been no prototypes yet to demonstrate the concept and a rapid transit system has already been approved along the proposed route. Mr. Musk has solicited suggestions on improving the current concept so we might see a few revisions of the idea before the execution phase gains momentum. Till then Mr. Musk will be taking the car to work. **d**

Tips & Tricks

57 This month we list tips for Evernote, Google Maps and a few tweaks for improving your smartphone performance

Workshop

64 Do you own a Canon 5D MarkIII? Then check out how you can get more out of it

The mystery of the disappearing thumbnails! And other maladies solved

Yet another month where the Digit team and the diligent folks from the thinkdigit forums save the day ... every day. They'd have gone scot free if it weren't for these meddling folks.

Q Thumbnails Disappeared

It has been two months since I installed Windows 8 on my pc. All the thumbnails of videos and music were visible at first, but somehow the thumbnails are gone. It happens every time after 1 to 2 months after reinstalling windows. (Yes, I reinstall windows from time to time). Tell me how to bring back the thumbnails. Thanks in advance.

Harsh Khurana

A If Windows Explorer in your PC is regularly facing this issue then you should check whether this happens after you install a particular program. Anyway, in order to enable thumbnails back again, you can open Windows Explorer > Options > Change folder and

Thumbnails" in the right pane > Double click on it > Select Disable > Apply > OK. You should be able to see thumbnails in the explorer now.

Q Irritating Beeps

My system config is:

- Intel DG41RQ desktop board;
- Intel Core 2 Duo processor;
- 2 GB RAM;
- 320 GB HDD;
- Windows 7 SP1 x64-bit;

Whenever I start my PC it beeps twice, once before showing the Intel logo and once after it. I have tried to update the BIOS but that does not change anything. Apart from this everything works fine. The beeps irritate me a lot.

Binay Kumar

that does not seem to be working at all. It's starting from where I had previously quit the game. So can you give probable reasons for this and also solutions for them?

Priyatam Yasaswi

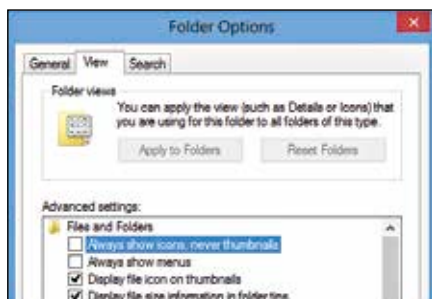
A F1 2012 is a great game but it's known to have that issue. The developers, Code Masters Racing released a number of patches for the game to fix these issues. You will need to go to their website and download the latest patch and that will easily fix the problems you are having while saving problems. Keep in mind, you need to have an original version of the game to do so.

Q Virus woes

This is my first letter. I have a 500GB Sony external Hard Disk Drive full of files. It has been infected by viruses. The files show up on a non-Windows OS. Please help me. I want to delete the viruses but I want to keep the files. Thanks in Advance

Abhi Raman

A The best way is to connect your drive to your computer with Autoplay turned off. Make sure you have a good antivirus like Avast installed on your system. Do not attempt to open the drive by double clicking. First run a scan of the drive in order to quarantine or delete viruses present. If somehow, you are not able to run scans on the drive using antivirus software, you can then think of using a Linux Distro. Create a bootable USB Linux system > install an antivirus software on it like ClamAV > run the scan > you're done. For a more detailed step-by-step procedure to do the same head here: digit.in/WinVirusHelpLinux.



Certain programs may disable this option

search options > Select the View tab > Uncheck the box that says Always show icons, never thumbnails. Once you do this, you may be able to see thumbnails on your files.

If that doesn't work out, then go to Run > Type "gpedit.msc" and hit Enter > Navigate to User Configuration, Administrative Templates, and Start Menu and Taskbar in left pan of Group Policy Editor > Locate "Turn off Taskbar

A When the computer powers up, the power-on self-test (POST) tests whether all hardware is working properly before starting the remainder of the boot process. If the computer passes the POST, it will have a single beep, but some motherboards have a BIOS that make it beep twice. The Intel DG41RQ is one such board which beeps twice during startup. Since your computer is working fine, you need not worry about it at all. But if you really get that irritated by the beeps then we're afraid that you may have to live with it because the speaker on the Intel DG41RQ is soldered on to it and it can't be unplugged.

Q Game save issues

I have F1 2012 (from Code Masters Racing) installed on my computer. It has been very interesting till now, but suddenly the game is not auto saving and when I try to save the game manually



Warning over Win8

A German government body has issued a warning to key German companies over the use of Windows 8

India ahead of Japan

Our glorious nation has outdone Japan as far as the number of Internet subscribers go <http://dgit.in/16IKvBS>

Q&A

Random Reboots and overheating issues

Hi, I've recently been having random reboots on my computer, especially while gaming. No BSOD, just the monitor going blank and the system rebooting. The problem as of yet has not occurred while anything else (Photoshop, Illustrator, 3Ds Max etc all run just fine). Also, I've seen frame rates dropping sometimes while playing Fifa 13, Sleeping Dogs & Skyrim (these are the only games I play). Could this be a GPU problem, or can the problem be related to RAM or the PSU related? When I play Skyrim at any setting whatsoever, it causes the PC to reboot within 5



Re-apply the thermal paste every few years

minutes, while I can usually play FIFA for 2-3 hours without any problem. Nothing other than gaming causes the reboots.

My system:

- i5-2500k;
- Intel DH67CL;
- GT 430;
- 1x4 GB G.Skill RipjawsX DDR3;
- Cooler Master Thunder 600 Watt;

Here are the temperature readings for your reference:

Idle Temps: CPU: Average- 61.6°, GPU: Average- 55.4°

After running Prime95 (Blend, 15 mins): CPU: Average- 97.2°, GPU: Average- 55.5°

There is no aftermarket cooler installed in my system and the fan positioning inside the case is default. I've been using this system for more than a year now. Please take a note that I have installed the RAM sticks from my backup computer but that DIMM has been running fine for nearly a year. Any help regarding this would be really appreciated.

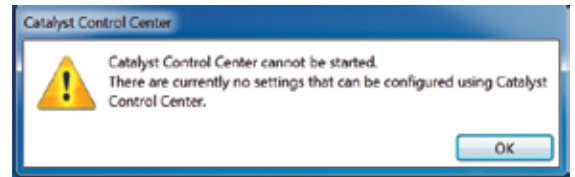
lr7745 (TDF member)

A This seems to be an Overheating issue. First, you should check your CPU cooler if its working properly or is it seated properly. Run Prime95 blend test for 15 minutes and play a resource consuming game again for at least 30 minutes. Note whether there is any difference in temperature. If it still doesn't change then you should buy a good quality Thermal Paste. The Arctic Silver 5 is a good TIM to consider. Clean the CPU surface by using a piece of cloth and some Iso-Propyl Alcohol (available at chemists). Apply the thermal paste to your CPU as shown in the picture, a small amount of it at the centre should be enough. Re-install CPU cooler, run tests again and check the difference in temperature.

mastercool8695, barsbilsbarma63, gamer-anand and topgear (TDF contributors)

Display Driver trouble

I recently got a new laptop; the HP Pavilion G6 2303TX, with 7670M. I installed



Install all pre-requisites for Catalyst Control Center

Windows 8 x64 and it came with Intel HD graphics Driver v9.17.10.2932. Then I downloaded AMD mobility drivers for the 7670M, uninstalled the Intel HD drivers and installed the AMD 13.8 Beta drivers. However, when I restarted the laptop after installation, and tried to start Catalyst Control Centre, it gave a weird error saying: "AMD CCC cannot be started. There are no settings that can be configured using CCC." The hotkeys for brightness control don't work too. Please Help.

anirbandd (TDF member)

A Make sure that you have .Net framework 4.0 installed on your system because it is a prerequisite for Catalyst Control Centre and the program can't start without it. In case you don't have .Net framework installed, then head here: dgit.in/dotNetFwork, download and install it. Next download and install Leshcats 13.1 from here: dgit.in/Lesh-CatsDId. For ease of use, take a look at the installation guide which can be found at: dgit.in/LeshManual. Unified LeshCat AMD drivers are very stable and they would work fine. As for the hotkeys for brightness control, you can search for quickset drivers for brightness control and download them. This should solve your issues.

kkn13 and Cilus (TDF contributors)



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Developer Premier League 2013 is a novel contest that tests your knowledge, recognises your skills as well as business acumen. Come, demonstrate your expertise in enterprise project strategy/planning, development and decision making to your clients, colleagues, peers and the industry as a whole.

You will compete against the best enterprise developer teams across the country! Over 45 days you will have the unique opportunity to enhance your domain knowledge and augment your proficiency of enterprise technology. You get to meet with and interact with top technology consultants, and test your problem-solving skills and hone your teamwork.

You will encounter complicated business problems, lots of information, complex choices and tradeoffs. The pressure will be intense and you will need to produce a winning solution. This contest is a great way to prepare yourself and your team to stay in the forefront of the enterprise development space.

The winning teams and solutions will be featured in print magazines and online via the Digit and devworx network, making them aspirational and lucrative resources in the ever growing tech industry.

Oh, and we have some prizes worth killing for!

Of course, we've heard of the age old adage: all work and no play... The top teams at each location

will win a trip to Macau, Hong Kong. The runner-up teams will get weekend holiday packages in or around their location. In addition we have more goodies!

What TO EXPECT

In the online phase each team will be required to provide comprehensive solutions for a minimum of 10 tasks. Teams will have access to online resources and advice from technology specialists & vendors to develop winning solutions.

Who CAN PARTICIPATE

Software development professionals involved in developing enterprise applications are eligible to participate in DPL 2013

All participating teams will have a maximum of 4 members. The team, headed by a software architect, may include developers, and/or a UI/UX designer.

All teams must be full time employees of an organisation. Third party consultants, advisors, etc are not eligible to represent the organisation in the DPL 2013.



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GETTING THE BEST OUT OF EVERNOTE

Evernote is one of those tools that everyone's heard of, want to use but have no idea how to. This is unfortunate since Evernote is a very powerful tool that's splendid at keeping track of everything you want to remember. It also has vast potential for things as minor as recipes to as important as business contacts. Here's how to master Evernote.

Download the apps

The first thing you should do is to download the Evernote app for smartphones from the respective app stores and the client for your desktop from the Evernote homepage. Alternatively, you can access your Evernote library on the Web.

Create notes

Evernote, at its core, is a note-taking app so if you want to get used to the app quickly, start



Evernote on iOS

by creating plenty of notes. Creating a note on all platforms is extremely easy. On the desktop, click the 'New Note' button at the top of the Evernote homepage or client, on iOS click the 'New Note' icon that appears at the top of the app while on Android, the 'New Note' button



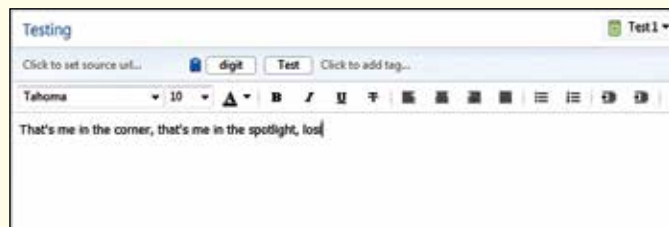
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{ Tips & Tricks has its own page numbers, and does not follow the rest of the magazine's page numbers. This is done to ensure that you can cut out and save T&T in a separate folder for later reference. }

can be found in the left side panel that's accessed by swiping right. On desktop and Android, you'll be able to attach any file to the note, including audio, video and images while on iOS, this is limited to images and recorded audio. In all cases attachments should be below 25 MB. You can also directly capture an image and save it as a note.

Organize your notes

Once you've created a note, you will be able to organize it so that



Creating a new note is as easy as blinking your eye

it becomes easier to find single notes when you have a whole bunch of notes saved. Evernote lets you create Notebooks, which are essentially folders within which you can save notes. If you want to create sub-

folders, then you have to create a parent 'Stack' under which multiple Notebooks can exist. However, keep in mind that although you can create new notebooks in the mobile apps, you can only create new stacks on the web and desktop client.

After you've decided the notebook in which your note will be saved, you can further

add 'tags' to your notes. This is to make sure that all of your notes can be properly searched for when your notebooks get fatter. You can add as many tags as you want to a note and if the note is a reminder, you can also

set it to pop-up at a particular time or day.

Of course, it's not necessary to create tags or additional notebooks if your library of notes is small. It does help a lot though when your library gets more populated.

'Clip' webpages as notes

Evernote also lets you 'clip' parts of webpages or an entire webpage as a note. On the desktop, just install the Evernote Web Clipper extension in the browser you're using. When on a page, select the parts that you want to save and then click the Web Clipper icon that should be present to the right of your browser's URL bar. Doing so will open a drop box that will let you name the



Evernote's web clipper

note, tag it and choose the notebook in which the note should be filed. Save the clip as a note by clicking the 'Clip Selection' button. You can also choose to save the entire webpage or just the URL, as a note by selecting the option from the dropdown which is visible by clicking the small down-arrow button next to the 'Clip Selection' button. Unfortunately, there is no direct way to save a web clip on mobile devices. You can, however, email anything you want directly to your Evernote library without entering the app.

Email anything directly to your Evernote library

A lot of times you may not have access to your Evernote library and still would like to



save a note directly. You can do this by utilising your Evernote email address (you can see your Evernote email address in the profile section of your Evernote account. Keep in mind, this is not the email address that you use to sign in to Evernote) and by utilising this method, you'll be able to save anything from a webpage address to a wall of text to your library and even add the necessary tags, choose the notebook in which to save or set a reminder.

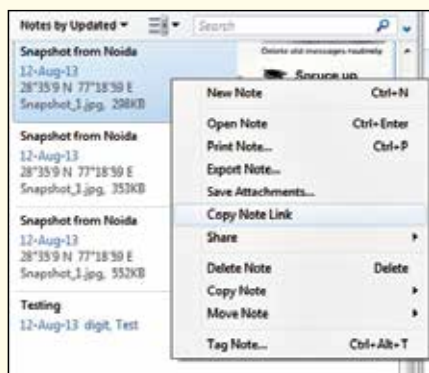
To do this, add the content you want to save as a note to the body of an email. Add your Evernote email address as the recipient of the mail, add the name you want to give the note as the subject and send the email. You will soon find the note saved in your Evernote library. If you want to save the note in a particular notebook, with particular tags or as a reminder, then add the note title followed by @YourNotebookName, #YourTagName or !Reminder[yyyy/mm/dd] in the subject.

Link your notes to each other

If you've got the Evernote desktop client, you can create links for notes and then add the links to another note. Doing this is quite simple- just right click on a note and select the 'Copy Note Link' option. The link for the note will be saved to the clipboard and can be pasted within any other note. Keep in mind though that you can only copy a note's link in the desktop client of Evernote. It won't work in the Web client or in any of the apps, although you'll still be able to use the created links to jump between notes.

Create To-Do lists

Evernote is also very useful if you want to create notes that work as To-Do lists. In order to



Copying a note link

do so, when creating a note in either the mobile app, desktop or Web client, select the checkbox option. You can then add text after each check-box to create a list of things to do that you can mark/unmark with checks. In iOS, when in the text box of a note, clicking on the formatting button at the bottom will reveal the 'Add Checkbox' icon. In Android, the checkbox icon is visible immediately when creating or editing a note while in the Web and desktop clients, the checkbox icon is part of the formatting options above the body text field in a note.

Use Evernote search better

Once your library starts getting filled up with dozens of notes, it's wiser to rely on Evernote's built-in search instead of browsing through your lists



Checklist

of stacks and notebooks every single time. Fortunately, like Gmail, Evernote has plenty of ways to make search more specific or comprehensive. By default, if you type a term into Evernote's search box in either the mobile apps or the desktop/Web clients, it searches

for the exact terms included in a note. However, you can use operators to hone your search as well. For instance, if you want to search only within particular tags, type in tag:tagname (for e.g. tag:smartphones will show up only notes that have been tagged 'smartphones'). If you want to exclude certain

GOOGLE MAPS

Google recently unveiled a huge makeover to its Google Maps. Currently available in beta mode, it lets you discover changes in its interface and improved accessibilities. However, the search results in this version remain more or less the same as in the earlier version. You'll find some changes in the form of search inputs and queries. Unlike the older version of Google Maps, it has a bunch of new and improved functionalities such as advanced filters for search queries.

Web Search on the new Google Maps

Let's say you're looking for coffee shops near Mumbai's



Google Map's new interface is a lot better than before

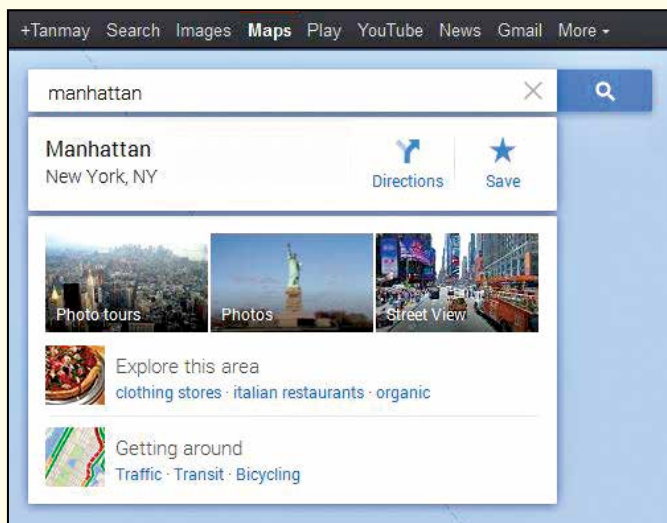
tags, type in -tag:tagname (for e.g. -tag:smartphones will show up all notes that haven't been tagged 'smartphones'). If you want to see all notes that haven't been tagged, type in -tag:*. Similarly, to search within a particular notebook, type in notebook:"notebook name" (when searching for a tag or notebook with multiple words in its name, use inverted commas) or if you want to search for notes with specific tags inside a specific notebook, type notebook:"notebook name" tag: "tag name".

For more search operators and to get a better idea of search in Evernote, refer to this blog post: <http://goo.gl/H7JeNV>

Marine Lines railway station, you can use the term "near" in your search query. Therefore, the most appropriate search query would be "coffee near marine lines". In the results you'll be shown all the coffee shops located around Marine Lines railway station. You can do the same for other similar search queries.

Instantly share URLs

Whenever you want to share the URL of a particular map, all you have to do is click a button called "link" on the older version of Google Maps. The new Google Maps will allow you to always have a permalink of any place



Look for things nearby and you'll never consult another guide book

you search for. Whenever you search for any location, you'll find its URL present inside the address bar, ready to be retrieved and shared instantly with your friends.

View all available information for a location at once

Say you have a friend's wedding in Kolkata and you want to tour the place while there. Once you've entered the city name in the search field, related imagery for the place will automatically show up. All you need to do is simply click on any location on the map and explore the area with the help of photo tours that will appear below the search box. Earth view can be accessed at the bottom-left corner on the new interface of Google Maps.

Android / iOS Zoom in as you please

If you think pinching the screen is the only way to zoom in and out of Google Maps, you're not well acquainted with all of its capabilities, because in addition to this, you can also double-tap your screen, hold, and then scroll up and down to zoom in and out.

Get offline Google Maps

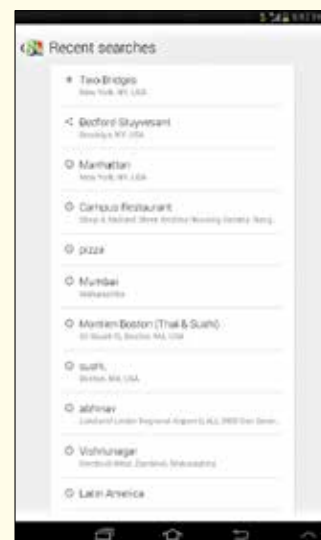
If there are particular locations on Google Maps that you're fond of, you don't need to be online and connected to access them each time. You can simply make them appear offline for later use. While you're online, go to the Google Maps application on your phone and open the map. In the search box, you'll find

search suggestions for recently accessed places. Select "Make this map area available offline" and you're done.

Note: This feature is currently available only on Android, and not on iOS.

Start using turn-by-turn navigation instantly

To enable GPS support for turn-by-turn navigation, you don't have to get into your mobile settings. Google Maps now gives you this option right inside your application. Just select your current location and desired destination. You'll find the transportation icon at the bottom-right corner of your Google Maps application. Taping this will automatically execute voice guided turn-by-turn GPS navigation, without



Looking through search history

taking you away from your Google Maps experience.

Explore local businesses

In case you're looking for a particular place or a category of different places to eat, drink, shop, rest or be entertained, tap the search box to find a card called "Explore" in order to start exploring places in the categories of your choice, viz Eat, Drink, Shop, Play or Sleep. Through Explore, you'll be able to find relevant places tagged within the area of your choice located in that particular category with ratings out of five stars and reviews as well thanks to the new Zagat integration.

Once you've found a business or service, you can allow the search results to point you towards other similar results.



How it looks on Android

ASUS
IN SEARCH OF INCREDIBLE

Windows 8 enabled
Powerful Desktop Performance

King Size Tablet with
Android Jelly bean 4.1

18.4in Full HD
IPS Display

One machine
Dual device
Triple play



ASUS recommends Windows 8.

ASUS Transformer AiO





Street View FTW

directions float above the main maps, providing a sense of space and continuity within the app. Unlike on smartphones, you just need to tap on any location to get all the information about that particular place instantly and as efficiently as possible.

Access Street View

Similar to Google Maps on desktops/laptops, there's no longer an option on mobile devices to access Street View as soon as search results show up. If you want Street View of a particular location on Google Maps, simply press and hold on the map to drop a pin. This will render an info sheet, which lets you access the Street View option.

Share your location

Similar to the way you access Street View, you can also share your location instantly with your friends or colleagues. Simply press and hold on the map to drop a pin. This will take you to an option allowing you to share via different applications i.e. text message, email, Bluetooth etc., depending upon the applications you have installed on your device such as Facebook and WhatsApp Messenger.

Save your location

The Google Maps application even lets you save your searches for later use. Simply press and hold on the map to drop a pin, and find an option for saving your query. If you want to retrieve the saved search, tap on the person icon in the upper right corner near the search box and scroll down to access your saved places.

Find search lists

If you always search for a limited number of places, you can convert them into a list for

quick reference. Simply open the search box and tap the list view icon. If you're using a tablet, tap an option called Results List in your Google Maps app.

Note that since the app is still in beta mode, we should expect to see many more changes based on user feedback. Also, some of the mentioned tips and tricks may not work in your country or on certain devices.

BOOST YOUR ANDROID DEVICE

Some easy tips and tricks to help you achieve an optimal battery life and performance from your Android smartphone/tablet

Android as an OS has evolved quite a bit over the past few years and there are a lot of tools at users disposal to optimize the performance of the smartphone. The Android OS has the ability to give users an acceptable experience even on an entry level Android smartphone. Manufacturers at times skin the OS with their own UI and also offer some preloaded apps that are, at times, nothing more than bloatware. The flexibility and customizations options that Android offers sometimes works against it as it may make

the smartphone/tablet laggy, slow and a battery guzzler.

To help you achieve a state of optimum battery life and performance on your Android device, here we list a few tips and tricks that can help you get the most out of your smartphone/tablet.

Delete it!

Some Android devices come preloaded with a bunch of apps. If you pick up a smartphone/tablet from Samsung, HTC, Sony and more, you will get a preloaded skin on it along with a few preloaded apps. Some of these apps may consume memory, stay active in the background or just consume storage space. If you aren't going to use these apps, it makes sense for you to delete them. This will not only help you get some storage space, but also make the phone run smoother as well. Uninstalling an app can be done from the Settings > Device > Apps.

If you have purchased a few apps and are worried that you will have to repurchase them once deleted, don't worry. Once an app has been purchased, you can delete it and download it as many times as you like. All you need is to log in with your Gmail account (the one you



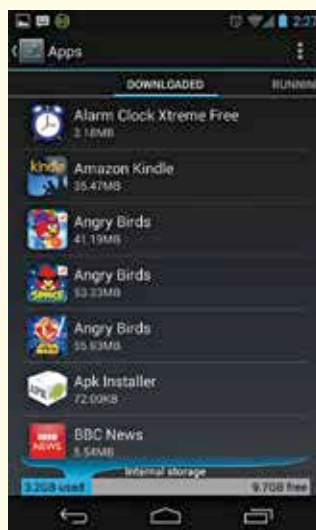
Who needs physical maps?!

On a Phone

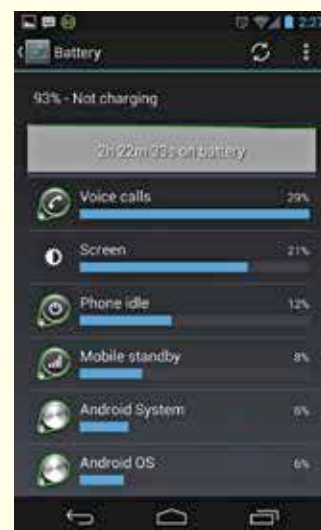
If you're using Google Maps on your smartphone, you'll find a bunch of details right after tapping on any location in the application. You just need to swipe up and down the info sheet to find out more about that particular place. If you want to find more such services, you don't need to revert to the search box. Swipe left and right on the existing search results page to view many other such businesses.

On a Tablet

Google Maps has been optimized for tablet users. The dropdown search menu and



Apps storage space usage



Battery consumption



Brightness control

used to purchase the app). The only downside is that you will lose any data that you have saved via the app.

Update on a regular basis

App developers as well as smartphone/tablet manufacturers release updates on a regular basis. These updates may bring the new OS to your device or may update the firmware to give you better performance. Developers to release updates for the apps on a regular basis. These updates help optimise the performance of the apps as well as make them efficient. Updating your apps and device on a regular basis will affect the performance.

Updates for apps can be accessed from the Google Play store. For the firmware/OS update, you can access it from Settings > System > About the Phone > System Update

Fewer widgets

One of the best features of owning an Android device is that you can customize the available home screens with widgets and live wallpapers. The downside to this is that they are battery guzzlers. You would do a lot better to have a static wallpaper and if you



Memory consumption

aren't using a widget, it makes sense to remove it as widgets not only consume battery but data as well while updating.

Widgets and live wallpapers consume not only the battery but the memory of your Android device as well. Switching them off means that the device will become smoother. Long pressing the home screen will bring up the wallpaper and widgets option on most Android devices.

Transfer apps to the SD card

One of the biggest problems, especially of mid-ranged Android smartphones and tablets is that the built-in storage is really low. There are some apps that cannot be transferred to the SD card, but most of the apps that you will download from the Play store can be moved to the SD card. It is easier to clean up the memory card by deleting left over folders from uninstalled apps and also easy for you to transfer data from your PC to the device.

Background data and connectivity options

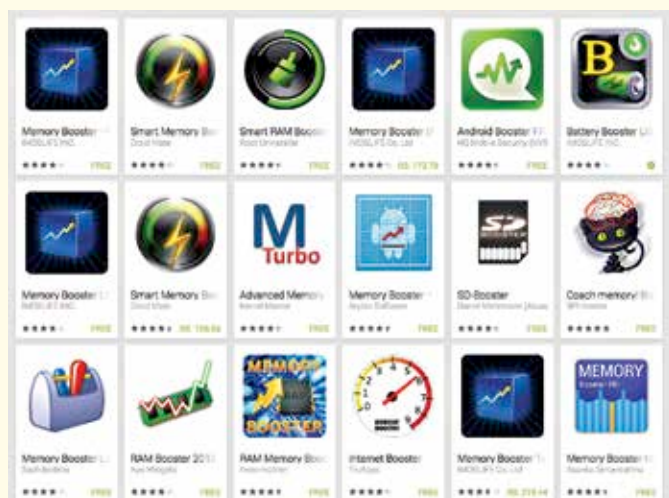
The beauty of Android is that it is very easy to sync your contacts, apps and other infor-

mation seamlessly between devices. Unfortunately, the background sync depletes the devices battery life in a jiffy. Disabling background sync will help you save on the battery life of the smartphone. It is easy to manually sync your Android device with a simple click of a button. You can also enable selective sync if there are apps and information you would like updated all the time.

On your Android smartphone/tablet you have a bunch of connectivity options such as 3G, Wi-Fi Bluetooth and GPS. Sure, all these connectivity options are great to use but you aren't going to be using them all the time. It makes sense for you to disable these functions when you aren't using them.

Switch in the Wi-Fi when you are in a Wi-Fi zone and switch it off when you leave it. When you aren't using the Internet on your smartphone, it makes sense for you to switch to 2G as 3G is very power hungry. GPS and location services too can be switched off after you have checked-in or finished using Google maps.

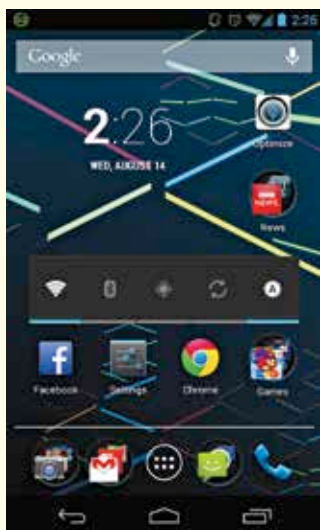
Setting the brightness to auto will help you save the battery but it is better if you manually control the brightness and set it to as low as possible. The screen is one the biggest battery drainers and if you are one who has a behemoth of a smartphone with a large display, you will see a noticeable bump in battery life with a lowered display brightness.



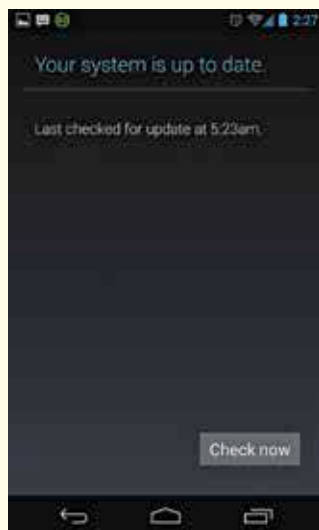
Memory clearing apps are important for responsiveness



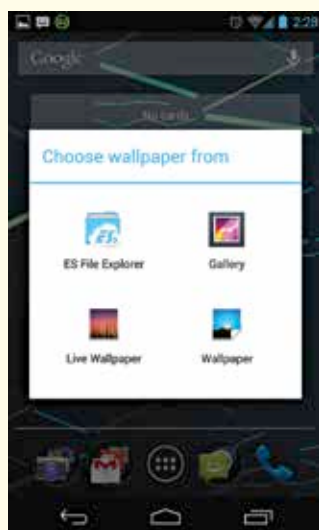
Battery boosting apps are good to bank on



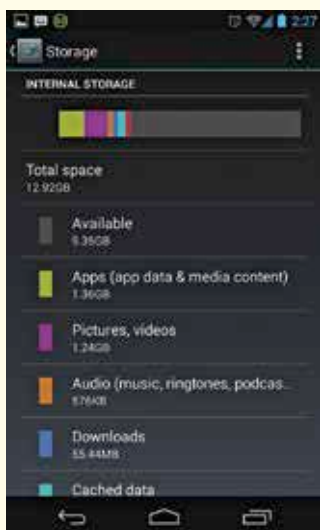
Power control widget for android



Software update



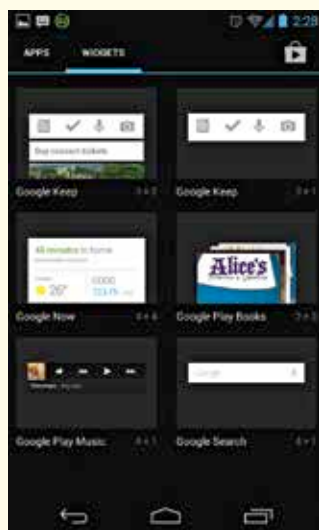
Wallpaper selection



Storage space



Third party battery app



Widget selection

You can have a power control widget on the home screen that gives you access to switching on/off Wi-Fi, Bluetooth GPS and more along with brightness controls. Some smartphone makers such as Samsung, HTC and more give you these options from the drop down notification.

Rooting

This option isn't advisable for all but if you are someone who wants to unleash the full potential to your smartphone, there is no better option than rooting.

Android is built on the Linux kernel and like any other OS it also can be rooted. The advan-

tage of rooting is that you have administrator level access on your phone/tablet. If there are apps on your device that can't be uninstalled through the traditional means, you will be able to get rid of them after rooting the smartphone.

Rooting your phone also gives you the ability to flash it with custom ROMs. This means that you can customize the phone to work the way you want it to. Put simply, rooting helps you enhance the performance and battery life of your phone.

When Google launches a new version of the Android OS, it takes quite a bit of time

to come to third party smartphones and tablets. Rooting your smartphone gives you the ability to install and have access to the latest version of the OS days after its launch.

Third party apps

If you are someone who has already tried the above options and still wants to do more to get the best performance boost from your Android device, you can resort to some third party apps available on the Google Play store. You have many free apps to choose from but there are a few paid apps worth investing in as well.

Battery boosters

Typing "battery booster" in the Play store will give you a hundred apps to choose from. These apps help you boost the battery life of your smartphone and also help you monitor and see what apps are consuming the most amount of battery. Some apps also give you options such as power mode, restrictive mode and battery saver mode. Each mode cuts down activities such as data, Wi-Fi brightness, background sync and more to conserve battery. These apps are handy if you are someone who doesn't want to manually control the functions of your smartphone. They also help monitor the health of the battery on your smartphone.

Clearing memory

If you have a smartphone that has low RAM, you will notice quite a bit of lag, especially if you multi-task heavily. There are a bunch of apps available on the Play store such as Clean Master, Memory Cleaner, History eraser and more. These apps help clear the cache and also help free memory being consumed by apps in the background at any given point of time. If you have a large library of apps and are a heavy multi-tasking user, then these memory-freeing apps do make sense for your Android device.

Monitoring apps

If you don't want a different app for monitoring each function of your smartphone, you can always resort to some all-in-one apps such as Elixire 2, System Tuner, Android Assistant, Greenify and many more. These apps not only help you improve the battery life of the smartphone but also help in enhancing the performance by managing the apps and memory usage of the device.

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Back to beta

Crytek's FPS titled Warface which was released last year set to enter closed beta again. <http://dgit.in/13KHTTG>



Ultrafast flex-circuits

Researchers have found a way to print ultrafast graphene on flexible material <http://dgit.in/177VIbX>

Get HDR Video and 14-Stops of Dynamic Range on your Canon 5D MarkIII

Get HDR Video and Photos by default on your Canon 5D MarkIII

Swapnil Mathur

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If you own a Canon DSLR and haven't heard of Magic Lantern, chances are you're seriously under-utilizing the prowess of your camera. If you particularly, have the 5D Mark III, you'd probably soil your pants when we tell you that a team of developers have figured out how to enable HDR video on your camera, and yes, you can do it right away.

As great as the camera may be, there is always scope for improvement and there is a bunch of developers at Magic Lantern who swear by this philosophy. They have been working extremely hard at developing a custom firmware that will take the 5D Mark III to the next level, and a few weeks ago, they finally managed to do so.

The first version of the Magic Lantern Firmware for the 5D Mark III was released as what the team calls a "nightly build," a highly experimental version of the firmware

not even qualified to be considered a beta. The firmware, which runs through the SD card (in this case) is a soft-mod, meaning it does not permanently alter any firmware code that Canon writes to the camera's ROM.

Major Disclaimer Alert – If you don't READ this, your Camera will die a fiery Death

We're not going to write our own warning, as the guys at Magic Lantern have done an amazing job of drafting one. With reference to the nightly build of the CFW of the 5D Mark III, they say

"This code changes low-level sensor parameters. In the technical doc you can see how this method messes with the feedback loop for optical black, for example. Therefore, it's safe to assume it can fry the sensor or do other nasty things. My 5D3 is still alive after roughly one week of playing with this, but that's not a guarantee. We don't pay for repairs. Use it at your own risk."

The Math, Science, Absurdity and Wizardry of Dual ISO Explained

The Dual ISO feature works only on the 5D Mark III and the Canon 7D (but photo only on this one). The reason behind this, according to Alex, one of the Admins of the site and the co-creator of the firmware, is that the sensors on the Canon 5D Mark III and the Canon 7D both have an 8 channel read-out, as compared to the 4 channel read-out on every other Canon DSLR. Canon uses a signal amplifier circuit in all other cameras with a 4 channel readout, so



The EOS 5D Mark III is one of the most versatile cameras out there



Fun with dry ice

Dry ice is far from being dry when it comes to having fun with it
<http://dgit.in/16C8dxp>



Woopsie!

Apple recently pushed an update for Find my iPhone limited to developer accounts only
<http://dgit.in/177W5D8>

Workshop

for an 8 channel read-out, they speculated the presence of 2 amplifier circuits and designed the code that would program them to operate at two independent ISOs.

What Dual ISO is Actually Doing

When the mode is activated, it is essentially capturing two ISO frames at the same time. However, the image is quite garbled, so the light and dark frames must be separated and then recombined with usable information from both frames to yield one proper image. The downside for photo of this process is that the image yielded is technically a half resolution file (the image will still read a full 21 megapixels, but if you zoom in at 100%, you notice scan lines). For web-work, it shouldn't matter, but if you're looking to make billboard sized prints, we recommend using the bracketing approach to capture maximum dynamic range. As for video, it should be obvious that since it's a frame-by-frame alternation of ISOs, if you get motion in your footage, it will look unnatural. However if you want to shoot a video for interiors, go right ahead and exploit this technique.

Okay, Okay, I get it! How Do I Get it on my Camera?

Before we begin, here is a list of things you will need:

- 1) 1 Canon 5D MarkIII running official Canon firmware version 1.1.3
- 2) Magic Lantern firmware files, which you can download from <http://dgit.in/18g20a8>. Let's call this "File-Set-A"
- 3) The Dual ISO module which you can grab from <http://dgit.in/1czfgvz>. Download the whole thing as a zip file. Let's call this "File-Set-B."
- 4) An SD card, 8GB or less, with a minimum write-speed of 30MB/s

Getting the Firmware onto the camera

- 1) Once you have downloaded the ML firmware, extract it to a folder on your desktop into a folder called "Custom Firmware." You can call the folder anything you like, but we like to call ours "custom."
- 2) In the folder, you will see three files, one of which is a PDF file for users (this



Explore the firmware menu to discover all the new features of Magic Lantern

doesn't need to go on the camera). The other two are "ml-5D3-113.fir" (this is an actual custom firmware file) and a folder called ML (with several subfolders). Within the ML Folder, create a new folder called "MODULES" (make sure it's all caps).

- 3) Now open Fil-Set-B.zip and delete the 7D folder (you don't need this). Now copy all the files with the extension ".MO" into the Modules folder you created earlier. Copy autoexec.bin and place it in the root (outside the ML folder). It should be giving company to the firmware file.
- 4) Now you have your package ready, so plug in your SD card into your PC. Use a card reader (plugging your camera just won't work)
- 5) Copy the firmware file, autoexec.bin and the ML folder to the ROOT of your SD card.
- 6) Eject SD card and insert into camera.
- 7) Turn on camera and go to the update firmware option. This you can do by pressing "Menu> Settings (the yellow wrench icon)> Fourth page > Update firmware.
- 8) Hit update firmware
- 9) Pray to god your 5D MarkIII doesn't explode from supercharging the living shiznits out of it. (No seriously!)
- 10) Wait for the red lights to stop blinking. Once they stop blinking, wait for a few minutes just to be sure. Now your firmware is installed.

Using the Firmware

- 1) Magic Lantern usage instructions say that once the firmware is installed, pressing the "Delete" button on your camera would bring up the menu, but that instruction is for sanctioned firmware and DOES NOT APPLY to this particular, highly experimental one.
- 2) If you press the Delete key right now, nothing will happen. Turn off the camera at this point and turn it back on.
- 3) Press the Delete key
- 4) Go crazy as the Magic Lantern welcome screen welcomes you.
- 5) Go to "Modules" tab (the last one on the right) and enable "Autoload Modules on Startup." All dots should turn green.
- 6) You can enable Dual ISO from the Movie or Shoot menus and set the corresponding values for the two ISOs you want the camera to shoot at.

You now have successfully loaded the custom firmware onto your 5D Mark III. We have been using it for over a week, with the camera shooting almost everything on Dual ISO mode and the results are actually quite nice. However, given the highly experimental nature of the firmware, we strongly recommend waiting till a more stable version of the firmware is made available. But if you absolutely must use this, we have a guide to using the Dual ISO mode up on our site (along with sample photos and videos) here: <http://dgit.in/15jdtSj>

HTML5: INTEL XDK

The mobile industry has, for the past few years, witnessed rampant growth with the evolution of platforms such as Android and iOS. This has also resulted in better choice for the consumer. What's more, each and every major mobile phone manufacturer has tried to float its own mobile platform in the market at some point of time, be it Nokia's Symbian or Samsung's bada. Many such platforms have come and gone, but only a few have managed to survive the tide of time. While this trend does result in more choice to the consumer, at some point it also results in a bit of confusion as to whether the future of the platform is secure and whether it would make sense to invest in a technology that is just coming up and has a future that is very uncertain.

CHALLENGES POSED...

This problem can also be similarly extrapolated and examined from the point of view of developers, brands and those intending to target these consumers with availability of content in the form of mobile apps. In recent times, the number of apps has primarily been the most important measure of success for a particular platform related to mobile devices. This is the reason why platform owners have been continuously trying to lure developers into their own ecosystem with exciting rewards along with a promise of big returns in app monetisation, a practice that was never as much prevalent before.

This however, presents a problem to the developers who are as much confused about putting in their time and effort as they are worried about the possible monetisation possibilities on these platforms. While there are now newer monetization channels available – whether they are in the form of in-app pur-

MANY PLATFORMS HAVE COME AND GONE BUT ONLY A FEW HAVE MANAGED TO SURVIVE THE TIDE OF TIME. WHILE THIS TREND DOES RESULT IN MORE CHOICE TO THE CONSUMER, AT SOME POINT IT ALSO RESULTS IN A BIT OF CONFUSION

chases or some content made available in the form of a subscription model, the problem of a learning curve attached to each new API and a new platform is a bigger issue than it is normally perceived. Not that it is something which is technically complex or incomprehensible, but the fact that it takes time, effort and possibly a finite amount of resources every time a new platform or API is released or even when an existing one is updated, becomes a deterrent in itself. What's more, if a hugely touted future mobile platform is going to be released, developers always need to be ahead of the times and start planning for the future possibilities before it even reaches the market. This essentially means that a lot of resources already have





The XDK login screen

to be put in, even before the success of the platform has been gauged, and if at the end of the day, the whole thing fizzles out, there is an almost certain chance that it will be impossible to recuperate the losses.

Keeping oneself restricted to established platforms such as Android and iOS might be one solution which many of us seem to be content with, but another problem of fragmentation within these platforms is a devil which has been putting a roadblock in mobile app development time and again. The problem is bigger with Android, because there are almost innumerable devices of varying screen sizes, screen resolutions and underlying architecture. This makes it impossible to make sure that your app runs on all of the devices in the market. Not only does it make debugging/testing difficult, but native apps tend to be less stable and more prone to bugs if they are run on less popular devices.

POSSIBLE SOLUTION?

A solution that has always been spoken about for a long time is HTML5. It's one of those technologies which is open and supported by all devices, and is easily accessible irrespective of all hardware form factors. One reason is because HTML has always been encapsulated from directly interacting with the hardware and runs inside a container or interface which forms a part of the browser. This allows the device to provide a user experience which works almost at par with most native applications in combination with other client side technologies such as JavaScript and CSS3. This results in an interface which is fluid, flexible and reasonably responsive at the same time. While the last point is being hugely debated among the industry, it is no doubt that performance is also a lot dependent on server-side architecture and the user base that the application is aiming for in its particular use-case. Most major social media organisations such as Facebook

and LinkedIn have dumped HTML5 in favour of native application development, but companies such as Sencha have clearly demonstrated how a good and responsive interface can be developed if correctly implemented, as you might be able to see in the form of its app called FastBook. Some of the negatives are now solved with features like the HTML5 application cache and offline browsing which allows the HTML5 app to be made available offline. This not only reduces server load, but also reduces the processing that takes place on the device itself.

The major benefit for HTML5, i.e. cross platform compatibility results in much lesser costs for development teams and generally a lesser time taken to reach the market. Such apps, once developed, can then be packaged and made to run in a web view container on any platform, and the best part is that they are accessible very easily even from desktop browsers and places like the Chrome web store etc. While these benefits can mean a lot for the developers, it does not mean that HTML5 is the solution for every such problem. It has its own limitations and its own use cases where it can be satisfactorily used. In some cases it does make sense to dump native apps in the favour of HTML5, but sometimes there are of course things which could be handled better by native apps. In the end, it all depends on the developers and the end product that they have in their mind. Sometimes, a hybrid approach makes sense too.

Some of the main features that HTML5 brings to the table are the video and audio elements, which allow embedding of multimedia content without using plugins like the flash player. This is expectedly much more secure and is faster than any third party plugin. More features such as inbuilt geolocation support and the much more popular HTML5 canvas are things that have changed the way we ever looked at the web. Web Semantics too are

improving with better support for otherwise niche technologies like microdata and microformats, which allow processing of machine readable data. In fact there are some many standardized and non-standardized features that it could be impossible to list them in one place. Some advanced features like Indexed DB and Web Storage have also made great progress in the way web applications are now developed. These allow you to store and retrieve persistent key value data in the web clients. Web workers are also now available which provide functionality akin to background services in any operating system. In short, these allow your web application to run scripts in the background that do not need to run in response to a user based interaction, as is the case with normal JavaScript. All in all, HTML5 now forms a huge set of features which is now no less limited in functionality as opposed to any other programming language.



The Initial Interface for the Intel XDK



The new project details page



The App Starter Wizard Theme Chooser

One major problem however, which is plaguing the HTML5 marketplace until now, has been the extremely slow pace of standardisation where each browser or vendor has had its own implementation of HTML5 APIs and features. There are now a lot of modern frameworks/tools available to supplement this technology and with the support of leading giants like Apple, Google, Intel, Mozilla etc., the trend for better compatibility has indeed sped up, wherein HTML5 features are much closer to a formal specification by the W3C. Keeping these developments in mind, Intel has decided to ride the bandwagon for the open web of HTML5. It has recently announced the availability of a rich set of tools including the Intel XDK, HTML5 App Porter Tool and many others. As stated earlier, it is widely accepted that the success of a platform, whether hardware or software, depends a lot on the availability of content. It is clear that Intel too is aware of this fact, and the chip manufacturer understands that it would be in its best interests to make as many apps available on their Intel based devices, as are possible.

INTRODUCING THE INTEL XDK

The Intel XDK can be best defined as a sort of cloud based IDE which supplements the HTML5 mobile app development. One of its main features is the emulation of a lot of devices for HTML5 based apps and even hybrid native apps. Some of these devices include iPhone, iPad, Samsung Galaxy S, Galaxy Tab, Microsoft Surface and ultrabooks. It supports never before heard of features in an emulator, like accelerometer emulation across all the three axes, multitouch, geolocation and allows the developer to choose the current data connection type for the emulated device. Multitouch emulation has a nice touch to it too, one can just hold the right mouse button anywhere on the emulator screen and then left click to provide multiple touch inputs. This is some of the functionality which is very well supported by hybrid HTML5 applications, which offer a good compromise of providing access to functionality like the accelerator and other sensors which are unavailable to HTML5 tools.

While an editor mode is integrated, one can very well choose to develop the app in their own IDE and upload the code here in order to test the functionality in its emulator. The editor mode also supports development of server side components and has readymade templates available for ASP and PHP.

INSTALLING THE XDK SOFTWARE

The XDK can be installed on all the three desktop platforms including Mac OS X, Windows and Linux as long as you have Google Chrome and Java installed. There is also a Google Chrome plugin available in the Chrome Web Store which provides a button to load the XDK in its Java Applet. Further links to download and install the XDK as well as the Chrome extension are available at xdk-software.intel.com.

Installation is fairly straightforward and you will see some java archives being copied for the first time, followed by which it will ask you for the location where the XDK files are to be stored. If installed and loaded successfully, you will be presented with a login screen. Assuming that you do not have an ID, you only need to provide your email address for the first time and click Submit. If the email ID is correct, you will automatically be presented with a sign up screen asking for further details which you can fill in. Once this process is completed and you are logged in, you will be presented with Intel's Hello World app. You will be able to browse and load other samples and demos bundled with the IDE.

YOUR FIRST APP

To begin creating your first application, click on the Start New button on the top left corner and you will be presented with the Set up a new HTML5 app project screen asking for project details. Fill in the name of the project, followed by the development path you'd like to follow. The development path indicates whether you'd like to build up from a pre-existing demo, use the app starter wizard or use the Game Dev Mode which integrates features for ImpactJS and Ejecta based simulation for simple and 2D physics games. Alternatively, you could choose to upload a readymade zip file containing all the HTML and javascript files for the app.

For the purposes of our demo, creating an app from the app starter wizard would be the best way to describe all the features provided by the XDK. The wizard is basically a



The navigation bar setup screen



The page setup screen

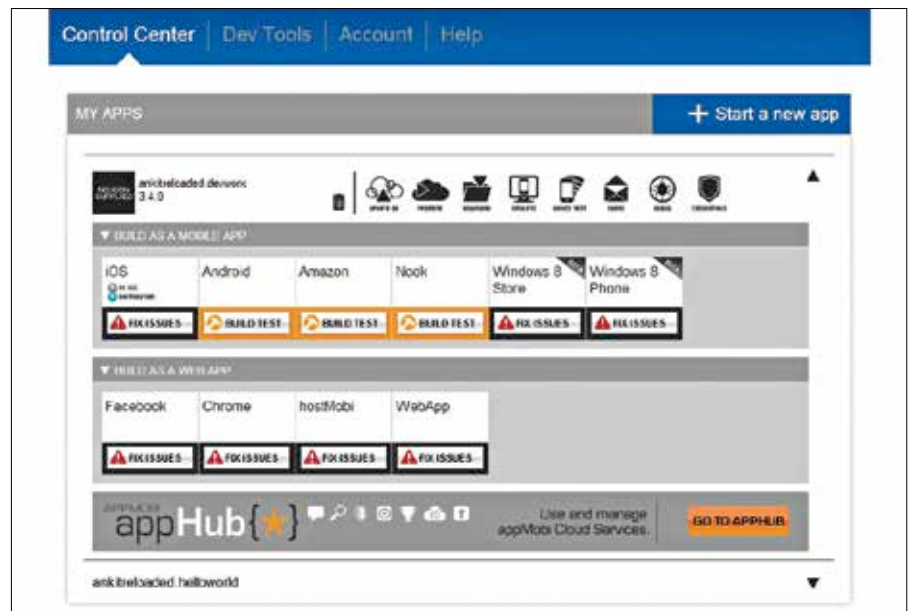
three step process which helps in generating a template for our future application. It utilises the App Framework, a JavaScript library, to supplement the mobile app development. The Intel app framework is a query selector javascript library which supports the Intel XDK and its HTML5 tools. It also includes a UI framework that works on all platforms and is known to be best supported by all the Webkit browsers.

The App starter wizard first lets you choose the theme for your application template that you are going to use and you will have a choice between Frosty, Carbon, Slate, Volcano and Eco. Each of these themes will apply a particular CSS theme to your HTML5 app. This is followed by setting up of the navigation icons to set up the basic linking within the app from the navigation bar at the bottom. One can choose the Navigation Icon and Transition for each field. If you want, you can preview the navigation bar there itself, by clicking the Preview Navigation arrow, which will provide you with a sample of how the navigation will look like in the device approximately. The Last step is to set up pages for each navigation item and specify the basic template for each page, which can be one of Content, Carousel or List. Once these details have been specified correctly, you will be able to click the generate button on the fourth step and a template application will be set up immediately for you. The source files for this template can be seen and edited in the editor mode, or you can click the folder icon on the top to open the project folder in the default file manager of your desktop operating system, so that you can edit the files in the text editor or IDE of your choice. I won't go into the process of completing the whole application, but it should be simple enough for anyone who knows HTML5 and javascript to go ahead and take over the remaining process.

Once development is complete, actual testing can be done on a real device with the help of the applab mobile app which allows you to test the app on your local wifi network. The debug console can be used to perform some debugging too. Further advanced functionality like push notifications, app monetization, analytics and live application updates can be accomplished with the help of the AppHub Control Center which can be reached from the services tab present on the left of the IDE. Live update functionality is one of those benefits of using HTML5 where no action is



The navigation bar preview



The Intel App Dev Center

required on part of the user, not even an application download. One can set up such updates in four types, one is to just update the app immediately, load it at the next restart, request permission from the user to load the new app or to just notify the app when an update is available. Multiplayer gaming functionality in the form of leader boards and achievements are also available, something which has just now been available in the Android platform in the latest play game services update. The pushMobi functionality lets applications on the users device to subscribe to messages from the developer which are then pushed to the device in the form of a message which can be filtered according to the platform or any other custom filter. The Intel AppAds functionality allows you to help promote other such apps and earn credit per impression.

The Intel XDK also supports integration of Phonegap applications, which can be coded and built inside the XDK IDE and built to target the respective platforms. This integration solves the problem of Phonegap developers, thus ridding them of the headache of setting up a local development environment.

In order to perform a test build of the application, one needs to go to the app dev center to provide details related to the platform you are targeting. You can choose to focus on iOS, Android, Amazon, Nook, Windows 8, Windows Phone 8 platforms on the mobile, or you can choose to package it as a desktop app in the form of a WebApp. Actually, even Facebook and Chrome are available as a valid choice for target platforms. If however, you choose to integrate with something like Facebook or Google, the XDK does provide an option to enter the cre-

dentials related to the configuration of such platforms if you click the Credentials button on the top right. The app dev center allows you to perform test builds as well as actual builds, so that you can download and publish the app to the respective app store directly. Though, you might have to provide certain details first, which for example include the Project ID, API Key in the case of an Android app and probably other obvious details related to the application such as icon, version number, title etc. Once you are done, you should be able to see a big green Build your app now button which indicates that all the required settings are in place for a build

to complete. Once the build is completed, you will be able to see a Build Successful screen followed by an email including the link to download the final built application.

The best part about the app dev center is that it can be used without developing the apps inside XDK as well. So, you can possibly code your HTML5 applications yourself, zip them up and bring it straight to build your application for the target platforms available. It also allows for other functionality like sharing the application bundle over email and also has a debugging script available to check the functionality of the application.

GAME DEVELOPMENT

Intel XDK also supports a wide array of game engines which are available for the open HTML5 standards. The most popular of the lot being ImpactJS which is integrated into the XDK interface with the Weltmeister editor to create levels tile by tile inside the Game Dev mode. Other tools supported are Scirra, which provides drag and drop game creation, for developer who do not have much programming experience. Other listed similar tools include LimeJS, Box2DJS, and The Render Engine.

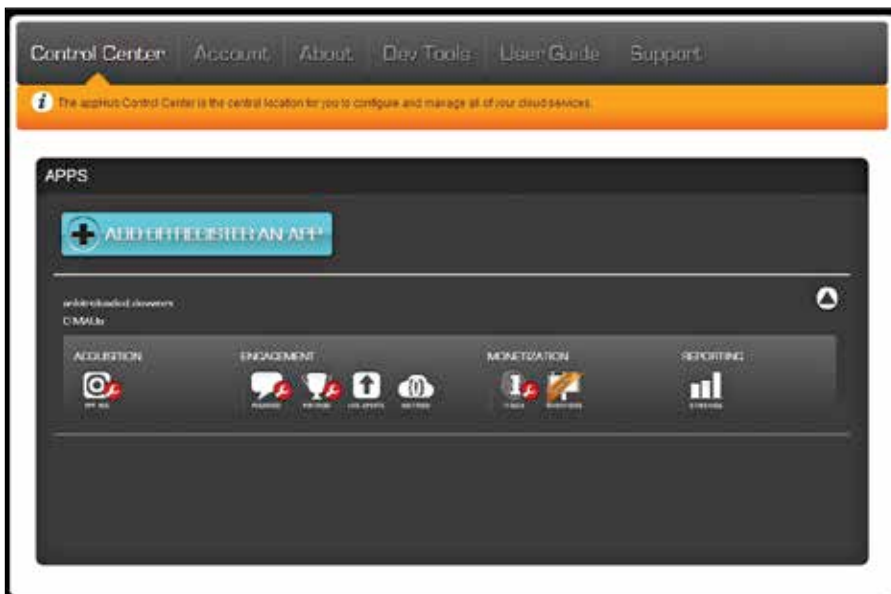
INTEL HTML5 APP PORTER TOOL

The HTML5 app porter tool is for those iOS developers who'd like to port their iOS applications to other platforms without going through the effort of writing the whole application again from the scratch. This tool basically translates the the native Objective C code into HTML5 and Javascript and the API calls into the HTML5 or JavaScript API calls. It can also translate view layouts of the Xcode interface builder files into their HTML5 and CSS counterpart. The best part is that the conversion process is entirely automatic, aimed to be a one click process. Although, that is not exactly the case as of now, because some tweaking is definitely needed for functions which it was not able to successfully translate. Such functions are listed at the end of the process in the form of TODO files. It does this as part of an elaborate transformation pipeline which works under the hood to convert all the Objective-C code into an abstract syntax and then mapping all the API calls to the JavaScript calls, after which the final conversion to HTML5 and Javascript is done.

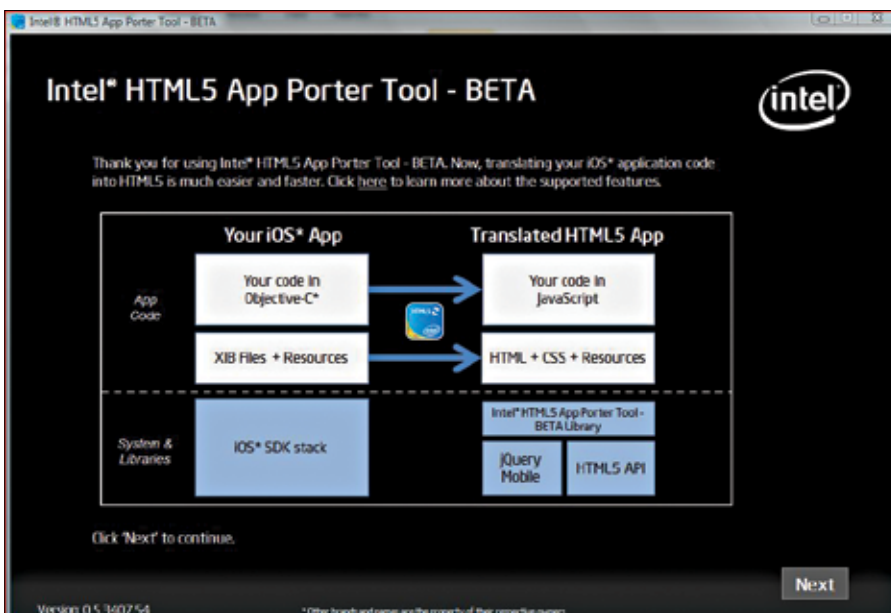
The list of APIs supported for mapping into JavaScript includes only the UIKit framework and NSFoundation Framework as of now. In order to make sure that you do not run into problems, it is important to know things that are not completely supported and that include Objective-C++, XIB files with storyboards, pointers, functions with variable arguments and a couple of other things listed in the technical documentation.

INSTALLATION

The HTML5 app porter tool lists the minimum requirements as a Windows 8 system with Microsoft Visual Studio 2012 installed. Visual Studio is needed because the tool converts all XCode project files into Visual Studio 2012



The App Hub Cloud Services screen



The HTML5 App Porter screen showing the translation process

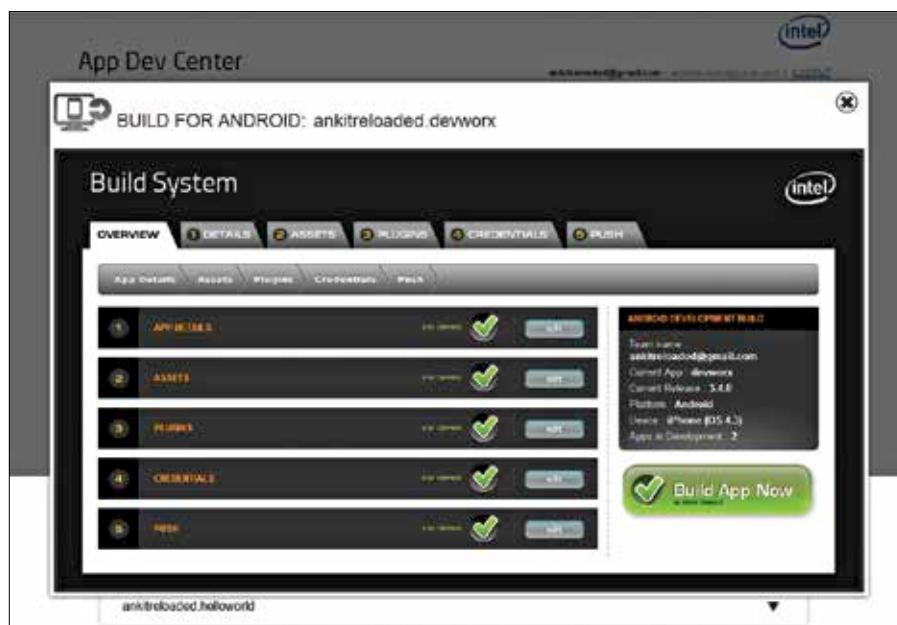
project files, so that the code can be directly run into a Windows Phone 8 emulator. Other listed hardware requirements are a minimum of 4GB RAM and at least 200MB hard disk space, though I don't believe the tool exactly checks for those and will run fine if you have a slightly lesser configuration. The App Porter Tool is currently in Beta and can be downloaded from Intel's website at software.intel.com/en-us/html5.

GETTING STARTED

The tool currently takes in the path of the XCode project file of your application and produces the output in the form of translated HTML5, Javascript and CSS code. Any untranslated methods or code are marked into empty placeholder files which can be manually implemented by the developer at a later point in time. It currently produces code that uses the standard HTML5 API and the JQuery Mobile library. There is also a custom App Porter library that is used for functionality which is otherwise not available in standard tools.

As an example, you can take up any demo application from its iOS code and try running it through the tool. The sample application from the HTML5 App Porter tutorial available online on Intel's website also fits our purpose perfectly as it includes all components including XIB files and is fairly complex enough to check the functionality of the tool. The first step involves providing the path for the XCode project file for the application and specifying the output folder where the HTML5 files are to be stored. The following screen lets you choose the modules you want to be translated into HTML5 and possibly define any additional include directories and pre-processor definitions. It goes without saying that you should not choose any module that is known to cause problems in translation, or is better to be coded directly into Javascript.

After the module parsing, XIB processing and API coverage analysis is complete, you will be asked to see the API translation report and unselect any methods that are not properly translated. This will finally end in all the API calls being translated to HTML5 and Javascript, which will be followed by a translation report along with a API call which could not be translated, in the form of TODO files. You should also be able to see statistics related to the translation and the number of views converted from XIB to HTML and CSS. Here you can open the application in the emulator



The Android Build Screen



The Intel HTML5 Playground

and check the functionality of the application. If you do not have Visual Studio 2012 installed you will see a warning making you aware of the same fact and you will be able to open the files in the file explorer.

This whole process is followed by making sure that all the components translated by the tool are working properly without any errors and implementing any functionality which is needed in the final application.

HTML5 PLAYGROUND

Intel's HTML5 playground tool is a simple developer tool to see real time output of HTML5 code right inside the browser window. It is a sort of sandbox environment which allows you to check the functionality of snippets of code and also has some nifty code examples up its sleeve. If you want, you can

also share the link to your code to demonstrate the functionality to your friends, giving it a social perspective.

These are some of the tools which are a part of Intel's kitty of tools available for HTML5 and which provide a good enough functionality for anyone to jump into app development. Getting started with most of these tools is a no brainer and almost all of them have a much lower entry barrier for beginners as opposed to native applications. The readymade templates for some of the HTML5 apps just might promote anyone to get started with app development and create an app with minor help available from the forums and documentation. The best part is, since most of all the tools support hybrid functionality, monetization is not much of a problem as opposed to other apps on the open web. ■

Column

How important are online reviews? And should you get swayed by them? Trying to make sense of it all

MFDs

We test some of the most widely available SOHO and home all-in-one printers to find the best ones



Laptops and Ultrabooks: Windows 8's touchscreen gamble

Touchè

While many claim that touchscreen on laptops isn't an ideal combination, the popularity of the concept, particularly among our readers, points to the reality that this is now the way forward for laptops and ultrabooks – conventional form factor with an added touchscreen

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Judging by the number of queries that we have received regarding touchscreen laptops and ultrabooks, it is quite clear – the consumers like the additional feature of a multi-touch screen with the laptop

or ultrabook they are buying. But this does raise a pertinent point – why the sudden rise in the popularity of something not seen till now in a conventional laptop? After all, were things not working fine till now?

The answer to that is rather simple – the touch screen adds a whole new level to interacting with your laptop through the

screen. Yes, it is a little disconcerting at first to be tapping at the screen of your laptop, but it is all about getting used to this method. Tapping and swiping directly on a touch screen is more intuitive, since you are closely interacting with what is on the screen. While it may feel different at first, one can argue that it's no different to using the

gestures on smartphones and tablets. It's all about acquiring new habits.

While convenience and better interaction with the elements is one reason, the second reason is the Microsoft Windows 8 operating system. If you are using the Windows 8 UI, then there is nothing more convenient than a touchscreen.

Bazaar

The latest and greatest products of the month tested and rated to help you spend your money wisely

**FB's new project**

Facebook launches Internet.org to make Internet access cheaper globally. <http://dgit.in/12o6wCL>

Touchscreen Laptops Test**HOW WE TESTED**

We never benchmark a laptop's performance with the way the OS and the software is, out of the box. We uninstall all software that are preloaded on the machine, including any security software trials and other bloatware - to ensure none of the pre-bundled software has any effect on the laptop's performance score. We then download and install the latest patches and drivers from Windows Update or the manufacturer website, BIOS update and any critical patches the manufacturer may have released.

Benchmarking

We run a range of industry standard software benchmarks to measure a laptop's hardware

capability and overall performance - PC Mark 07, Cinebench R11.5 and 3D Mark 11 and Unigine Heaven are some examples of the benchmarks that we use to test and compare laptops with. We have added a series of tests for the display quality too, to test aspects like contrast, black and white levels through Lagom.nl. Battery tests are done on high-performance mode with full screen brightness.

Ergonomics

While look and feel can be a matter of personal preference to some extent, determining the best ergonomic design is a matter of scientific principles. In determining the Design & Usability

score for every laptop, we take into account several factors like build quality, materials used, quality and placement of hinges, keyboard usage quality and feel as well as the comfort, palmrest real estate, touchpad response quality, etc., and break it down exhaustively to arrive at a cumulative score for ergonomics, design and general usability aspects of the laptop. After going through this process for each and every laptop, we arrive at a final score based on a formula with assigned weighted scores for performance, design, and features. The Best Performer Award is given to the best performing laptop across categories, whereas Best Buys are confined within price-based categories.

Agreed that the Windows 8 UI is meant for touch, but for anyone who is going to use Windows 8 in the desktop mode, much like the way he/she used Windows 7, then a touchscreen hardly makes any sense. While glittering ads and persuasive brands will have you believe that a touchscreen is a "must" on a Windows 8 laptop, that is hardly the case. The good old touchpad and keyboard still do the job as well as ever.

But what about everyone out there interested in buying a touch-enabled laptop? Read on.

TOUCHSCREENS

The screen sizes vary between the odd 11-inch, 13-inch and even 15-inches across this test. All touchscreens supported 10-point multi-touch input, and there wasn't much to separate

them in terms of smooth and consistent response. The critical factor in the touchscreen experience is the deployment of the screen and how taut the lid is, to prevent it from rocking every time you touch it.

HP ENVY TouchSmart 11

This is the most affordable ultrabook in the test and a successor to the Pavilion dm1 range of notebooks. Between this and the bigger ENVY notebooks, there really isn't much difference in terms of the look, design, build quality and the materials used. Except that the lid hinge design and the bulbous battery design below the display. But, mind you, they don't get in the way, and the silver finish on an otherwise black coloured laptop adds a subtle contrast. The lid, with the grey enamel finish, looks very similar to the ones found on the HP Mini range of netbooks. For a small sized machine, the TouchSmart 11 still packs in three USB ports, memory card reader and an HDMI out. What we are most impressed about is the quality of finish on an affordable notebook. The small size and

the 1.4kg weight makes this supremely portable.

The keyboard design and layout is exactly as the ones on the much bigger ENVY notebooks, and offers the same "MacBook-ish" precision and experience, which is by far the best among all the affordable notebooks. To fit this in the dimensions, the key size is smaller, but the key spacing and response are as good as ever.

In terms of performance, the AMD dual core A4-1250 clocking at 1GHz does fall slightly behind the Intel Core i3-3217U found in the slightly more expensive Asus F202e. However, while the boot times are slightly on the higher side, the TouchSmart 11 did not freeze or slow down when used for basic tasks and a bit of multi-tasking - and that is all this machine is meant to do. The Radeon HD 8250 graphics are only marginally better than the Intel HD 4000 graphics on the Asus F202e, but that is not a huge consideration.

The 11.6-inch touchscreen display is pretty much at par in terms of crispness and colour reproduction as the F202e's screen. However, black level

depth was better in the latter, something that shows up on the TouchSmart's 11-inch display when you turn up the brightness above 60%, and the blacks look like dark greys.

However, where the TouchSmart 11 really needs to be praised is for the battery life. In our battery tests, this machine clocked 248 minutes, which easily translates into the ultrabook-ish 6 hours of battery life under most usage scenarios. A rather impressive package at an affordable price tag.

Asus VivoBook F202e

For an 11.6-inch display size device, the F202E is compact. It is slightly thicker at the back and thinner at the front, lending the keyboard a slight incline which really helps while typing. The lid has the traditional brushed metal look we have seen on much more expensive Asus ultr-



HP ENVY 11 TouchSmart



Asus VivoBook F202e

	Category 1: Up to ₹39,999		Category 2: From ₹40,000 to ₹59,999				
	HP	Asus	Acer	Lenovo	Lenovo	ASUS	ASUS
	ENVY 11 TouchSmart	VivoBook F202e	Aspire V5-471 (MS2360)	IdeaPad Z400 Touch	IdeaPad Z500 Touch	VivoBook S550CA	VivoBook S400CA
Device Type	Ultrabook	Ultrabook	Ultrabook	Notebook	Notebook	Ultrabook	Ultrabook
MRP (₹)	31,990	39,999	47,000	52,590	53,590	57,999	59,999
Test Scores							
Performance	15.61	15.05	16.65	20.73	21.05	24.02	18.73
Features	12.92	9.74	9.21	13.69	11.82	15.54	10.95
Design	20.04	22.08	19.68	18.36	18.60	20.88	20.88
Final Score	48.57	46.87	45.54	52.78	51.47	60.44	50.56
Specifications							
Processor	AMD Dual-Core A4-1250	Intel Core i3 - 3217U	Intel Core i5-3337U	Intel Core i5-3230M	Intel Core i5-3230M	Intel Core i5-3317U	Intel Core i7-3517U
Cores	2	2	2	2	2	2	2
Clock Speed (GHz)	1	1.8	1.8	2.6	2.6	1.7	1.9
RAM	4	4	4	4	4	4	4
Graphics	AMD Radeon HD 8250	Intel HD 4000	Intel HD 4000	Nvidia GeForce GT635M	Nvidia GeForce GT710M	Nvidia GeForce GT635M / Intel HD4000	Intel HD 4000
Discrete Graphics	No	No	No	Yes	Yes	Yes	No
Storage Type	HDD	HDD	HDD	HDD	HDD	HDD	HDD
SSD/HDD Size (GB)	320	500	500	1024	1024	750	500
Flash Partition capacity (GB)	0	0	0	0	0	24	24
Display Size (in inches)	11.6	11.6	14	14	15.6	15.6	14
Display Resolution (pixels)	1366 x 768	1366 x 768	1366 x 768	1366 x 768	1366 x 768	1366 x 768	1366 x 768
No of Ports (USB/Firewire)	3	3	3	4	3	3	3
No of USB 3.0	2	2	2	2	1	1	1
Connectivity (LAN / Bluetooth / Wi-Fi)	Y / Y / Y	Y / Y / Y	N / Y / Y	Y / Y / Y	Y / Y / Y	Y / Y / Y	Y / Y / Y
Optical Drive (Y/N)	N	N	N	Y	Y	Y	N
Weight (kg)	1.37	1.4	2.1	2.3	2.9	2.6	1.83
Benchmark / Test Scores							
Battery Life (in minutes)	247	148	108	96	107	187	115
Display - Black Level	15	15	12	14	14	15	15
Display - White Saturation	5	8	7	5	5	8	8
CineBench CPU	1.36	1.79	2.49	2.96	3.03	2.4	2.71
Cinebench OpenGL (FPS)	10.34	7.59	12.36	25.12	34	28.88	12.39
3D Mark 11 - Entry Mode	859	611	1088	1766	1935	2002	1161
3D Mark 11 - Performance Mode	532	349	580	1072	1193	1187	488
3D Mark 11 - Extreme Mode	0	130	169	331	356	378	206
PC Mark 7	1360	1782	2522	2687	2619	2966	3163

abooks. Open the lid, and the clean keyboard deck comes as a secondary point of attraction, the first being the surprisingly generous sized touchpad! On the keyboard, each key are slightly smaller than usual, but not uncomfortably so. The spacing is well managed within the real estate available. But the best part is the excellent travel and sharp key response while typing. The shift, enter and backspace keys have not been messed around with, leaving them with the traditional placement and size

we are accustomed to. Tips the scales at 1.4kg, with almost the same dimensions as the TouchSmart 11.

Text rendering is quite good. Even on a smaller than usual display, we found that reading text from the same source was actually not at all any less comfortable than on a bigger 13.3-inch display. Colour richness is quite good, and the black levels were surprisingly among the highest when compared between laptops in this category. It attracts fingerprints on

the screen, which can be clearly seen till you wipe them off.

For a machine powered by the Core i3 processor, the



Acer Aspire V5-471

F202e's performance is pretty much in line with the other machines with similar processors. When used as a primary machine in office, we had Chrome with multiple tabs, multiple Microsoft Word documents and Excel spreadsheets and iTunes streaming music in the background, and the performance was fairly good. Battery life on the VivoBook F202E was clocked at 148 minutes in the battery benchmark test. This machine was our instant recommendation, till the HP

Category 3: ₹60,000 and above					
Samsung	Sony	Dell	Lenovo	Lenovo	Dell
Series 5 Ultra Touch (NP-540U3C)	Vaio Pro 13 (SVP-1321WSNB)	Inspiron 15z with Touch	ThinkPad Twist	IdeaPad Yoga 13	XPS 12
Ultrabook	Ultrabook	Ultrabook	Ultrabook	Convertible Ultrabook	Convertible Ultrabook
63,300	74,990	79,990	79,990	81,500	91,390
22.69	21.98	24.91	18.73	25.59	23.00
11.99	12.94	16.82	12.11	12.16	12.33
23.28	23.52	19.32	22.92	19.44	22.08
57.96	58.44	61.05	53.76	57.19	57.41
Intel Core i5 - 3317U	Intel Core i5 4200U	Intel Core i7-3537U	Intel Core i5 - 3317U	Intel Core i5 - 3317U	Intel Core i5 - 3317U
2	2	2	2	2	2
1.7	1.6	2	1.7	1.7	1.7
8	4	8	4	4	4
Intel HD 4000	Intel HD 4400	Nvidia GeForce GT630M / Intel HD4000	Intel HD 4000	Intel HD 4000	Intel HD 4000
No	No	Yes	No	No	No
HDD	SSD	HDD	SSD	SSD	SSD
500	128	500	128	128	128
24	0	32	0	0	0
13.3	13.3	15.6	12.5	13.3	14
1366 x 768	1920 x 1080	1366 x 768	1366 x 768	1600 x 900	1600 x 900
3	2	4	2	2	2
1	2	4	2	1	2
Y / Y / Y	N / Y / Y	Y / Y / Y	N / Y / Y	N / Y / Y	Y / Y / Y
N	N	Y	N	N	N
1.69	1.06	2.17	1.6	1.5	2.1
297	200	130	140	329	300
19	19	19	12	17	13
6	8	7	7	10	7
2.07	1.98	1.97	2.37	2.35	2.3
14.76	11.71	26.68	9.37	12.86	13.03
1158	1231	1978	1030	1091	1120
630	675	1228	528	619	621
214	193	367	147	189	207
3538	4219	4236	4377	4862	4734

TouchSmart II came along. But nothing takes away from the F202e's premium finish.

Acer Aspire V5-471

Yet another neat ultrabook from Acer, but still doesn't take that final step towards being a "premium" offering. The light colour finish on the lid and the keyboard deck of the Aspire V5 looks very nice. The thin lid adds to the overall slim persona. But, this is where the problems creep in. Hold up the machine on its left side, and the screen

shows ripple. The ripples show up every time you tap on the screen, and the lid hinge isn't great either - the display rocks considerably when the touchscreen is used. Quite frankly, this is unacceptable.

For its specs and price, the Aspire V5-471 does pretty much the standard performance numbers you would expect, but with just 109 minutes of battery life clocked in our tests, it is among the lowest, with only the Lenovo Z400 Touch scoring lower. When machines that cost almost

₹10k lesser (VivoBook F202e) come across as infinitely better built, you don't mind sacrificing the screen size for a bit.

Lenovo IdeaPad Z400, Z500 Touch

A fairly recent launch from Lenovo, the resemblance to the U-series of ultrabooks is more than evident in the IdeaPad Z400 and the IdeaPad Z500 notebooks. The finish is completely matte and non shiny. Open the lid and the keyboard deck has a light grey finish

throughout. But, there is no running away from the fact that for a 14-inch laptop, this is heavy at 2.3kg. If you can come to agreement with that, the specifications and the performance for the most part will impress. For one, there is the fairly capable NVIDIA GeForce GT635M (2GB) graphics. While a lot of machines without the additional touchscreen offer good graphics cards in this price bracket, the ones with touchscreen usually don't. The 15-inch version,



Lenovo IdeaPad Z400 Touch

the Z500, comes across as a bit more agreeable in terms of weight because of the bigger form factor, and offers fairly powerful specs in its own right.

The performance is indeed very good on both machines, once you clean the Windows installation off all the trial software and the unnecessary startup items that's bundled within, and this machine will handle gaming quite well. Unfortunately, battery life on the Z400 isn't the best, and it clocked a measly 96 minutes in the battery benchmark. Translated into real life, expect just a bit more 2.5 hours at best, if you are very careful.

The keyboard design needs a bit of work, because the placement and design of the enter and the arrow keys isn't the same as what we traditionally see on laptops, and that can somewhat confuse the fingers.



Hacker attacks MTNL

A Pakistani hacker based out of Australia defaced MTNL Mumbai's homepage recently <http://dgit.in/17XmB0Q>

Checkout MixBit

A new service by YouTube co-founders that lets users upload multiple short clips or pictures <http://dgit.in/16z4MpY>

ASUS VivoBook S550CA

The VivoBook looks very different from the outset, when compared to most ultrabooks in and around the ₹60k price bracket. The HP Spectre XT, till the S550CA came along, was the only machine that had a truly sharp and edgy look to it, in addition to all the slimness. The S550CA does pretty much follow similar design elements. The ultrabook, despite



Dell XPS 12

sporting a touchscreen, doesn't feel heavy or bulky. The aluminum chassis is one of the best in this price bracket, and the angular yet sharp design gives it a very classy look. The lid remains very stable when using the touchscreen. The dual colour theme of black and silver is a good contrast. Silver adorns the lid and the keyboard deck, while the base has the black colour. The finish throughout is matte, with no glossy bits anywhere to attract fingerprints and dust.

Just like the Lenovo Z400, the S550CA is again an example of a machine bogged down by preloaded stuff – trials, free-ware and badly deployed utilities by the laptop manufacturer. Once you clean the installed app list and the startup, performance tends to show up in an impressive way. The fairly powerful NVIDIA GT635M graphics card – a rare aspect in

ultrabooks till sometime back, and that really adds another dimension to the overall performance aspect. You will no doubt be able to play the fairly recent games at medium-high settings without any dropped frames. The battery clocked 187 minutes in the benchmark test, which translated into a solid five hours when used as a primary machine at work.

The VivoBook S550's keyboard is slightly behind the HP ENVY 4 – which doesn't have a touchscreen – in terms of key travel, pressing force and key placement. The key size is good, but the spacing is a tad too much and the key travel is something we will rank second best to the keyboard on the ENVY 4.

ASUS VivoBook S400CA

The ASUS Vivobook S400CA's aluminum chassis is one of the best in the class, and the design is sophisticated. Adding to its charming design is its thickness which appears tapered and thinner at the front lip, and thicker near the display hinge. It is a little heavier than we would have liked for something that has a 14-inch display, which in turn is quite crisp, and text rendering is very good. Icons look sharp, and colour is handled very well. We are a tad perplexed that ASUS has packed in a Core i7 processor, but only 4GB of RAM. Had this been 8GB offering more headroom, the multi-tasking performance could have been even better than the current scenario, which is impressive in itself. Just like the bigger sibling, the 550CA, the 400CA

also has a very taut display hinge and makes touchscreen use feel like an integrated part of the setup, rather than something forced on.

Battery life is a touch disappointing, and a single charge cycle registered only 115 minutes in the benchmark test. This would mean a little over three hours of conservative use at best, if you are careful with aspects like display brightness.

Samsung Series 5 Ultra Touch (NP-540U3C)

The design elements on the new Samsung Series 5 Ultra Touch remain largely the same as the predecessor, but for subtle changes. Samsung calls this colour Titan Silver. The theme has been slightly altered though, with the lid getting a much darker colour finish. The base of the new Samsung Series 5 Ultra Touch has fiberglass, while the keyboard deck is of very good quality plastic. The fiberglass is a very light material, but extremely resistant to the usual wear and tear a laptop's underside would typically register. This was one of the first ultrabooks to offer 8GB of RAM out of the box, and the performance boost that offers is tremendous. The benchmark scores may not give it a much higher rating, but the real world performance is



Samsung Series 5 Ultra Touch (NP-540U3C)

where the difference is felt, particularly when multi-tasking. Unfortunately, Samsung stripped the touchscreen version of the Series 5 ultrabook off the graphics card, and that is a bit of a downer. The 13.3-inch display is the only ultrabook in this price bracket to offer a matte display, which makes this immensely comfortable for use in a variety of environments, with things not reflecting back off the display. At 297 minutes on the clock, the Series 5's battery is among the top scores across all machines we are testing in this comparison. This will easily offer over seven hours of battery backup in a typical "day at work".

Sony Vaio Pro 13

At 1.06 kilograms, the Sony Vaio Pro 13 is the lightest 13-inch touchscreen Windows 8 ultrabook that money can buy today. The super-light body is accordingly complemented with a slim profile that measures a measly 17.2mm at its thickest point. All the trimming on weight and dimensions might raise some doubts about the build quality, but fear not, Sony has not compromised on that either. The smooth (matte) finished carbon fibre body ensures solid build with almost no traces of creaks or bends that one would normally associate with thin and light laptops. It is no uni-body like the Macbook Air, which in our books scores slightly above the Sony Vaio Pro in terms of overall build quality. But, barring the Macbook Air, the Sony Vaio Pro is the best designed and built touchscreen ultrabook in the market in its class.

Coming to the hardware front, the Vaio Pro 13's base model runs on the latest Intel Haswell platform,

5-min Google blackout

A blackout of Google and its services caused 40% dip in global Web traffic <http://dgit.in/173LzPh>



Instagram's virus

The Zeus virus, once used to rob from U.S. banks, is running rampant on Instagram <http://dgit.in/13QPAT1>

Touchscreen Laptops Test

promising improved processor architecture and better battery life. Given the slim profile, you obviously can't expect a powerful beast of a processor and



Dell Inspiron 15z with Touch

GPU to power this ultrabook. However, it does offer a fairly equipped Intel Core i5-4200U dual-core chip running at 1.60 GHz with a maximum turbo boost capability of 2.6 GHz on a single core and the on-die Intel HD Graphics 4400 GPU (15w max TDP combined) is barely a notch above the older HD 4000 series that did duty inside the previous Ivy Bridge platform. The 4GB on-board (soldered) RAM and 128GB SSD make for a fairly zippy machine. The boot-up time ranged anywhere between 8-12 seconds, which is way better than regular HDD laptops (that take 18-30 seconds to boot). The SSD logged an impressive average of 416 MB/s read and 191 MB/s write speeds. Having said that, Sony's decision to not use the PCI-e based SSD like the international variants of the Vaio Pro 13 is a major disappointment for performance junkies like us. PCI-e based SSDs can deliver read and write speeds in the range of 800 and 400 MB/s respectively which is screaming fast storage performance.

The Sony Vaio Pro 13 lasted a good 4.3 hours under heavy load (all four cores running at max, Wi-Fi on and screen brightness at 50%). In real-world sce-

narios, we managed a handsome 8 hours and 12 minutes of battery life with Wi-Fi on and brightness set at 50% over a regular work day scenario which involved browsing with 8-12 tabs along with office applications and light image editing. The Vaio Pro 13 largely manages to keep the thermals under check and the keyboard and the palm rest do not suffer from excessive heating when the machine is under full load. But, the same cannot be said about the noise levels – max out the four cores and the fan noise is eminently obvious and irritating.

Dell Inspiron 15z with Touch (5523)

Dell has always carried forward the family resemblance between machines, and the same holds true for the upgrade from the Inspiron 15z to the Inspiron 15z Touch. The lid has the brushed metal finish, and that is carried around the keyboard deck as well. The sides have a light grey frame. Throughout, the finish is matte, and that is a huge positive if you do not like your laptop to adorn visible fingerprints, dust and scratches. Unlike the effort last year, this version has very good build quality, and all the panel flex issues have been ironed out neatly. However, while this is technically an ultrabook, the form factor thanks to the 15.6-inch display and the optical drive means it is closer to the conventional laptops.

While this is actually a Core i7 processor, the PC Mark 7 score is surprisingly lower than some other machines – 4862 that the Lenovo Yoga 13 scored and the 4734 that the Dell XPS 12 scored

– both machines powered by the Intel Core i5 – 3317U processor. This anomaly aside, the real world performance is significantly better than most other machines out there, when it comes to CPU intensive tasks. It is a surprise that Dell hasn't bumped up the graphics, which continues to be the NVIDIA GeForce GT630M (2GB). Considering that much lower priced machines have the GT635M now, we would expect this upgrade sooner rather than later.

The Inspiron 15z's display is also much improved over the previous generation's offering. For starters, it is brighter and the text rendering is much better, enabling crisper readability of words. Certain colours feel a tad washed out at brightness above 70%. However, that can be forgiven for a while, because despite being a reflective display, the better native brightness ensures you don't struggle with the environment reflecting off the screen.

For all this performance and the bigger display, battery life does take a bit of a hit. The Inspiron 15z lasted just two hours and 10 minutes in the battery benchmark test. While there are some machines that have fared a lot worse in the battery stakes, the Inspiron 15z, we would say, still does fairly alright in this department.

Lenovo ThinkPad Twist

We would not hold it against you if you thought the ThinkPad Twist and the X1 Carbon are the same, at least when the lid is closed and you don't notice the slightly different designed display hinge to enable the swivel screen – the 180 degree movement mechanism means the

screen can either be laid flat or can be twisted around (hence the name!) to fold down over the keyboard in what would be a sort of tablet mode. The hinge itself may feel somewhat flimsy at times, but looks can be deceptive and the solidity of the hinge is excellent. The keyboard deck is uncharacteristically populated for a ThinkPad machine, and the placement of the power key on the side of the display is another unique element. The soft feel matte finish is again rather similar to the finish on the much more expensive X1 Carbon.

Performance-wise, you do get the benefit of a fairly quick SSD and excellent battery life (140 minutes in the benchmark test) to make this a rather competent option for those looking for a business machine. The Samsung MZ7PC128HAFU solid state drive isn't as quick as the Toshiba THNSNH128NT in the VAIO Pro 13, but is almost as quick as the Samsung PM830 in the Dell XPS 12.

Lenovo IdeaPad Yoga 13

Lenovo has named this the Yoga for a reason – it can attain various positions that most ultrabooks cannot even dream of. And yes, the display does not come off like on some devices. Unlike the swivel mechanism like the Twist, the Yoga 13 has a



Lenovo IdeaPad YOGA 13



Alienware 17 launched

Alienware launched the 17 inch and 14 inch gaming laptop featuring a Core i7 processor and NVIDIA 700 series GPU. <http://dgit.in/14K4P06>

Laptops stolen

State sponsored laptops meant for school students stolen in Sholvaram, Tamil Nadu. <http://dgit.in/187IquU>

traditional hinge design which lets the screen go as far back as resting flat on what is otherwise the underside of the machine, when in laptop mode. While the flexibility is appreciated and critical when you use the touchscreen, there is a bit of a design issue when you use the so-called tablet mode – the keyboard is exposed. This means, you are holding the Yoga 13 and may inadvertently press the keys and you need to be very careful when you place this flat on any surface in this mode.

Apart from this niggle, the Yoga 13 is rather well built. The 16.9mm thickness remains consistent throughout, and the flat slab design looks rather neat because of the dual colour (orange and black) matte finish. The texture and finish on the keyboard deck can pick up a bit of dust at times, though.

The performance of the Core i5-3317U chip is pretty much at par with other machines with the same processor, but the real highlight of the Yoga 13 is witnessed by its comes with the 329 minutes of tested battery life. This is by far the best among all machines in this test, and will easily translate into 8+ hours of backup easily in a typical day at work routine.

The Samsung PM830 SSD is fully SATA III capable (the Dell XPS 12) has the same storage version, but inexplicably, Lenovo has limited this drive's performance with SATA II. The 265 MB/s sequential read speed pales in comparison to the 452.7 MB/s the same drive gets on the XPS 12.

Dell XPS 12 Convertible

The Dell XPS 12 Convertible's chassis is made from machined aluminum, while the thin but strong display frame, including

the flip hinge, sports anodized aluminum. A very premium look and feel to the machine, but if we were to nit-pick, we would say that the only thing missing is the heat-channeling layer of silicon on the base that was designed into the XPS 14 ultrabook. The unique design element of Dell XPS 12 is the rotating display – connected on two sides, you need to push back softly at either the top, or push towards you from behind the display at the bottom, and the display will rotate a full 180 degrees. Now, this is useful if you want to show something to someone sitting across the table, or to fold over the keyboard and collapse into sort-of tablet mode. Unfortunately, there seems to be no lock when the display is set on the conventional ultrabook mode, and that can be an inconvenience if the laptop is subjected to sudden jerks or handled slightly roughly.

The benchmark tests peg the performance at the same level



Sony Vaio Pro 13

as the other machines running the Core i5-3317U processor, but that wouldn't show till you clean the machine by uninstalling all unnecessary preloaded apps and trials. The onboard SSD is fairly quick, with only the Toshiba SSD on the Vaio Pro 13 leading the scoring charts. What impresses the most is the 300

minutes the battery clocked in our benchmark tests.

Winners

For this test, we have divided all machines across three price bands, to make the results more relevant for you and the budget you have kept at a side for the laptop purchase.

Best Performer: Lenovo IdeaPad Yoga 13

This was one of the first touchscreen Windows 8 laptops to hit the markets, and the results show that it is still the best performer among the bunch. That advantage is mostly because of the excellent battery life on offer, something most rivals are unable to even come close to. Buy this if you want something that can be a laptop, a tablet or even some more weird shapes, as and when you please!

Best Value (Category 1): HP ENVY TouchSmart 11

The Asus VivoBook F202e was the premium small screen machine to buy, till the HP TouchSmart 11 came along. At a price considerably lower than the F202e, you get relatively similar performance, but much better battery life. Good to see that HP has completely recreated the excellent keyboard of the bigger ENVY notebooks in this form factor.

Best Value (Category 2): Asus VivoBook S550CA

At the time when we had first reviewed the S550CA, the standout factor was the fact that ASUS had packed in the touchscreen without adding bulk to the entire form factor – something where a lot of rivals had faltered. A fairly good keyboard, a powerful graphics chip and

very good battery life make this an all-rounder ultrabook, at an affordable price point.

Best Value (Category 3): Series 5 Ultra Touch (NP-540U3C)

Like the Yoga 13, this machine has been in the market for quite some time now. And yet,



ASUS VivoBook S550C

it remains one of the better options that can be considered. The build quality is very good, one of the brightest displays among the rivals and an excellent battery life. The only thing missing in this particular version is a powerful graphics card.

Editor's Pick: Sony Vaio Pro 13

One of the rare Haswell powered ultrabooks in India at the moment, the Vaio's super light and slim body, excellent build quality/looks, ever-lasting battery life, high-resolution IPS touch screen display and the zippy overall performance come together to make it a very good deal for its asking price of ₹74,990. There isn't a single ultrabook in the market today that offers the same level of quality and refinement at this price point. We would recommend this to anyone who wants the latest hardware and the best possible display in a sleek and sophisticated design.

Expert speak. Or is it?

Picture this: A Web-savvy ecommerce enthusiast visits a popular portal to purchase an item that he wants to splurge some of his disposable income on. Seduced by several photos of the product clicked at different angles, our bedazzled online shopper is all but ready to hit the purchase button and hold the item in his eager hands (in a couple of days, as promised by the shopping portal). But the slightest sense of apprehension creeps into his dulled mind and he hesitates from clicking. What if he's making a mistake and the product isn't as good as he thought it was? Without batting an eyelid, he scrolls down the product page and scans through the "product reviews" section faster than an overzealous kid reaching for his favourite candy. After reading a few "happy" reviews of this product is worth its weight in gold, he feels reassured. How can anything possibly go wrong with a product vouched for by hundreds of satisfied customers? Without wasting any further time, our online shopper purchases the item.

Most of us are guilty of going through this routine at least once in our online shopping history – I know I have. However, with time and added online shopping experience, there's a few things that could've been done better.

Unless you're buying digital games, Kindle ebooks, or the like, online shopping is still a virtual mode of buying physical goods. What that means is that product images on shopping pages may be for representation only. You may not exactly get what you pay for. To stress this point, here's an extract from Myntra.com's 'exactness not guaranteed' clause which appears in its terms of use: "Myntra.com hereby disclaims any guarantees of exactness as to the finish and appearance of the final Product as ordered by the user. The quality of any products, Services, information, or other material purchased or obtained by you through the Website may not meet your expectations."

To convince fence sitters and lackadaisical shoppers from taking the plunge, ecommerce sites increasingly display product reviews or user testimonials on the product purchase page. Don't get swayed by them. Who's to say

whether all those hundreds of approvals were written by actual customers? How do you know they aren't manufactured or biased? Or written by paid writers? And do you honestly believe that anyone who bought a product online would go all out and criticize it and admit they made a mistake? Don't get easily swayed by positive "reviews", but pay attention to negative criticism directed either to the product or the shopping site.

In our quest to embrace online shopping and ecommerce, let's also spare a thought and celebrate the existence of large-format-retailers that give us the opportunity to touch and feel a product before purchasing it – that's something I do pretty regularly whenever I have to purchase something noteworthy and I need to reassure myself completely. Reading and looking at images of that much-awaited phone online just won't compare to walking into a mobile phone gallery and actually playing with it for a while. And even when we try to rate and review products the best way we know – with a lot of objective parameters – a small amount of subjectivity remains. For example, we may rate the typing experience on a laptop's keyboard to be "good but not the best", some other expert may rate the same keyboard at "better than most", but when you try it out at an electronic store you may not like the same keyboard. Your fingers are different than ours. Similarly, certain aspects of a product like its aesthetics and look and feel may strike differently to different users. Remember how beauty is in the eye of the beholder? Wise words that couldn't be more true.

But since we're pretty much in the business of reviewing products day in and day out, and with the accumulated knowledge of going through the greatest and most disastrous of products across different categories for over a decade, our readers can be rest assured of not having to buy a lemon. Ever. **■**



Jayesh Shinde
Manager - Test Centre
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"Don't get easily swayed by positive "reviews", but pay attention to negative criticism directed either to the product or the shopping site."



3D printer cum scanner

Zeus from AIO robotics may be the world's first 3D printer with 3D scanning capabilities. <http://dgit.in/3DprintScan>



Bye Bye Ubuntu Edge!

Canonical's brain child, the Ubuntu Edge smartphone failed to meet its crowd funding goal of \$32 million. <http://dgit.in/Edged-It>

Let the ink flow... sparingly

Setting up an office? Need an MFD that'll let you print on the cheap?
We've got the right one for you.



Anirudh Regidi
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The dawn of the digital age was supposed to sound the death knell of this most wasteful of contraptions. But, yet again, we find ourselves testing these facilitators of mass tree-genocide and trying to come up with the most economical option for your home or small office use. Setting aside our consciences for

a bit, let's take a closer look at the printer's we received and sift through the marketing mumbo-jumbo and myriad, seemingly important specifications to come up with facts and figures that are more sensible and will help you make an informed decision.

Printers aren't really an exciting category for us to test and the whole process usually feels more like a chore than anything else and reading about it might be even worse. However,

they are a much neglected category and just picking up a printer off-the-shelf is a bigger risk than you might realise. There are so many things that you have to consider, the features that you want; the cost of cartridges; how large is the buffer (does it even matter?); how much you're printing; is there an option for a cheaper toner or refill and so on.

All these questions and more we've strived to answer

in the course of this test. We essentially got two categories of printers, laser MFDs and colour MFDs, but only two of the latter.

MONOCHROME LASER MFDs

Laser MFDs are a staple in any office and truth be told, there isn't much to distinguish one printer from the other. You might have the odd document feeder or in-built fax machine, but these devices are by and

App to guide surgery?!

The Fraunhofer iPad app uses augmented reality in order to guide doctors during liver surgery. <http://dgit.in/LiverApp>



Project Spark

Showcased at Gamescom 2013, Project Spark is a game maker in the form of a game itself for the Xbox 360 and the Xbox One. <http://dgit.in/ProjSpark>

MFDs Test

HOW WE TESTED

The MFDs we received were put through an exhaustive test process that consumed many hundreds of pages as we tried to comprehensively account for every possible use-case of an MFD in a SoHo environment. Here's a run-down of the tests we ran:

Initial preparation:

- After installation, the printer is made to run through a complete round-up of diagnostics and checks, including calibration and cartridge alignment, etc. where applicable.
- Fresh toners and cartridges were used for all tests.
- All printer settings were reset to defaults where applicable.
- Laser printers were made to print 10 pages of text so as to warm up before the actual testing began.
- For quality tests, we used a loupe to examine the print quality.

Image Quality:

- We used three different images for each test. One full-colour image, one monochrome image (black) and one calibration image to check printer resolution.
- Certain areas were identified on each image and printers were graded on their ability to render those regions correctly.

Text Quality:

- We used four test files to inspect text quality. The first was a standard text

document in MS Word in 12pt Calibri font. The second was an MS Word document with fonts ranging from 2pts to 12pts in Calibri. The third was a PDF with fonts ranging from 3pts to 20pts and yellow text on a black background with diminishing font size. The final document contained a mixture of plain text at various fonts, coloured text on a coloured background, text embedded in images and text in different orientations and shades.

- Various points were identified on all these documents and rendering ability was checked. Text prints were primarily rated on ink-bleed, sharpness, white spots and merged characters.

Copy Tests:

- For this test we used a print of the first and the fourth text file mentioned above.
- Output was taken at default printer settings and the copy was rated as per the text quality test mentioned above.

OCR Test:

- In this test we used two files. The first was a print of first text file mentioned above and a page from a text-book on computer programming.
- We used ABBYY Fine Reader to analyze the scan and determine the text. Final score was given based on the number of errors and missed text blocks.

Scan test:

- For this test we used a cover of Digit at 300dpi and rated the final image based on each MFDs ability to render certain pre-defined zones accurately.

Speed tests:

- Print speed tests were measured as the time taken to print a pure text file, image file and a mixed document at quality and draft settings on the printer. Scores were individually noted and assigned appropriate weights.
- Warm-up time was measured as the time to print 5 pages from the sleep and power-off states of an MFD where applicable.

Features:

- All salient features of the MFDs were listed out and rated with appropriate weightages.

Cost of ownership:

- Cost of ownership (C) is the cost of running the printer for 3 years and is the total investment required per page that you expect to print. So say you need to print 1000 pages and a cartridge gives you 500 prints, then $C = (\text{Cost of printer} + \text{cost of 2 cartridges})/1000$
- For colour printers, we assumed cost of ownership based on 60% black and white prints and 40% colour prints on 3000 prints.
- For MFDs we used two load scenarios as can be seen from the table overleaf.

large the same. You will see from the table that the performance of these printers does vary considerably, given our scoring, but please bear in mind that these scores are given with the harshest of mentalities while the test prints were examined under a loupe, but the untrained eye will not notice any significant variation in quality.

Ricoh

Ricoh sent us three printers, the SP100U, SP200SU and the SP203SFN. In order, they represent the three basic types of MFDs that you can purchase, namely, a basic laser MFD for low volume printing,

a more advanced MFD that can handle more paper and the most advanced which includes an Automatic Document Feeder and even FAX support. In terms of design these printers are very staid and simple and are exactly like almost every other MFD that we've come across. One unusual design decision is the paper input tray, which is longer than the width of the printer and so, juts out the back. What impressed us most with these printers however was the consistency of the performance; you can pick up either of these printers and rest assured that the print

quality will be consistently above average.

We did notice that the printer struggled when it came to printing large image files at the maximum claimed quality (1200x600dpi) and we



Ricoh SP200S

can only guess at the cause. That said, you'll never really need to print at 1200x600 as prints at 600x600 look the same anyway. All three devices showcased impressive scanning capabilities and while the resolution might be low (compared to scanners on photo printers), the quality and colour tone were excellent.

Where these printers really take a beating is in the cost of ownership with the SP203SFN coming in at an astronomical ₹4 per word and the others at almost ₹3. Another area where these device suffer is in the copy

Monochrome MFDs

Brand	Ricoh	Ricoh	Ricoh	Panasonic	Brother	Brother
Model	Aficio SP 203SFN	Aficio SP 200S	Aficio SP100SU	KX-MB1500 SXB	DCP-1511	DCP-7060D
Price	19110	8673	9900	10900	9090	12600
Features(F) (SO 100)	55.74	32.92	21.54	43.74	45.74	51.43
Performance(P) (SO 100)	45.63	51.95	42.65	49.47	41.10	51.80
Running costs(C) (SO 100)	28.90	49.78	47.29	32.08	66.43	46.65
Total Score (40%P+30%F+30%C)	43.64	45.59	37.71	42.53	50.09	50.14
Connectivity						
USB Flash Drive Support (Y/N)	N	N	N	N	N	N
Memory Card support (Y/N)	N	N	N	N	N	N
LAN	Y	N	N	N	Y	N
FAX	Y	N	N	N	N	Y
Features						
Maximum print resolution (dpi)	1200x600 dpi	1200x600 dpi	1200x600 dpi	2400x600 dpi	2400x600 dpi	2400x600 dpi
Maximum scan resolution (dpi)	600x600 dpi	600x600 dpi	600x600 dpi	1200x600 dpi	1200x600 dpi	2400x600 dpi
Zoom / Fit to Page (Y/N)	N	N	N	Y	Y	Y
Display Type	Monochrome LCD	Monochrome LCD (2-digit)	Monochrome LCD (2-digit)	Monochrome LCD	Monochrome LCD	Monochrome LCD
Total Paper Tray Capacity (Plain A4)	150	150	99	150	150	250
ADF support and capacity	15	N/A	N/A	10	10	N/A
Dimensions	402 x 360 x 291 mm	402 x 360 x 249 mm	402x 368.5x 163 mm	385 x 340 x 283 mm	385 x 340 x 283 mm	405 x 398.5 x 268 mm
Weight	9.9	8.9	8	8.3	8	10.1
Max paper size	Legal	Legal	Legal	Legal	Legal	Legal
Tray #2	Y	Y	N	N	N	Y
OCR Software?	N	N	N	N	N	Y
Approx. footprint in mm ² (all trays open)	153966	166026	266124	177100	177100	170100
Height (paper in tray)	291	249	280	283	283	268
Speed						
Text print (Q / D) 5 copies (secs)	32.5 / 22	23 / 22	34 / 32	26 / 25	23 / 22	21 / 22
Mixed Document Print (Q / D) (Time) 6pgs	29 / 27	29 / 25	79.5 / 41	31 / 31	104 / 43	22 / 22
Copy Test (Time) (Colour / B&W)	18 / 17	14.5 / 15	23 / 23	10 / 10	12 / 12	10 / 10
Scan Test (Time) (colour 300dpi)	18	14	17	22	22	21
Scan from ADF (6 Pages, Time)	96	N/A	N/A	N/A	N/A	N/A
Print from power off / sleep (sec)	5 / 9	2 / 10	5 / 7	4 / 5	10 / 10	10 / 6
Quality						
Text print (Quality)	94.58	94.58	92.08	89.17	64.17	84.17
Text print (Speed/Eco)	63.75	63.75	83.75	62.08	50.42	61.67
Mixed Document Print (Quality)	71.94	81.32	81.32	70.83	65.21	75.35
BW Test Image	70.38	77.29	83.00	76.10	62.10	65.19
BW Sharpness test	70.73	77.70	86.23	75.13	72.17	73.17
Copy Test	64.79	76.39	78.47	75.76	83.40	76.81
OCR Errors (ABYY)	68	93	89	55	70	76
Scan test	85	77.5	75	90	72.5	72.5
Cost of Ownership						
Normal load						
Toner cost B&W	5302	5302	4134	5481	1775	2500
No of prints per B&W cartridge	2600	2600	2000	2500	1500	1200
Cost/print	2.04	2.04	2.067	2.19	1.18	2.08
Cost per print for 1 year (2000 prints)	11.59	6.38	7.017	7.64	5.73	8.38
High-load						
Drum / Refill	680	680	680	NA	2775	5320
No. of prints per refill or drum	2000	2000	2000	NA	10000	12000
Cost/print	1.01	1.01	0.92	2.19	0.28	0.44
For Laser Printers - 6000 prints for 3 years (100% B&W)	6072.73	6072.73	5512	13154.4	1665	2660
Cost per print for 3 years lifetime of product	4.2	2.46	2.57	4	1.79	2.54

Brother	Brother
DCP-7065DN	MFC-1811
13990	13100
55.90	42.45
56.23	48.44
42.79	48.49
52.10	46.66
N	N
N	N
Y	N
N	N
2400x600 dpi	1200x600 dpi
2400x600 dpi	600 x 600 dpi
Y	Y
Monochrome LCD	Monochrome LCD
250	150
35	N/A
428 x 397 x 305mm	381 x 361 x 200 mm
11.1	9
A4	Legal
N	Y
Y	Y
175474	137541
315	200
21 / 20	23 / 22
23 / 21	25 / 24
10 / 10	12 / 12
10	22
31	50
11 / 3	14 / 2
94.17	77.08
66.67	54.17
76.47	73.40
50.19	28.57
81.17	61.27
84.03	61.88
86	99
85	75
2500	1775
1200	1500
2.08	1.18
9.08	7.73
5320	2775
12000	10000
0.44	0.28
2660	1665
2.78	2.46

tests, where the outputs were a little more faded than we hoped.

Ricoh also gives the option of a toner refill, drastically cutting down your printing costs in the long run. That said, in terms of pure numbers, the SP203SFN is by far the most expensive printer to run. With the total cost of ownership exceeding ₹11 per page for one year. The SP203SFN only makes sense if you're printing thousands of pages per month. Even if you were to consider toner refills and a three year average print cycle (as we did), the costs come down significantly (₹4 per page) and it's still the highest in this category. Ricoh's remaining two printers aren't so bad in the price per page department and are well below average at approximately ₹2.4 per word.

Brother

There were four MFDs from Brother; the 1511, 1811, 7060D and 7065D. Of these, the DCP 7060D and the 7065DN are by far the better designed and built. Both these printers look and feel solid and generally very professional, sadly, the same can't be said for the DCP1511 and the MFC1811. The printers have a comparatively flimsy input tray and you can't open the flaps for the o/p tray without popping up the entire scan bed.

The problem with these MFDs, unlike the Ricoh ones we mentioned earlier, was the inconsistent results. While the 7060 and 7065 performed very well, choosing the highest quality output would result in prints where the contrast was pumped up way too much, turning finer details into a black mess. Prints at standard quality were easily the best in class. The 1811 was surprisingly

EPSON'S INK TANK

The wild card entry here was Epson with its "ink tank" technology. Something we didn't know much about and whose claims we wanted to see to believe. Epson has been claiming a cost of less than 15p per page for quite some time now and we didn't really buy it. Till we tried out the printer for ourselves that is. The Ink Tank technology is very simple in concept. You have a tank that holds ink (in fluid form obviously) and the nozzles draw ink from that tank and spray it onto the paper.

Now this might sound like any other inkjet printer to you, but the difference here is that you fill up the tanks yourself, with the requisite ink bottle of course, that costs nothing compared to the cartridges and toners that you would normally need. Since you're not purchasing a hunk of plastic and the accompanying circuitry, and considering the fact that the ink bottles contain quite a bit of ink and the fact that you don't need more than a few drops to print a page, the math becomes quite obvious. As you can see from the tables, it really does cost next to nothing to take a printout (not considering the cost of the printer of course). It's an interesting twist to the cartridge saga (the companies are supposed to make their profits on the cartridge sales rather than on the printers after all) and we're curious to see how the strategy works out in the long run and whether we can expect to see such printers popping up among the ranks of HP and Canon and the like.

bad when it came to our point size test and just awful when it came to our sharpness test, with gradients and striations where they should have been none.

The 7065DN was the best in terms of pure text and image quality and the 7060D wasn't very far behind and where the Ricoh printers seemed to struggle a bit when it came to handling large files, the 7060D and 7065DN didn't stutter even slightly. These are

easily the best printers when it comes to volume printing and comparatively heavy print loads. Couple that with the optional drum cartridges that can pump out over 10,000 pages and you've got a very cost effective option on your hands.

When it comes down to pure numbers, the drum cartridges bring down the cost of ownership, at high print volumes, to less than ₹2 per page, which is quite significant.



Brother DCP 7065DN

Panasonic

Panasonic had only one device to offer us, namely the KX-MB1500 SXB. The name may be a mouthful, but the printer is nice and compact. In fact, it's the most compact MFD we received this month. Both paper trays (i/p and o/p) are recessed and built into the body. If space is a constraint then this is definitely the printer for you.



Print directly from FB

Canon's new line of printers use an app and allow users to print files directly from Dropbox and Facebook. dgit.in/FBPrint



LG G2 powered by Snapdragon

LG G2 will make the debut in the mobile industry on LG's G series platform, sporting the Qualcomm Snapdragon at heart. <http://dgit.in/LG-g2>



Colour MFD		
Brand	Epson	HP
Model	L210	Deskjet InkAdvantage 6525
Price	10499	10900
Features	63.83192758	42.31003408
Performance	49.44395258	63.066211
Running costs	54.08158207	37.21832495
Total Score	55.15163393	49.08499211
Connectivity		
PictBridge / USB / SD Card (Y/N)	Y / N / Y	N / N / N
WiFi / LAN (Y/N)	Y / N	Y / N
Features		
Maximum print resolution (dpi)	9600x2400 dpi	4800x1200 dpi
Maximum scan resolution (dpi)	4800x2400 dpi	2400x1200 dpi
Zoom / Fit to Page (Y/N)	Y	N
Ink Type	Cartridge	Cartridge
Display Type	Colour LCD	Monochrome LCD (2-digit)
Cartridge Colours	CMYK, PGBLack	RGB, Black
Total Paper Tray Capacity (Plain A4)	125	100
Dimensions	455 x 368 x 148mm	449 x 304 x 152mm
Weight (kg)	8	5.5
Max paper size (tray)	Legal	Legal
Tray #2	Y	N
Does scanner lid rise?	Y	Y
Maintenance and utility sw	Y	Y
Approx. footprint in mm ² (all trays open)	269815	261318
Height (paper in tray)	148	152
Speed		
Text print (Q/D) (5 copies) (secs)	202 / 24	207 / 30
Mixed Document Print (Q/D) (6 pages) (secs)	950 / 58	319 / 48
Photo (B&W / Colour) (Time)	165 / 77	57 / 60
Copy Test (Colour) (B&W)	52	29
Scan time at 300dpi (secs)	50	25
Print from power off / sleep (sec)	10/Oct	20 / 1
Quality		
Photo	85.26	91.38
BW Photo	78.75	88.75
Text (Q)	61.04	83.85
Mixed Document (Q)	71.31	81.84
Colour copy test	43.5	46.75
Text copy test	58.33	88.33
OCR Errors	69	130
Scan quality	60	50
Cost of ownership		
Ink cost B&W	441	499
Ink cost Colour	1323	897
No of prints per B&W cartridge	4000	550
No of prints per Colour cartridge	4000	300
Cost / print	0.2	1.74
Total cost of ownership for 3 years (3000 prints)	3.7	5.37

The device's performance is strictly average and doesn't stand out in any key area except maybe scanning, where the scanned images we tested had excellent colour tone. If anything, the output was a little faded compared to the competition, but we will say that the quality is sufficient for any home or office use.

Truth be told, we can't think of even one reason to specifically choose this MFD over the competition. It's a strictly average device and the only thing actually going for it is the size, which is, only slightly smaller than, say the Ricoh SP100U. It's not a bad printer at all, but neither is it a great one.

Best Buy

The Best Buy award goes to the Ricoh SP200S. The printer scored consistently well in all our tests and while it wasn't a stand-out printer, it offers the best combination of price to performance that should be sufficient for most use-cases. The device is a bit short on features but, it makes up for it with a comparatively reasonable price.

Best Performer

The Brother DCP 7065DN takes the crown for the best performer. The printer's exceptional print quality and general design make it the ideal printer for high-volume work, couple that with an ownership cost that is just about average in this category means that this printer should make a for a good, long-term office staple.

COLOUR MFDs

We did have more printers in this category but we were left with only two when Canon decided to opt out of the test as they're refreshing their lineup next month. You can look for-



Gold iPhone 5S

The Internet is rife with rumours about how Apple may release a Gold iPhone 5S. Read More: digit.in/GoldBappiDa



Nokia Bandit

Nokia is expected to launch a device with a 6-inch 1080p display running the Windows Phone OS. More here: <http://digit.in/420Nokia>

MFDs Test

ward to their reviews in the coming months.

Getting back to the devices at hand, the Epson L210 and HP DeskJet InkAdvantage 6525, while both are colour MFDs, they couldn't be more different. Refer to the box for details.

HP DeskJet InkAdvantage 6525

This is one of those old school colour printers with the standard RGB and Black ink cartridges. The print quality was excellent and the best in our tests. We know that isn't saying much, considering there isn't any competition, but we've compared it against other printers in its class and it did come out on top.

One very interesting feature of this MFD is the LCD screen. It's a touch-screen and very handy but, that's not the interesting part. You can actually play Sudoku and a handful of other games on that screen, as well as get news updates and the like. Why anyone would want to do that with a printer is beyond us, especially as your phone is permanently glued to your hand anyway.

The output tray of the printer is fairly large and unwieldy, extending out quite a bit from

the body of the printer. The input tray itself actually has two trays, one for your standard A4 and letter papers and one for photo paper.

The cost of ownership for this printer is fairly high at around ₹5 per page for 3000 prints, but this is not a printer for volume prints anyway. The biggest disappointment with this MFD was the scanner. The images that we scanned lacked the colour tone that we expected and our OCR software had a very hard time identifying many key areas of the page that we were using. All-in-all, this is an excellent colour printer but one that is only worth considering if you're finicky about print quality. For any other scenario, refer to the Epson L210.

Epson L210

If you don't know what makes the Epson L210 special then you need to look at the box that we've added on the ink tank somewhere in the story. The ink tank technology essentially allows this printer to churn out more than 4000 pages per refill, which cost next to nothing, and essentially saving you a tonne of cash in the bargain.

Don't get us wrong, this printer is easily the worst

printer when it comes to print quality. By the worst we don't mean ridiculously awful, it's just the worst when compared to traditional printers with cartridges. The print quality is acceptable for general use and if you really were finicky about quality you'd take a proper photo printer anyway. The printer also has no features to speak off and only comes with

us back to our school days as we used to go around with ink-stained fingers revelling in our fancy new fountain pens.

Despite all of the above, this printer prints cheap. Dirt cheap. That's all this printer offers and, we suspect, is all that most SoHo's need in the first place.



Epson L210

a scanner; it's not particularly well-designed either and you've got a vertical input tray along with a somewhat flimsy, extensible output tray. The printer feels light and, dare we say it, cheap. The printer suffers from quite a bit of ink bleed which is probably a consequence of the technology.

Filling the cartridges is a messy job if you don't have a steady hand and trust us when we tell you, woe be you if you get ink stains on your clothes or your floor or table or wherever you're filling the ink. In fact, filling ink in the printer took

Editor's Pick

The editor's pick has to go the Epson L210. We've said it before and we're saying it again. When you're printing colour pages at approximately 20paise per page, no other printer can come close. At high volumes of print, this printer gives almost every printer a run for their money. In fact, only the Brother DCP1511 offers a similar cost of ownership (₹1.79 vs. ₹1.86) as the Epson L210 and even in that situation, the L210 will beat the DCP1511 hollow when it comes to higher volumes than we've accounted for. **d**

Contact Details		
Brand	Mobile no.	E-mail / Website
Brother	1800-209-8904	customercare@brother.in
Ricoh	011-49103000	ril.info@ricoh.co.in
Epson	080-3051-5000	emp@eid.epson.co.in
Panasonic	1800-108-1333	helpline@in.panasonic.com

ASRock Motherboards awarded

APPROVED 2013 HARDWARE

BEST OF COMPUTEX 2013 HARDWARE

A GRANDPRIX EDITORS' CHOICE SILVER

MUST HAVE EDITOR'S PICK

NO. 1 BUDGET BUYER'S CHOICE

ASRock

Get One, The Best One

Z87 Extreme6 M8 Z87 Extreme6/ac Z87 OC Formula Z87E-ITX

WANT TO EXPERIENCE AUGMENTED REALITY?

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

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

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



Step 3: Enjoy an augmented reality Digit like never before

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

PLUS

- 88 | LG 32LN5150 Transform LED TV
- 88 | Logitech Extreme 3D PRO
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- 90 | Galaxy GeForce GTX 770
- 91 | Lenovo IdeaPhone K900
- 92 | Fujifilm X-M1
- 92 | AVG Mobilation AntiVirus PRO
- 93 | Creative HITZ MA350
- 94 | Nokia Lumia 520
- 96 | Acer Aspire R7

& MORE...

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!





Android Device Manager

Now locating your lost Android device is even more easier with the help of Android Device Manager. It works hilariously awesome even on silent mode. <http://dgit.in/14zUY2N>



Google updates Chromium

The latest Chromium build has received an update in the form of three new options - Open, close, and reload tabs <http://dgit.in/196irH7>

Bazaar

Sony Vaio Pro 13 (SVP1321WSNB)

Does a fine balancing act, gets most things right

At 1.06 kilograms, the Sony Vaio Pro 13's super-light body is accordingly complemented with a slim profile that measures a measly 17.2mm at its thickest point. All the trimming on weight and dimensions might raise some doubts about the build quality, but fear not, Sony has not compromised on that either. The smooth (matte) finished carbon fibre body ensures solid build with almost no traces of creaks or bends that one would normally associate with thin and light laptops. Portability and looks are obviously the key unique selling points of this ultrabook and the Vaio Pro is very well suited for frequent travelers and business users looking for a sleek machine that exudes class and craftsmanship. The Sony Vaio Pro would have scored an almost perfect score in our design and build quality test but for some tiny (yet critical) design limitations. The 13-inch touchscreen has a rather limited tilt angle, something that can be frustratingly restrictive, especially because of its reflective display.

Its boot-up time ranged anywhere between 8-12 seconds, which is way better than regular HDD laptops (that take 18-30 seconds to boot). In terms of core system performance, the Vaio Pro 13 logged a score of 4219 in PC Mark 7 and 675 points on the performance mode in 3D Mark 2011. To put these scores in perspective, the Samsung Series 9 13-inch (our earlier Best Buy recommendation on the Ivy Bridge platform) scored 4347 and 590 points on PC Mark 7 and 3D Mark 11 respectively. Sony's decision to plonk a fairly fast SSD on the Vaio Pro 13 helps the system handle multitasking sessions with great ease. The SSD logged an impressive average of 416 MB/s read and 191 MB/s write speeds. Having said that, Sony's decision to not use the PCI-e based SSD like the international variants of the Vaio Pro 13 is a major disappointment for performance junkies. PCI-e based SSDs can deliver read and write speeds in the range of 800 and 400 MB/s, respectively.

The Sony Vaio Pro 13 lasted a good 4.3 hours under heavy load (all four cores running at max, Wi-Fi on and screen brightness at 50%). In real-world scenarios, we managed a handsome 8 hours and 12 minutes of battery life with Wi-Fi on and brightness set at 50% over a regular work day scenario which involved browsing with 8-12 tabs along with office applications and light image editing. The Vaio Pro 13 largely manages to keep the thermals under check but the same cannot be said about the



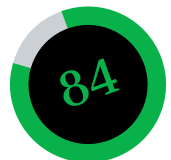
noise levels – max out the four cores and the fan noise is obvious and irritating.

Moving on to the screen, the Vaio Pro 13 offers a 13-inch Full HD (1080p) IPS touchscreen backed by Sony's 'Triluminous' display technology which adds extra vibrancy and 'punch' in colors does shift the color reproduction away from the true/natural colors that one associates with IPS panels, since everything on the screen looks more pleasing and vibrant to the eyes. The 'touch' side of the display is excellent. There is one irritating factor in the otherwise excellent display on the Sony Vaio Pro 13 – the reflections! The bright vivid display is well complemented by its in-built speakers. The Vaio Pro 13 won't fill the room with sound, but it will deliver a fairly pleasant personal aural experience without the usual distortions and harshness that one associates with thin and light laptops.

The 'chiclet' styled back-lit keypad on the Vaio Pro is well spaced, offers good feedback with no hint of flex. Even the touch pad is well sized, though the response and fluidity cannot match that of glass based touch pads (again, comparing it to the king of touchpads on the Macbook Air). What we sorely miss though are LED based activity indicators and hardware controls.

The Vaio's super light and slim body, excellent build quality/looks, battery life, high-resolution IPS touch screen display and the zippy overall performance come together to make it a very good deal for its asking price of ₹75k. It's one of the best Windows 8 based touchscreen ultrabooks out there.

Sobam Raninga



Features.....	86
Performance.....	79
Build.....	84
Value.....	85

Specifications

Display: 13.3-inch, 1080p IPS Touchscreen, **CPU:** Intel Core i5-4200U, **Storage:** 128GB SSD, **RAM:** 4GB, **Keyboard:** Backlit with ambient light sensor, **Wireless Connectivity:** WiFi a/b/g/n, Bluetooth Ver 4.0, NFC, **Weight:** 1.06 kg, **Ports:** 2x USB 3.0, HDMI, SD Memory card reader, **OS:** Windows 8 64-bit

Contact

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Foursquare for iOS update

Foursquare rolled out an update to its iOS app which loads an app faster than before. Download it: <http://dgit.in/13gPpjB>



Kanex Slimport

Kanex unveiled SlimPort to HDTV Adapter which allows users running their multimedia contents and games on any screen they want

LG 32LN5150 Transform LED TV

An affordable TV that brings the IPS value



Price ₹33,000

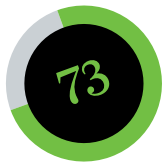
The LG Transform LED series admittedly surprises us by bucking the trend that most TVs in this price band follow – of feeling ‘affordable’. It’s built well and has a thin, unobtrusive bezel. The table-top stand has the conventional two part setup, which is quite common. The TV has an IPS panel with edge LED backlighting. The 32LN5150’s panel is

reflective, but much lesser than its rivals. This isn’t ideal for rooms with lots of ambient light. Having said that, the TV’s picture quality is very good, and Standard Definition content looks nice and isn’t affected by its native resolution – 1366 x 768 pixels. Colour reproduction is quite good as well, and side viewing angles are always better on IPS panels, made even better by the lesser-than-average reflective display.

Amidst all the positives about build and performance, there is the issue of compromising on connectivity. This TV has just 2 HDMI inputs – If you have an HD STB and a upscaling DVD player, any third device would require disconnecting one of the two. The remote works well, in terms of response, but the layout feels a tad cluttered. The good thing is, you can play back most SD video formats off a USB drive, directly connected to the TV.

All in all, this is the TV to consider if most of the content you will be watching isn’t HD.

Visbal Mathur



Features	70
Performance	75
Build	80
Value	65

Specifications

Panel size: 32-inch; **Panel Type:** IPS LED; **Resolution:** 1366 x 768 pixels; **Connectivity:** 2 HDMI, 1 Composite, 1 Component, 1 USB port; **Remote:** Yes; **Weight:** 6.7kg with stand

Contact

LG Electronics
Phone: 1800-180-9999
Email: <http://dgit.in/13HRpaf>
Website: www.lg.com/in

Lenovo IdeaPad Z400 Touch

Bulky, has bloatware, but also a good feature set



Price ₹47,990

For a 14-inch laptop, this is quite heavy. It has a decent display with the touchscreen working well. The keyboard is good but placement of Home, End, Pg Up and Pg Dn keys is slightly annoying. The dedicated GPU is nice, so is the feature set but the Z400 feels nippy after you delete some of its bloatware. Battery life is the only major disappointment at 96 minutes. This is a nice machine, but the HP Pavilion m4-1003tx is slightly better.



Features	75
Performance	70
Build	65
Value	70

Specifications

Processor: Intel Core i5 - 3230M @ 2.6GHz; **RAM:** 4GB; **Graphics:** NVIDIA GeForce GT635M (2GB); **Display:** 14-inch LCD (1366 x 768 pixels) with touchscreen; **Storage:** 1TB HDD; **Connectivity:** 3 USB ports, 1 HDMI, memory card reader, optical drive; **OS:** Windows 8 (64-bit)

Contact

Lenovo India
Email: <http://dgit.in/1bVBYuZ>
Phone: 1-800-3000-9990
Website: www.lenovo.com/in

Logitech Extreme 3D PRO

Fun on a budget



Price ₹3,399

Joysticks are a rare breed of gaming devices. They don’t find any use in general gaming but when it comes to flight sims, they’re indispensable. For a joystick to be of any use, it needs to offer complete “6-axis” control and a plethora of buttons, but most importantly, it needs to be precise. The Extreme 3D Pro offers all of the above except the precision. It’s precise enough for general use and average users; the discerning enthusiast might want to look elsewhere. The joystick works flawlessly out-of-the-box; most of the games we tried managed to map the axes without a hitch. The official price is a bit high, but you can get it within ₹2.5k; well worth it at that price.



Features	67
Build Quality	65
Value for money	75

Specifications

Control: 6-axis; **Features:** 8-way hat-switch, 15 programmable buttons, weighted base; **Warranty:** 3 years

Contact

Logitech Electronic India
Phone: 022-33416111
Website: www.logitech.com/en-in



Goodbye OMGPOP

Zynga announced closure of one its website OMGPOP.com. Accordingly, its website will be shutting down by September 30. <http://dgit.in/15JKPh2>



Better in-flight entertainment

Singapore Airlines introduced KrisWorld, which is their new and feature-rich in-flight entertainment system. <http://dgit.in/in-flightE>

Bazaar

Asus S400C ultrabook

A slightly more affordable, all-rounder ultrabook



Features 75
Performance..... 75
Build 80
Value 70

Specifications

Processor: Intel Core i7-3517U @ 1.9GHz; **RAM:** 4GB; **Display:** 14-inch (1366 x 768 pixels); **Graphics:** Intel HD 4000; **Storage:** 500GB HDD + 24GB flash; **Connectivity:** 3 USB, memory card reader, Ethernet, HDMI; **OS:** Windows 8 (64-bit)

Contact

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Website: www.asus.in

With the S500C being the bigger sized sibling, the smaller S400C is definitely a very attractive proposition, both in terms of portability as well as price. It's 14-inch frame is built well and slim, unlike some other ultrabooks. Its aluminum chassis is one of the best in the class, and the sharp slim design is sophisticated. It looks good with the dark-coloured lid, keyboard deck is coloured silver, while the touchpad gets a slightly brighter tone of the same colour.

Performance is very good, but you do need to get rid of a whole bunch of preloaded utilities for unshackled performance. The Core i7 processor is paired with 4GB of RAM. At the



Price ₹59,999

moment, it can multitask fairly easily, and the flash storage for caching really helps with boot times and repetitively used apps. Gaming isn't this ultrabook's forte, since there is just the HD 4000 graphics installed. As far as battery life goes, the S400C does very well. Our battery test pegged it at around 200 minutes, which means around 5 hours in the real world "a day at work" usage scenario. All in all, the Asus S400C is an ultrabook that you can consider for its very good build and speedy overall performance.

However, if you want something with a dedicated graphics card and a touchscreen isn't an important criteria for you, then the HP ENVY 4 is a worthy alternative worth looking into.

Vishal Mathur

Sony Vaio FIT 15E

Affordable laptop with unique build and good battery life

To be brutal and blunt, Sony's 'affordable' laptops, till now, felt just the part. There was too much compromise on build quality, specs and ultimately, performance.

However, the updated FIT series seems to be doing a much better job of it. For starters, you don't realize this machine costs around ₹35k, just by looking at it. Its matte black finish, with the typical VAIO rounded edges, gives the FIT a rather curvy look, intertwined with rather sharp lines, and it can easily pass off as a ₹45k laptop based on its build and looks. It isn't the slimmest machine around, but does a good job over its weight and overall footprint.

The FIT 15E boots quick enough and apps will load without hiccups. It has a modest CPU and multitasking is limited

because of just 2GB of RAM. This is a basic, budget consumer's laptop after all. It offers good battery life as well, lasting more than two hours on a single charge in our tests. Typically, for web browsing and document work, expect over

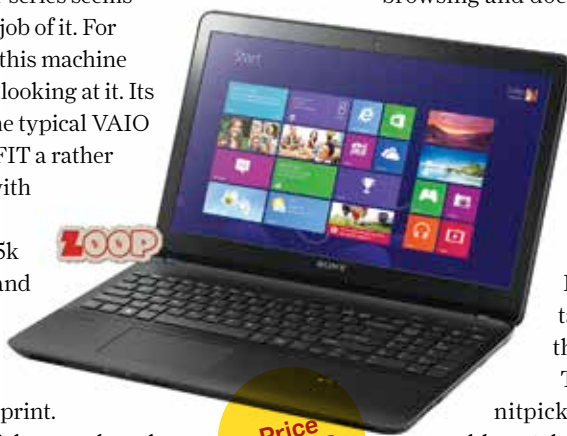
4 hours of usage.

What we really like is the display, which is crisp, bright and mostly non-reflective.

The keyboard is very well spaced out, and the key size is adequate. However, key travel is a tad on the lesser side, and the key response isn't ideal.

These are but minor nitpickings. Sony has an affordable notebook that is absolutely worth considering.

Vishal Mathur



Price ₹34,990



Features 60
Performance..... 65
Build 75
Value 80

Specifications

Processor: Intel Core i3-3227U @ 1.9GHz; **RAM:** 2GB; **Graphics:** Intel HD 4000; **Display:** 15.5-inch (1366 x 768 pixels); **Storage:** 500GB HDD; **OS:** Windows 8 (64-bit)

Contact

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Website: www.sony.co.in



Afraid of flying?

Simple technique is to carry some portable gaming consoles to stay away from your fear of flying. Need some more tips? Read this article on Lifehacker: <http://dgit.in/13G1aUv>



Boost your productivity

Take a look on some of these productivity tips to boost up things to the next level: <http://dgit.in/19NsaF3>

LG Optimus G Pro

A quality product

There is plenty to like about the LG Optimus G Pro – it has a great looking display that’s balanced and not oversaturated. It offers a ton of software features including a highly customizable virtual keyboard, an IR blaster to control other gadgets. It performs impressively and is very usable. It wields a powerful battery that helps it easily last more than a day of regular use and it’s great for shooting videos.

However, we can’t ignore some of its downsides such as an overly large body that many users may find uncomfortable, a camera that underperforms under low-light conditions and a UI that looks boring to be honest.

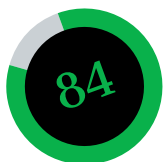


Price ₹38,700

It may seem logical to think that the LG Optimus G Pro should compete against the likes of the Samsung Galaxy Note lineup or other phablets on account of its 5.5-inch screen size. But the fact is that since it’s a direct upgrade over the LG Optimus G, it also stands as a viable alternative to current flagships like the Samsung Galaxy S4 and the HTC One. When put in that company and taking into account its price, the LG Optimus G Pro comes in third. This is mainly because the Optimus doesn’t offer the same design and premium factor of the more expensive One and is more expensive than the Samsung Galaxy S4.

However, if you’re looking for a smartphone with a larger display than what the flagships offer, then the LG Optimus G Pro is the phone you should buy. On its own too, the LG Optimus G Pro is a quality product and a very good buy.

Nikhil Pradban



Features	90
Performance.....	85
Build Quality	80
Value for money.....	80

Specifications

Operating System: Android 4.1.2 (Jelly Bean); **Screen Size:** 5.5-in at 1920x1080 pixels; **Built-In Storage:** 16GB; **MicroSD Card Support:** Upto 64GB; **RAM:** 2GB; **Camera:** 13MP; **Wi-Fi:** 802.11 a/b/g/n/ac; **Bluetooth:** 4.0; **Battery:** 3140mAh; **Processor:** Quad-core 1.7 GHz Qualcomm Snapdragon 600

Contact

LG India
E-mail: <https://www.lg.com/in/support/contact-login>
Phone: 1800 180 9999 (Toll Free)

Zebronics Shield

Designed well, decent performance



Price ₹4,900

The Shield is no slouch in terms of looks at all, as it has a nice design with a rubber grooved carry handle at the top and since this case is very light, it can be used to carry around in LAN Parties. The front part of the Shield has easy to remove 5.25-inch bay panels with a meshed fan grill and a headphone holder on the left side panel. Operating at 34°C on idle at 28°C ambient room temperature and 39.5°C under full load, its cooling performance is impressive.



Features	72
Performance.....	75
Build Quality	62
Value for money.....	76

Specifications

Dimension: 420(L) x 185(W) x 430(H) mm; **Motherboard Support:** ATX, mATX; **Expansion Slots:** 7; **Form Factor:** Mid-tower; **Drive Bays:** (x3) 5.25", (x5) 3.5", (x1) 2.5"; **Cooling:** Front 1x120mm, Side 1x140mm; **Front I/O:** (x2) USB 3.0, (x1) Headphone, (x1) Mic; **Warranty:** NA

Contact

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Email: enquiry@zebronics.info
Website: www.zebronics.com

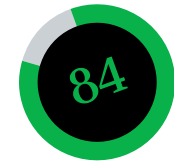
Galaxy GTX 770

The price is right!



Price ₹28,200

With two fans on this card against the single one seen on the stock GTX 770 from NVIDIA, the GTX 770 from Galaxy has a different design: its heatsink sticks out slightly from the front. Its build quality is decent as they’ve used a nicely designed metal shroud on top of it. Putting the performance of this card in spotlight, you can say that this card would run all the current crop of games with ease given the benchmark scores: 3D Mark 11 (Extreme): 3765; Unigine Heaven (1080p extreme): 52.2 FPS; Sniper Elite V2 (1080p max): 38 FPS; Metro Last Light (1080p Very High): 31.28 FPS. Better than the stock GTX 770 and a good option to go for your high end gaming needs.



Features	85
Performance.....	85
Build Quality	85
Value for money.....	80

Specifications

Base Clock: 1110 MHz; **Boost Clock:** 1163 MHz; **Memory:** 2048MB; **Memory bus width:** 256-bit; **Display Ports:** 2xDVI, 1xHDMI, 1xDisplayPort. **Warranty:** 3 Years

Contact

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Voice messaging on WhatsApp

WhatsApp has recently updated its app across multiple platforms, allowing users sending voice messages to one another. <http://www.whatsapp.com/>



Firefox 23

Firefox 23 has arrived with enhancements like a dedicated sharing button, mixed content blocker and network monitor. <http://dgit.in/158U5HM>

Bazaar

Lenovo K900 smartphone

An impressive effort, but some rough edges need ironing out



Features	75
Performance	80
Build	85
Value	65

Specifications

Processor: Intel Atom Z2580 dual core @ 2GHz; **RAM:** 2GB; **Graphics:** PowerVR SGX544; **Display:** 5.5-inch IPS LCD (1920 x 1080 pixels); **Storage:** 16GB + microSD card; **Battery:** 2500mAh; **OS:** Android 4.2; **Weight:** 162 grams

Contact

Lenovo India
Phone: 1-800-3000-9990
Website: www.lenovo.com/in

The K900 has a lot of things working in unison here. It is big, an interesting combo of straight lines, curved spines, and its flat design. The phone is so flat that you notice it straight away, and it's just 6.9mm thick. Compared directly with the LG Optimus G Pro, also rocking a 5.5-inch display, the K900 is clearly taller.

The Full HD IPS LCD panel feels more realistic in terms of colour reproduction, compared to the AMOLED family of displays. Media playback on this screen is very good, and so are the viewing angles. Text is crisp and clean, making readability easy. However, the blacks are washed out at times.

In real world usage, we experienced no lags or stutters as the phone performed with merit. Apps opened



quickly. However, the K900 heats up even under the slightest of load, and under gaming, can become uncomfortably warm to hold.

For a phone that packs in a big 2500mAh battery, the K900 does suffer in this regard because of heating, and the K900 will only last a day, like most Android phones. We expected more.

This is a phone with an imposing personality. The build quality is very good, the humongous display is worth the effort and the camera is very good. For what is Intel's first serious attempt at the high-end smartphone market, currently dominated by Qualcomm's Snapdragon series of processors, this is a rather good beginning.

Price ₹32,999

Vishal Mathur

FusionStor Inova 400 NAS

A simple NAS device, but that's about it

This is the first FusionStor product we've received at the Test Center and it delivers on all its claims. It's built mostly of metal and the HDD cage is quite rigid and well built. The HDD trays have enough mounting holes for 3.5-inch drives but in case you intend to use a 2.5-inch drive then there are only two holes. There is no rubber padding and the trays are spaced evenly apart with plenty of airflow.

It doesn't work out of the box given the lack of a manual or a quick setup guide, unfortunately, as we found no manuals – not even online. Curiously, hard drives must not have any partitions prior to install as the device does not recognize them.

From then on it's fairly easy to set up as you don't need to download the software separately. The OS is pretty lean and fairly

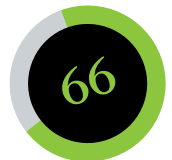
responsive, you can setup a RAID drive and create as many shared folders.

With an Intel Atom D525 at its core and 4GB of memory it does all that it claims to do. Over a gigabit network it does sustain transfer speeds between 75 - 110 MB/s to a single user and we had it hooked up and continuously on for around three months without any problems. You can schedule regular backups to a web server and even extend the NAS to a remote device, however, there are no fancy plugins available to make it into a full-fledged web-server or a torrentbox. What we've observed is that this device has better hardware than most devices in its price range but lacks the array of plugins and versatility of its competitors.



Price ₹40,000

Mithun Mohandas



Features	75
Performance	70
Design	65
Value	55

Specifications

CPU: Intel Atom D525 @ 1.8 GHz; **RAM:** 4 GB; **RAID:** 0,1,10,5,6; **Bays:** 4 (4TB x 4 = 16TB); **Connectivity:** 2x Gigabit Ethernet ports, 2x USB 2.0, 2x USB 3.0, eSATA

Contact

FusionStor Technologies Pvt. Ltd.
Phone: 022 41 577 577
Email: info@fusionstor.com



Finding a domain name?

The Next Web explains how you can get a perfect and affordable domain name you want. Read this article: <http://dgit.in/19Nn9NO>



A theory of 5 senses

See what designer Jinsop Lee explains in his theory of 5 senses, with the help of some handy and well demonstrated graph examples. <http://dgit.in/159G4cL>

Fujifilm X-M1

The X-Factor on a Budget

The Fujifilm X-M1 is the entry level mirrorless camera from the Japanese company. With the X-M1, the company aims at getting the quality of the X-series into the hands of those who cannot afford the more premium X-Pro1 and the X-E1. The X-M1 incorporates a 16 megapixel APS-C X-TRANS sensor coupled up with the EXR Processor II. For some reason, Fujifilm decided to leave out the X-Trans II sensor from the X-M1, which is a slightly better performer than the X-Trans sensor in the X-Pro1 and X-E1.

Performance wise, the X-M1 yields incredibly good images, partly because the two new lenses (the 16-50mm



Price
₹42,999
(body only)

f/3.5-5.6 and the 27mm f/2.0) are optically amazing and also because Fujifilm hasn't dumbed the insides of the camera down at all in lieu of the price.

Unfortunately, where Fujifilm does compromise is in the build quality. The X-Series has so far carried a very signature metallic build, giving it a solid, robust feel, but the X-M1 turns to plastic as the material of choice. The camera just doesn't feel as premium, but given that it costs less than half of the X-E1 and performs almost just as well. It has a slightly slower frame-rate, but the focus is just as fast. The best part is that you can still use the high quality XF lenses, allowing you to save on the body and splurge on high quality lenses instead. The other good thing about the X-M1 is that it is the first X-Series camera to back built-in NFC and Wi-Fi for transferring images to Android and iOS devices instantaneously. All said and done, if you're in the market for a nice compact camera that is nothing but a performance workhorse, the Fujifilm X-M1 might be perfect for you.

Swapnil Mathur



Features	80
Performance.....	80
Design	65
Value	75

Specifications

Sensor: 23.6mm x 15.6mm (APS-C) X-Trans CMOS; **LCD Screen:** 3-inch; **Wi-Fi:** 802.11n; **Connector:** USB 2.0, HDMI mini; **Dimensions (WxHxD):** 4.6-inch x 2.6-inch x 1.5-inch; **Weight:** 330g (approx)

Contact

Fujifilm India Private Limited
Phone: 1800-200-0608
Website: <http://www.fujifilm.in/>

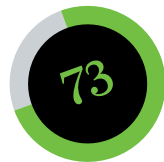
Toshiba DT01ABA100V

A good drive that does all.



Price
₹5,000

The Toshiba DT01ABA100V is different from regular drives as it functions as an AV drive – it's predominantly sold for multimedia use and incorporated in set-top-boxes and DVRs. Priced competitively, it offers good performance – single file and multiple file transfer rate of 70MB/s and 82MB/s, respectively. Even in some of our synthetic benchmarks, it consistently came close to the performance peaks attained by several other 7200RPM drives, which is noteworthy. If you dabble in AV projects and are looking for a peculiar type of drive, this is worth checking out – and should be available at a street price of ₹5k or below.



Features	75
Performance.....	70
Build	NA
Value	75

Specifications

Unformatted Capacity: 931.51GB; **Interface:** SATA 3 Gbps; **Cache memory:** 32MB; **Rotational Speed:** 5700 RPM; **Weight:** 450 grams; **Warranty:** 3 years

Contact

Toshiba India Pvt.Ltd.
Phone: 022-61771771
Email: polad.garda@toshiba-india.com
Website: www.toshiba-india.com

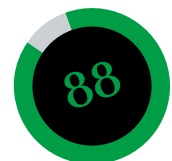
AVG Mobilation AntiVirus PRO

Packed to the gills



Price
₹499

An anti-virus tool that is more tune-up utility than an AV suite. The suite is packed to the brim with almost every tool that you'll ever need to keep your phone in tip-top condition. You've got everything from a full-fledged task scheduler to anti-theft, data usage and bandwidth limiter, data wiper and more. You can take a backup of your apps and data and even selectively wipe call logs and sms details and even specific user info if you've got multiple accounts synced to your device. This is easily the most feature-rich AV suite that we've ever come across for a mobile device.



Features	90
Performance.....	NA
Value	90
Usability	85

Specifications

AntiVirus; Deep Scan; Web browsing protection; SMS and Call blocker; Tune-up utilities; Task Killer; Anti-theft; etc.

Contact

AVG Technologies
Website: <http://www.avg.com/in-en/customer-support>



Facebook for BlackBerry

The recent Facebook for BlackBerry update brings support for Facebook Chat. You can get it directly from BlackBerry World: <http://dgit.in/15K7b4s>



Twitter mobile update

Twitter for iOS and Android has received an update which adds support for login verification system. Read on to find out more about this update: <http://dgit.in/1cuYtH>

Bazaar



Toshiba Satellite P50-A10010

Smart and trendy, worth it as a basic laptop

Features	73
Performance.....	60
Value	70
Design	80

Specifications

Screen: 15.6-inch, 1366x768;
CPU: Intel Core i3-3227U
1.9 GHz; **RAM:** 4 GB DDR3;
HDD: 750 GB, 5400 RPM;
GPU: Intel HD 4000; **OS:**
Windows 8 Premium 64-bit;
Optical Drive: Yes; **USB 2.0:**
Yes, 2 ports; **USB 3.0:** Yes, 2
ports; **Connectivity:** HDMI,
VGA, Gigabit Ethernet, Wi-Fi
802.11n, Bluetooth, SD Card
slot

Contact

Phone: +91-124-4996600
Email: aditya.bhandari@toshiba-india.com
Website: toshiba-india.com

The Satellite P50's screen lid's exterior is made of high quality plastic with a brushed metal finish that looks and feels quite premium. The P50 feels sturdier than the Satellite L40 we reviewed last month, with a better hinge and more robust screen lid and palmrest. Despite its 15-inch frame, the laptop appears to be thin and trim, but not quite light, though.

Our benchmarks peg it as a basic to average performer. And with the Toshiba Satellite P50 sporting an Intel Core i3-3227U 1.9GHz processor and 5400 RPM hard drive, we aren't too surprised. Processor-intensive tasks are handled modestly at best, while the onboard Intel HD 4000 graphics isn't much to write home about either. The laptop's LED-backlit screen is nice and bright, with good viewing angles. Also, the



Price ₹39,831

Satellite P50's onboard speakers are among the best we've heard in this price band.

In terms of usability, we like the laptop's full keyboard layout complete with a dedicated number pad on the right. However, the accompanying touchpad is over-sensitive and

frustrating to use at first. The laptop's battery lasted for a total of 2 hours 42 minutes in our benchmark test – this is lower than the battery life on the 14-inch Toshiba Satellite L40, but not too bad for a 15-inch laptop. Overall, there's a lot to like about the Satellite P50, if you're not too picky about its CPU performance.

Jayesh Shinde

Creative HITZ MA350

Colourful, convenient and not too shabby

The HITZ MA350 in-ear headset is available in a variety of trendy colours. The dual-tone effect thanks to the translucent tips and the colour of the housing makes them quite easy on the eyes; not to mention the angular cut design with the Creative logo embossed in a reflective surface adds to the charm. Creative stresses on the term *isolating* on its product page and indeed they provide great isolation using quality silicon tips (available in three sizes).

The headphones sport a flat tangle-free cable just like the Cowon EMI but gains a few points in the features department thanks to the sliding volume control switch (most likely an in-line potentiometer, thus working with any source) and gold plated connector. Performance-wise too they're slightly ahead

giving you crystal clear mids and sharp highs without the flatlining bass of the EMI. Some of our bass heavy test tracks such as *Hatesong* by *Porcupine Tree* or *Angel* by *Massive Attack* sounded fairly nice.

You got that skull jarring effect without the usual boomy rollofs. The only trouble we had was with the lack of a clip that could've greatly reduced cable microphonics.

Priced similar to the iDance EB-X203, they're way ahead in terms of performance and looks. However the pricing is still too high to secure a great value score or to make them an instant no-brainer recommendation. However they are still highly-recommended for bass-heads who want fidelity in other frequency ranges and are willing to pay a slight premium for the quality.

Siddharth Parwatay



Price ₹2,299



Features	74
Performance.....	72
Value	63
Build quality	68

Specifications

Weight: 11g; **Driver Size:** 9mm; **Driver type:** Neodymium magnet; **Frequency Response:** 6Hz – 23kHz; **Cable Length:** 1.2m

Contact

Raman Chawla
Email: indiagetcreativek@ctl.creative.com
Website: <http://in.creative.com/>



Chrome users beware!

This is why you should never hit "Save Password" while browsing on Google Chrome. Read this article on Gizmodo: <http://dgit.in/14y6Z94>



AOL to acquire Adap.tv

AOL announced that the company has reached an agreement to acquire a California based Adap.tv for \$405 Million USD. <http://dgit.in/1cv68YR>

Nokia Lumia 520

Most inexpensive WP8 cell



The Lumia 520 is definitely a budget phone, as you can tell from the low-contrast 480x800 pixel display, or the lack of 1GB RAM or even an LED flash for that matter. However, the OS is so well optimized that the behaviour is identical across the range of all WP8 devices, regardless of their price. The Lumia 520's camera is decent for most day-time shooting, with quick response and good images. It has 8 GB of on-board storage which can be increased to 32GB with the help of a microSD card. For the price, the Nokia Lumia 520 is an incredible little phone offering an excellent balance between price and features. Definitely worth considering.



Features	70
Performance	60
Value	85
Design	85

Specifications

CPU: Qualcomm Snapdragon S4 Play; **GPU:** Adreno 305; **RAM:** 512 MB; **Weight:** 124 gm; **Camera:** 5MP

Contact

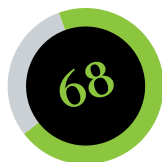
Nokia India
Phone: +91 (STD Code) 30303838
Website: www.nokia.com/in-en

Micromax Canvas 4

A smartphone with a lot of gesture controls



The Canvas 4 has the same hardware as its predecessor, the Canvas HD, which performs well. It comes with a slew of gesture controls. These gesture controls can be used to pause a video when you turn away, pick up a call, reject a call, switch on the loud speaker and more. The build of the smartphone is good. The Canvas 4 has stock Android UI and comes preloaded with Micromax apps such as the M!Store. The camera on the smartphone clicks good images in both well-lit and low-lit situations.



Features	80
Performance	70
Value	60
Design	60

Specifications

Display: 5-inch IPS LCD display with 1280x720 pixel resolution, **CPU:** quad-core 1.2GHz processor, **RAM:** 1GB, **Storage:** 16GB built-in, **Camera:** 13MP rear camera & 5MP video call camera, **OS:** Android 4.2, **Battery:** 2000mAh battery.

Contact

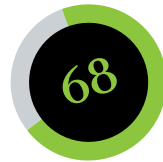
Micromax India
Phone: 0124-4811000
E-mail: <http://www.micromaxfunbook.com/contactUs.php>

Lava Iris 504Q

Budget quad-core with gesture support



The Iris 504Q has the same quad-core CPU and internals found on other 5-inch smartphones running on the MediaTek SoC. The smartphone brings with gimmicky gesture support. These controls aside, the Lava Iris 504Q is a run-of-the-mill quad-core budget Android smartphone. Games and apps runs smoothly and the touchscreen is responsive. Its battery has enough juice to run through the day but camera's average. There are quite a few smartphones in the market boasting of similar specifications.



Features	70
Performance	70
Value	70
Design	60

Specifications

Display: 5-inch IPS LCD display with 1280x720 pixel resolution, **CPU:** quad-core 1.2GHz, **RAM:** 1GB, **Storage:** 4GB built-in expandable up to 32GB via a microSD card, **Camera:** 8MP rear & 2MP video calling camera, **OS:** Android 4.2, **Battery:** 2000mAh battery.

Contact

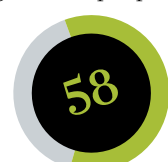
Lava
Phone +91-0120 463 7333
Email ID: care@lavainternational.in

Samsung Galaxy Grand Quattro

An average 15K smartphone



The Galaxy Grand Quattro has the tried and tested Samsung design and build. The Android OS is overlaid with the TouchWiz UI. The smartphone comes preloaded with Smart Stare, which refused to work. Natively the smartphone didn't recognise any of our video formats - AVI, MP4 and MKV. We had to resort to third part video players for this. For it's asking price, the Quattro's difficult to recommend especially since you have devices such as the Xolo Play T1000 and others selling at a cheaper price band.



Features	60
Performance	50
Value	60
Design	60

Specifications

Display: 4.7-inch LCD display with 480x800 pixel resolution, **CPU:** quad-core 1.2GHz processor, **RAM:** 1GB, **Storage:** 8GB built-in expandable up to 32GB via a microSD card, **Camera:** 5MP rear & 0.3MP video calling camera, **OS:** Android 4.1, **Battery:** 2000mAh battery.

Contact

Samsung India
Phone: 1800-300-08282
E-mail: <http://dgit.in/14mUv1K>



Dhingana on Windows Phone 8

Do you love listening to Bollywood songs? The popular Indian music streaming service Dhingana has launched its Windows Phone 8 app. <http://dgit.in/16tXyn7>

Is "Auto Tune" bad?

Time Magazine describes Auto Tune as one of the worst inventions ever, which helps bad singers sounding as good ones. See the Wikipedia: <http://dgit.in/14iX09x>

Bazaar

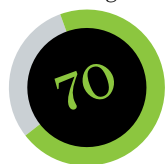
Xolo Q1000

Worth recommending



Price ₹14,999

What the Xolo Q1000 offers users is a good build; impressive display and a smooth touch experience. Apps and games ran well on the smartphone except Real Racing 3. On the downside, the camera is average and the device attracts fingerprints. The touchscreen has a good response and is comfortable to use for multimedia as well as reading books. The battery on the smartphone lasts through one day of average use. The call quality on the smartphone is crisp at both ends. If you are in the market to pick up a 5-inch quad-core budget smartphone, this is definitely worth considering.



Features80
Performance.....80
Value60
Design60

Specifications

Display: 5-inch IPS LCD display with 1280x720 pixel resolution, **CPU:** quad-core 1.2GHz processor, **RAM:** 1GB RAM, **Storage:** 4GB built-in expandable up to 32GB via a microSD card, **Camera:** 8MP rear & 1.2MP video call camera, **OS:** Android 4.2, **Battery:** 2100mAh battery.

Contact

Xolo India
Mail: care@xolo.in
Phone: 1800 30 100 104

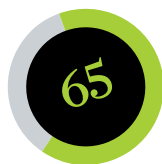
Samsung Galaxy Mega 5.8

A really large smartphone



Price ₹24,900

The Galaxy Mega 5.8 is a huge smartphone. It's like a Galaxy S III on steroids. You have the standard TouchWiz UI overlaying the Android OS on the smartphone. It comes preloaded apps and the Samsung App store. The viewing angles of the display are quite good but the screen lacks sharpness. The display is good for multimedia consumption but it's too big as a phone. The camera on the smartphone is good in well-lit situations and average in low-lit situations. Huawei Ascend Mate has better specs at the same price.



Features70
Performance.....60
Value70
Design60

Specifications

Display: 5.8-inch LCD display with 960x540 pixel resolution, **CPU:** Dual-core 1.4GHz processor, **RAM:** 1.5GB RAM, **Built-in storage:** 8GB storage expandable up to 64GB via a microSD card, **Camera:** 8MP rear camera & 1.9MP video call camera, **OS:** Android 4.2, **Battery:** 2600mAh battery.

Contact

Samsung India
Phone: 180030008282
E-mail: <http://dgit.in/14mUvIK>

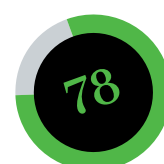
Videocon A55HD

Looks good



Price ₹13,499

The Videocon A55HD is just another quad-core budget Android smartphone running on the MediaTek SoC. However, what the smartphone brings to the table are good looks, decent build and a smooth touchscreen. On the downside the performance of the camera is average. Games ran smoothly on the smartphone's stock Android OS. The preloaded apps are nothing to boast about. You do get access to local content such as Bollywood new, wallpapers and ringtones from the preloaded apps. Buy this for its discerning look.



Features70
Performance.....80
Value80
Design80

Specifications

Display: 5-inch IPS LCD display with 1280x720 pixel resolution, **CPU:** quad-core 1.2GHz processor, **RAM:** 1GB, **Storage:** 4GB built-in expandable up to 32GB via a microSD card, **Camera:** 8MP rear & 3.2MP video calling, **OS:** Android 4.2, **Battery:** 2000mAh battery.

Contact

Videocon
Email: customercare@vgmail.in
Phone: 0124-3273091

Huawei Ascend Mate

Does size really matter?



Price ₹24,900

For 25k you get some pretty good specifications on the Ascend Mate and a really large display. The smartphone has a good slim form factor. Huawei has its own Emotion UI overlaying the OS on the device. The large display of the smartphone is good for running multimedia content and playing games but we wish it were 1080p. The performance of the camera is lacklustre overall. You can consider picking up the Mate if a large display is mandatory for you and you don't mind using a new UI.



Features60
Performance.....70
Value70
Design60

Specifications

Display: 6.1-inch LCD display with 1280x720 pixel resolution, **CPU:** quad-core 1.5GHz processor, **RAM:** 2GB RAM, **Storage:** 8GB built-in expandable up to 32GB via a microSD card, **Camera:** 8MP rear camera & 1MP video call camera, **OS:** Android 4.1, **Battery:** 4050mAh battery

Contact

Huawei India
Email: <http://dgit.in/1bXzXyl>
Phone: 1800 209 6555
Website: huawei.com/in/



“Relevant Ads” on Google Maps

Google has started rolling out its so called “relevant ads” in the newly updated Google Maps app on iOS and Android. Read on to find out more: <http://dgit.in/16D8yjY>



Smokers Beware!

Smokers Beware! If you have Apple products around you, it's recommended to be more careful. Read on to find out “why”: <http://dgit.in/149yQoH>

Acer Aspire R7

The R7 gives you intriguing design and great build quality, but is it enough?

Laptops come in many shapes and sizes, some purely functional, others for show with a few falling in-between. There are very few laptops that manage to hit that perfect balance between form and function and it's that balance that the Aspire R7 hopes to strike.

This is, first and foremost, a lifestyle laptop. Yes, the price is high and the hardware is something that the average geek will turn his nose up at (and rightly so), but this device isn't meant for them. It's a lifestyle product for the well-heeled (or indulged) geek and in that regard, it doesn't disappoint.

The laptop is extremely well-built; the device feels sturdy with nary a hint of a squeak and the hinge is rock-



solid. The display is among the best we've seen and the speakers, they're what a laptop's speakers should be, loud and clear and capable of pumping out enough volume to fill a decent room. They're Dolby Digital certified and the four speakers – one in each corner – are excellent. They do distort at higher volumes, but then again, what speaker doesn't?

We now come to the stand-out feature of this device, its USP if you will, the hinge. Acer's taken to calling it the “Ezel” hinge and it's a nifty little piece of engineering that serves to bring the screen closer to the user while typing while allowing him to flip it over so the person on the other side can check out what's going on. One can

also set the screen against the keyboard (face-up) and use the device as a tablet.

The problem here is that Acer decided to reposition the touchpad and pushed it above the keyboard, so while the screen does come closer, you lose the functionality of the touchpad and since the keyboard is at the outer rim of the device, you lose the palm-rest. This wouldn't be so bad if the screen was smaller or Windows 8 a better OS, but as it stands, using the device without the precision of a touchpad is just a pain. The size of the device and the lack of a palm rest also means that the device is more suited for a desk than a lap and it actually does seem a bit more usable in that mode, especially with an external mouse. All this makes us wonder if this new form-factor even has a point. It doesn't seem to improve upon the existing designs and seems to create more problems than it solves.

This is a lovely laptop, a premium, lifestyle device that is designed to appeal to the crowd that would consider a MacBook just as easily as a ThinkPad Carbon. The device is exceptionally built and the multimedia capabilities are above par. The battery life of over 3.5hrs is great and while it will burn a hole in your pocket, everyone else will be too busy gawking at the device to notice the smoke.

Anirudh Regidi

ASUS GTX 760 DCII

Middle of the pack



The build quality of the card is good and it has four heat pipes that run through the heatsink below the fans. This card runs quite cool and is silent as well. Being a slightly overclocked version of the reference GTX 760, this card has a 1072 MHz boost clock and performance benchmarks scores are as follows: 3D Mark 11 (Extreme): 2827; Unigine Heaven (1080p extreme): 41 FPS; Sniper Elite V2 (1080p max): 29.5 FPS; Metro Last Light (1080p Very High): 23.55 FPS. According to the scores, this card was faster than the stock GTX 760 but slower and costlier than the Palit GTX 760 Jetstream, the fastest GTX 760 we've tested.



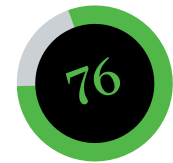
Features	75
Performance.....	75
Build Quality	85
Value for money.....	55

Specifications

CPU: Intel Core i5-3337U @ 1.8GHz;
RAM: 8GB; **GPU:** Intel HD4000
Display: 15.6-inch (1920x1080); **HDD:** 1TB; **OS:** Windows 8 (64-bit)
Connectivity: IEEE 802.11a/b/g/n Wi-Fi; Bluetooth 4.0 + HS; 2 x USB3.0 + 1 x USB 2.0; HDMI

Contact

Acer India Pvt Ltd
Phone: 080-39408700
E-mail: ailenquiries@acer.co.in
Website: www.acer.co.in



Features	85
Performance.....	72
Build Quality	80
Value for money.....	65

Specifications

Base Clock: 1006 MHz; **Boost Clock:** 1072 MHz; **Memory:** 2048MB; **Memory bus width:** 256-bit; **Display Ports:** 2xDVI, 1xHDMI, 1xDisplayPort; **Warranty:** 3 Years.

Contact

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

worldview

OUR PICK OF THE BEST TECH ARTICLES FROM AROUND THE GLOBE

(MUST READS)



AMAZON'S ACE UP ITS SLEEVE

Reports suggest that Amazon is working on displays that work on a principle called electrowetting, in which each pixel on the screen consists of tiny capsules of an oil that respond to electrical charge.

<http://dgit.in/sepww888>

BUILD YOUR OWN APPS

You don't have to be a code monkey to build a half decent app? "Idea to Appster" present three do-it-yourself app builders designed for non-programmers that we're sure you'll love.

<http://dgit.in/sepww333>

20 LIFE HACKS

These are not just simple common sense tips. What we have here are specific tools for gmail, chrome, and the cloud at large that will boost productivity on your computer instantly.

<http://dgit.in/sepww444>

GRAMMAR NAZIS LOOSE THEIR MOJO

Autogrammar is coming to auto-correct, and an entire species of supercilious internet beings faces extinction. On the bright side, now your smartphone will save you a lot of embarrassment. Your gonna love it! (Yes we know it's *lose and *you're)

<http://dgit.in/sepww777>

[ExtremeTech Corner]

THE FUTURE: UPGRADEABLE SMARTPHONES



Will you ever be able to simply slide in a new processor, RAM, and battery – effectively extending your smartphone's useful life almost indefinitely – just like a PC? The answer may surprise you. <http://dgit.in/sepww222>



Xperia Z Ultra too large for your hand?

After the cellphone industry spent around a decade minimizing the size of mobile phones it has now come back full circle culminating in an enormous 6.4-inch smartphone. Does it really make sense? Find out: <http://dgit.in/sepww111>



\$500 PS4 and PS Vita bundle

Although not yet confirmed, rumours seem to suggest such a bundle (containing both the PS4 and the PS Vita) may be in the works. This could be just what the doctor ordered to return PlayStation brand to dominance. <http://dgit.in/sepww555>



Bionic eye that's upgradeable

Meet the Argus II bionic eye, the first to get FDA approval and currently being prepped for a firmware upgrade that gives users of the Argus II bionic eye better resolution, focus, and image zooming! <http://dgit.in/sepww666>

40 MAPS THAT EXPLAIN THE WORLD



This collection overlays the world as you know it with brilliant insights such as places most welcoming to foreigners, the best places to be born, the most racist countries and many more.
<http://dgit.in/wwsep234>

HOW BLACKBERRY FELL

Since the launch of BB 10 OS sentiment regarding BlackBerry changed. Still, all is not rosy for the Canadian smartphone manufacturer. This incisive piece delves deep into why the company has put up a giant, blinking "for-sale" sign on its doors. Desperation? Maybe.
<http://dgit.in/wwsep456>

CAN TWITTER AFFECT SHARE PRICES?



Apparently it can and it has. Mid-august billionaire investor Carl Icahn sent Apple's stock price soaring with a single tweet. Apple shares went up nearly five percent. Want to find out what he said? Follow the link:
<http://dgit.in/wwsep345>

THE INTERNET COULD GET 3X FASTER

A piece of software from MIT is set to make the internet three times faster by generating algorithms that prioritize where to send data. Effectively, the computer outwits human solutions to network congestion. If perfected, it could mean goodbye TCP as you know it.
<http://dgit.in/wwsep543>

Humble Bundle outdoes itself. Are you in on the action yet?

At the time of writing this, the latest Humble Bundle made up entirely of Origin (or EA) games, crossed the \$6.6 million mark in revenues. It is likely to go down in history as the most successful humble bundle ever and we're taking this opportunity to introduce this unique concept to those of you who are not clued in to it as yet - believe us when we say that you won't want to be missing out on all that fun.

Humble Bundles till date have given gamers all over the world access to games at throwaway prices. This particular one, dubbed the Humble "Origin" Bundle let buyers spend as little as \$1 giving them access to Dead Space, Dead Space 3, Burnout Paradise: The Ultimate Box, Crysis 2: Maximum Edition, Mirror's Edge and Medal of Honor - and get this, Dead Space 3 and Medal of Honor are games that are less than a year old. Phew, those are some heavy duty games and it's impossible to get these games for a buck anywhere.

But that's not the end of the story. If buyers chose to pay above the average price (\$4.80 at the time of going to press), they also got Battlefield 3 and The Sims 3 "+ Starter Pack," which is an unbelievable deal, and something that propels you towards your wallet and credit card details faster than a speeding jet. Just the fact that cumulatively all these games would've easily cost couple of hundred dollars makes the Humble Origin Bundle ideal for gamers who can't afford expensive games at their launch date. Humble Bundles have been doing this for quite

some time now, a sort of revolutionary concept for selling games that the audience loves and adores. You decide the price (as long as it's equal to or above a US dollar) and you've got yourself some amazing games.

But besides just pandering to the whim of the gamer zerg rush, the Bundles serve another purpose. Each Bundle associates with a handful of charity organisations and gives you a chance to do your bit for society - that's right, by contributing towards a Bundle, you wipe clean all that bad karma you accu-



mulated pirating games through your teenage years.

But what about the developers, you ask? You get to choose that as well. Decide what share of your contribution goes to whom and you can walk out with a glowing, satisfied conscience. The best part about this Origin Bundle is that each and every cent of that amount collected will go to a predetermined charity - and you can also tweak the amount you pledge towards a charity of your interest (from the shortlist, of course). Pretty great of EA to announce that, but it could've been the plan all along; who knows perhaps what EA loses in rev-

enues it gains in Origin client usage and installs. Yes some of the games only work in Origin unlike the usual Steam playable titles we've seen so far.

If this is an EA ploy to boost the number of subscribers to Origin (Steam's rival) then it's definitely a brilliant stroke on their part. But EA will quickly have to ramp up its cloud infrastructure, for within hours of announcing the Origin Bundle, EA's Origin clients froze, in some isolated instances some items from users' inventories went missing.

While it's understandable that it may have not anticipated such a surge in traffic and ruthless assault on its servers beforehand, EA has a long way to go match Steam's stranglehold over the cloud gaming market.

One other thing: sometimes Humble Bundles add extra games to people who contributed more than the average price, and we've seen this happen quite a few times in the past, but it isn't a dead certainty with every Bundle.

We only hope that after the record-breaking success of this Origin Bundle, EA goes through its roster of AAA titles and throws in one or two more for the ravenous horde of gamers. If they throw in Dead Space 2, that's one great trilogy right there.

By the time you're reading this, the Origin Bundle will have been long closed. But don't despair, Bundles come out every week so be sure to bookmark www.humblebundle.com and get on their mailing list for updates.

YOUR MEAT ADDICTION IS DESTROYING THE PLANET

One of the most commented articles on The Verge, this long feature delves into the specifics of meat consumption and how there is still hope to save the planet. Yes even lab grown burgers have been discussed. Brace yourselves carnivores, there's a revolution coming. <http://dgit.in/wwsep098>

RANDOM SCIENTIFIC FINDINGS

ArsTechnica's science editor brings us a roundup of some interesting findings from cutting edge bio-research labs. Did you know that plants send messages to each other over a fungus-net? Or that August is a fine month to kill off all your family members? What!? <http://dgit.in/wwsep765>

FAKING GENIUS

If we go by movies, the most common signs of a super-charged brain include quickly solving a Rubik's cube and speed reading. These are not god-given gifts but rather abilities. Check out this article that will teach you how to learn five so called signs of genius. <http://dgit.in/wwsep567>

TOP-SECRET WARPLANES OF AREA 51

Stealth jets? Hypersonic bombers? Pop-Sci, with the help of patent filings and other evidence speculates on what's really being developed at the US military's most famous classified base. There's a VTOL special ops infiltrator and the ram jet powered Aurora Mach 6-plus attack aircraft. The gallery is worth a visit. <http://dgit.in/wwsep654>

Now that Google's 20% time perk is over, how will innovation thrive at Mountain View?

Once a mainstay of innovation at Google, the 20 percent time perk allowed employees to spend one day a week working on projects that weren't necessarily in their job descriptions. Towards the middle of last month we began hearing murmurs online that Google has unofficially put an end to this practice; a practice that gave Google some of its most profitable and innovative products till date. It's hard to believe but AdSense, Gmail, Google News, and Google Talk were all the result of the 20 percent time perk. AdSense alone accounts for about 25 percent of the company's revenues. The program was so successful in fact that reportedly LinkedIn and Apple are some of the other places where it's currently being emulated.

A post on Quartz (<http://dgit.in/20ptime>) insisted that while there is no official directive from Google to kill the 20 percent time perk, managers have made it such that following independent projects on that one day during the week is more difficult than ever. From being a "right" engineers now had to seek permissions to follow their dream projects. The second spanner in the works came with the way Google's internal analytics structure measures productivity. It assesses how productive teams have been by taking into consideration 100 percent of the time available to an employee (not 80 percent after discounting the perk). The growing number of debates online about this very topic drew in a lot of current and ex-Google engineers. Some of them (anonymously of course) claimed



that "stack ranking" has also led to the slow death knell of the 20 percent time perk program. The stack ranking policy ranks employees and fires the bottom 20 percent. Hardly an environment that'll encourage employees to take risks. Thus reportedly a running joke in Google calls the perk 120 percent time, meaning that even if engineers explore other projects it is over and above what is expected of them in their regular job descriptions. However, some posts also noted that while 20 percent time is a luxury at Google, the company at least makes available its immense compute power, vast databases and other resources to employees seeking to pursue their own Google-related ideas outside their main line of work.

Sources attribute this change in strategy to Larry Page and the revamps he's put into place since he took over as CEO since January 2011. He has supposedly implemented a "more wood behind fewer arrows" strategy which basically means that Google will still encourage

radically different ideas but will concentrate only on a small number of them. Now the incubation and innovation baton has been passed on exclusively to Google's super-secret X Lab. Google Glass and the self driving car were the results of this very group.

While Google initially remained mum when the explosive Quartz post came out, it later clarified that 20 percent time is actually alive and well (<http://dgit.in/gogresp>). But the (over)reaction from silicon valley is quite understandable. Google is somewhat of a flag bearer when it comes to propagating an informal work culture and yet remaining competitive and productive.

To those of us not fortunate enough to be working at the Googleplex, it's sort of like a holy grail and to think that this bastion of un-corporate culture is under threat is bound to get everyone worked up. Heck working at Google has been portrayed as so cool that it has now become the subject matter of a big-budget Hollywood movie - The Internship.

The funny thing though is that 20 percent time is not a Google original idea; 3M has had 15 percent time for quite some time. Besides, companies are engaging in hackathons which ultimately amount to that much time, but bring down costs and are more focussed. Author Ryan Tate who wrote a book on the subject insists that regular clamp downs on this culture are common in Silicon Valley. Read his opinion on why Google won't be able to kill 20 Percent time even if it wanted to (<http://dgit.in/20pdie>)

(worldview)

SMOSH GAMES

Subscribe to this channel and you get Smosh's Ian and Anthony plus the most hardcore game nerds on the web! It's



all the news, strategy and reviews of a gaming channel, with all the insanity of Smosh.

<http://dgit.in/wwsgames>

(QR Code)



For a list of all the links from this section, head over to <http://dgit.in/WorldViewSep2013> Or point your phone to the QR code above

(PRODUCT LAUNCHES)

SONY XPERIA Z ULTRA



At 6.8 inches, this monstrosity from Sony sports the world's largest display in the world's slimmest Full HD smart-phone. It's waterproof, features an 8 megapixel camera with 16x digital zoom, and runs on a 2.2 GHz quad core processor. The price is likely to be ₹44,990 approx.

MOTO X



The Moto X features a Snapdragon S4 Pro (1.7GHz and Adreno 320 GPU) processor with 2GB RAM, and a 2200 mAh battery. You also get options to customise the phone's body. No word on non-contract pricing yet but most estimates peg it around \$700 i.e ₹43,000 approx.

THE NEW NEXUS 7



It's thinner, lighter and now comes with a 1080p display. It is also currently the only device running Android 4.3 Jelly Bean out of the box. Other specs include a massive 3950 mAh battery and a Quad-core Qualcomm Snapdragon S4 Pro @ 1.5GHz. Price: ₹14,000 approx

WORDJUMBLE

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ABSOLUTE TIMEPASS

20 cloud services we've covered in next month's FastTrack are hidden in the grid alongside. [Since some of you have been asking for answers we decided to give you a cheatsheet, because hey answers would be too easy. Find it here: <http://dgit.in/wwsep>]

Top 3 YouTube Picks

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



Assassin's creed
Duration: 3 mins 1 sec
Assassin's Creed 4 meets parkour in real Life in this special comic con video <http://dgit.in/wwsep987>



UK Prism
Duration: 2 mins 16 secs
Imagines what would happen if a government surveillance program was privatised <http://dgit.in/sepww876>



Slow mo water balloon fight
Duration: 4 mins 43 secs
Gav and Dan start a water balloon fight with over a thousand people and film it at 2500fps. <http://dgit.in/sepww654>

digit KILLER RIGS

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

■ Basic rig = ₹25,950 ■ HTPC = ₹26,600 ■ Entry-level gaming = ₹37,220 ■ Mid-range Compact System = ₹59,760 ■ Mid-range gaming = ₹67,640 ■ Ultra high-end = ₹2,06,540

BASIC RIG

Processor	Intel Pentium G2020	4100
Motherboard	Gigabyte GA-H61M-D2H	3610
RAM	Corsair 2GB DDR3 1333MHz	1400
HDD	Seagate Barracuda 500GB	3400
Monitor	ViewSonic VA2038WM	6350
Graphics Card	None	0
Cabinet	Huntkey T-91	1650
PSU	Corsair VS450	2400
Speaker (2.1)	Logitech Z103	1550
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Amkette Ash Black (Bundle)	540
Keyboard	Amkette Ash Black (Bundle)	0
Sound Card	None	0
Total		25,950

HTPC

Processor	AMD A6-3650	6450
Motherboard	MSI FM2-A75MA-P33	4300
RAM	Kingston 2GB DDR3 1333MHz	1430
HDD	Western Digital WD20EZRX 2TB	5960
Monitor	None (your TV)	0
Graphics Card	None (HD6530D onboard)	0
Cabinet	Cooler Master Elite 120 Advanced	3000
PSU	Cooler Master Thunder 450W	2650
Speaker	None	0
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Microsoft Desktop 2000 wireless combo	1860
Keyboard	Bundled	0
Sound Card	None	0
Total		26,600

ENTRY-LEVEL GAMING

Processor	AMD A10-5800K	8200
Motherboard	ASUS F2A85-M-LE	6440
RAM	G-skill F3-10600CL9S-4GBNT	2500
HDD	Seagate Barracuda 1TB	4200
Monitor	AOC I2251FWE IPS	8000
Graphics Card	None	0
Cabinet	Huntkey T-91	1450
PSU	Corsair VS450	2400
Speaker	Logitech Z313	2540
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Amkette Ash Black (Bundle)	0
Keyboard	Amkette Ash Black (Bundle)	540
Sound Card	None	0
Total		37,220

MID-RANGE COMPACT SYSTEM

Processor	Intel Core i5-3570K	14600
Motherboard	Asrock Z77E-ITX	11000
RAM	Corsair Vengeance 8GB DDR3 1600	5200
HDD	Seagate Barracuda 2 TB	6000
Monitor	Your TV	0
Graphics Card	ASUS GTX 650 Ti Boost 2GB	13900
Cabinet	Cooler Master Elite 120 Advanced	3000
PSU	Cooler Master Thunder 500W	3250
Speaker	None	0
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Microsoft Desktop 2000 wireless combo	1860
Keyboard	Bundled	0
Sound Card	NA	0
Total		59,760

MID-RANGE GAMING

Processor	Intel Core i5-3470	12400
Motherboard	Gigabyte GA-B75M-D3H	4550
RAM	Corsair Vengeance 4 GB	3000
HDD	Toshiba 1TB + Kingston V100 64GB	7200
Monitor	BenQ G2420 HD	10500
Graphics Card	Sapphire HD 7850 OC Edition 2 GB	15500
Cabinet	Antec One - S3	3650
PSU	Corsair GS 600	4900
Speaker	Logitech Z313	2540
Optical Drive	Samsung 22x SATA DVD Writer	950
Mouse	Razer Abyssus (bundled)	2450
Keyboard	Razer Abyssus (Bundled)	0
Sound Card	None	0
Total		67,640

ULTRA HIGH-END GAMING

Processor	Intel Core i7-4770K	23870
Motherboard	ASRock Z87 Extreme4	12570
RAM	Corsair Vengeance 8GB (2x4GB) DDR3 1600	7400
HDD	WD WD30EZRX 3TB + Corsair Neutron 120 GB	15700
Monitor	BenQ XL2420T	23200
Graphics Card	ZOTAC GeForce GTX 780	50500
Cabinet	Cooler Master HAF - XM	10000
PSU	Cooler Master Real Power Pro 850W	11250
Speaker	Logitech Z906 5.1	20000
Optical Drive	LG Blu-ray WH14NS40 RW	7000
Mouse	Roccat Kone XTD	4750
Keyboard	Corsair Vengeance K70	9300
Sound Card	ASUS Xonar Phoebus	11000
Total		2,06,540

Killer Rigs

If you're looking at assembling a PC for you, we have the essentials covered. Take a look at these rigs

Price Watch

This month we give you the prices of laptops, ultrabooks and ultraportables available in the market right now

Home Entertainment Projectors

The best way to take your entertainment quotient to the next level

Agent 001

agent001@thinkdigit.com

In an ideal world, a home entertainment projector is worth investing in if you have a big house with large rooms and a dedicated movie room (if not a mini theatre). Having said that, no one stops you from contemplating a purchase if you need the convenience of a large screen display that your LCD TV just can't provide. I've noticed that the price range of a "basic" 50-inch TV in many cases exceeds the price of a reasonably good home projector. And if you're not particularly a fan of smart, intelligent TVs (that let you surf the Web, play games, support gesture and voice control, and everything that burns a crater-sized hole through your wallet) a projector is something that increasingly starts to make a lot of sense. Like I said, it's great for projecting a large viewable area either on an overhanging screen or directly onto the smooth wall surface – something that TVs can't match – making projectors a worthwhile medium for super-sizing your movies or gaming sessions.


When you go to market to purchase a projector for your home, don't settle for the cheapest one and don't be swayed by the salesman at any electronic store. More likely than not you'll end up buying a simple business projector devoid of any real entertainment fea-

tures that you'd want for your living room. Trust me when I say this that it's one thing reading documents and completely another watching a fast-paced movie off a projector that's not meant for it – it's a painful experience made doubly painful if you paid good money for it. So beware of buying a lemon. Also portable projectors are ok if you travel a lot, but a strict no-no if you're considering them as your primary TV replacement cum entertainment option for home. They simply don't perform as well as I'd want them to.

Now that I've told you what not to do, let's try and focus on what to look for in your quest to buying a good home entertainment projector. If you don't have too much real estate to play with, consider purchasing a ultra short throw projector – they're specifically made to project a 50-inch or greater picture from just a few centimetres away from the screen. Take note, however, that there aren't too many short throw projectors meant for home entertainment use – most are categorized for business use – so if you find one, be prepared to pay a hefty pre-

mium. In my experience, BenQ, Ricoh and Viewsonic's short throw projectors are worth checking out.

As per my observations, 3LCD projectors are slightly better than conventional DLP ones, in terms of overall picture quality. Since 3LCD is patented by Epson, their home entertainment projectors are definitely top notch and worth checking out (but they aren't cheap). At your local Reliance Digital, Croma or Ezone, try playing with Epson's EH-TW series or Viewsonic's Pro series geared for home entertainment. They're pretty good.

3D is slowly coming off age not only in cinema halls and TVs but also in projectors, I've noticed. However, when you purchase a 3D-capable projector, ensure you invest in the requisite 3D glasses. Don't expect a 3D projector to have more than two pairs of glasses. As far as projector screens go, just buy the cheapest one out there – it doesn't really make a huge difference unless you have the eyes of a hawk. I use a basic ₹1,500 white-on-black six feet hanging screen for my movie sessions at home. 





Anonymize BitTorrent traffic

A handy guide to setup a private internet access through a proxy for your download box. Comes in handy. <http://dgit.in/187WODj>



Indian Paypal coming?

Flipkart has begun investing in a new payment processing startup named PayZippy <http://dgit.in/14KvnOM>

Agent 001

Budget smartphone for dad

Dear Team Digit, my father wants to purchase a new mobile phone as his very old and faithful Nokia set is unable to hold up any longer. He is not all fond of too many bells and whistles and treats a mobile phone as a device designed only to 'talk' and do nothing else.

But still his minimum requirements are as follows:

1. Good and sturdy build quality.
2. Touch-screen is preferred although physical keyboard would do if the set is good.
3. Good sound quality (he is quite fond of old songs :-)
4. Good amount of storage.
5. Android is preferred as the OS but other alternatives are also accepted.
6. And finally, a decent camera.

And here's the trick: The budget is ₹10,000. It can be extended by another 2k at max.

Brand preference: Samsung and Nokia.

Abhineet Pratyush

A The one device that fulfils all your requirements is the Nokia Lumia 520. The only catch is that it works on the Windows Phone OS. The build of the phone is good, touchscreen is smooth and responsive (one of the better ones at that price) and the sound is nice as well. It has 8GB storage that can be expanded so the storage shouldn't be a problem. The camera is decent too.

If Android is what you are looking for then you can take a look at the Canvas 2 Plus, Spice Mi515, Xolo Q700 and a few more. Now, these smartphones work well as Android devices, but where you com-



Nokia Lumia 520

promise is with the camera. Despite the camera, these three devices are good.

We would recommend that you take a look at the Lumia 520 as it is a simpler device to navigate. The Android options are good too, with the exception of the camera on them.

Transferring data from your PC on Android and Windows Phone is quite easy, so there should be no trouble there.

Laptop for me, tablet for mom

Hi Digit, I've already surfed through the websites of HP, Dell, Lenovo, etc, and tried to pick a laptop for me but was overwhelmed by the large no. of choices available. I thus seek your help.

My budget is around ₹55,000, and want a good latest laptop. My usage will be mainly college studies and project works, video calling (parents and friends), web surfing and maybe some occasional graphic designing. We saved up a lot for the laptop and I want it to last for at least 4 yrs.

Also I wish to buy my mom a new tablet so that we can stay connected (skype), as we don't have a PC at home. Any of your suggestions will be valuable. Thanks in advance. Will be looking to your reply.

Digit reader

A You have mentioned the budget for the laptop purchase, which is very helpful.

Your first option would be the HP Pavilion m4 priced at Rs. 49,990. You could get it for a couple of grand less at most stores. It has a 14-inch display, an Intel Core i5 processor and 8GB of RAM, Nvidia GeForce 730M (2GB) graphics with a 1TB hard drive. Very slim machine, and would be comfortable for lugging to college everyday and back. What we really love on this is the keyboard, and assuming you will be typing a lot, this is a critical element you should consider (<http://dgit.in/19IeURX>).

Another machine that you could consider is the Lenovo IdeaPad Y500. This is also a fairly slim machine, but we would recommend this in case you need a bigger display - this one has 15.6-inch screen. Very powerful machine - Intel Core i5 processor, 6GB of RAM, NVIDIA GeForce GT645M (2GB) graphics and a 1TB hard

drive. This will also be available around ₹50,000 (<http://dgit.in/10SUyji>).

Regarding that tablet for your mom, since the priority is video calling, you need a tablet with a front facing camera and some average specifications. Our first option here is the Nexus 7 (first gen) priced at ₹13,000 approx. This will give you a good tablet utility apart from working as a good video-calling device. If you are looking for a cheaper option, you can take a look at the Asus MeMo Pad priced at ₹7,999. It has a good touchscreen but the rest of the functions are fairly basic. For the purpose of video calling, these two are good enough.



Cooler Master Notepad U

Laptop heating woes

I've been playing hardcore games like FIFA 13, Mass Effect 3, Dead Space 3 on my 1 year old laptop and as expected it heats up a lot after some interval of time. I fear it might get damaged. So is it necessary to have a laptop cooler while playing these games?? Are they really effective in reducing CPU temperatures?? If yes please suggest me some.

Yash Kher

A Laptop cooling pads help minimize a laptop's processor's operating temperature, up to as much as 10-12 degree Celsius, in our performance tests. At least the good ones do. If you want to buy one, we highly recommend the Cooler Master Notepad U (read review here: <http://dgit.in/JBNRv>), for its versatility and performance benefits. It's not too costly either, if extending the longevity of your gaming laptop matters to you. Apart from this, we'd also recommend keeping your laptop in a cool environment (air conditioned room) to reduce ambient heat surrounding it. **!**



Ubuntu Edge fundraising fails

After raising \$3 million in the first 24 hours nobody would have imagined that the campaign would fail
<http://dgit.in/16Um17L>

Mystery virus linked to bats

The mystery virus that killed a lot of people in Saudi Arabia has been linked to bats
<http://dgit.in/15glQma>

SPEND SMART

This month we take a look at laptops, ultrabooks and ultraportables available for you to purchase in the market.



LAPTOPS

Brand	Model	Display Size (in inches)	Processor	RAM (in GB)	Graphics	OS	Price
Apple	MacBook Pro 15 with Retina	15.4	Intel Core i7-3635QM	8	NVIDIA GeForce GT 650M (1GB)	OS X Mountain Lion	149900
Apple	MacBook Pro 15 with Retina	15.4	Intel Core i7-3740QM	16	NVIDIA GeForce GT 650M (1GB)	OS X Mountain Lion	189900
HP	Pavilion 15-e002au	15.6	AMD Quad-Core A4-5000	8	AMD Radeon HD 8330 (1GB)	Windows 8	32990
HP	Pavilion 15-e018tx	15.6	Intel Core i3-3110M	4	AMD Radeon HD 8670M (2 GB)	Windows 8	37990
HP	Pavilion 14-e006tu	14	Intel Core i5-3230M	4	Intel HD graphics 4000	Windows 8	41990
HP	Pavilion m4-1003tx	14	Intel Core i5-3230M	8	NVIDIA GeForce 730M (2 GB)	Windows 8	51990
HP	ENVY 4-1202tx	14	Intel Core i5-3337U	4	AMD Radeon HD 8750M (2 GB)	Windows 8	56990
Dell	Inspiron 14R	14	Intel Core i3-3227U	4	Nvidia GeForce GT730M (2GB)	Windows 8	43490
Dell	Inspiron 15R	15.6	Intel Core i3-3227U	6	Intel HD graphics 4000	Windows 8	42190
Dell	Inspiron 15R	15.6	Intel Core i5-3337U	6	AMD Radeon HD 8730M (2GB)	Windows 8	51590
Lenovo	IdeaPad Y500 (59-346619)	15.6	Intel Core i7-3632QM	8	Nvidia GeForce GT650M (2GB)	Windows 8	70790
Lenovo	IdeaPad Z500 (59-341235)	15.6	Intel Core i5-3210M	6	Nvidia GeForce GT645M (2GB)	Windows 8	53990
Sony	Vaio Fit 14 SVF14218SNB	14	Intel Core i5-3337U	4	NVIDIA GeForce GT 740M (2GB)	Windows 8	45990
Sony	Vaio Fit 15 SVF15218SNB	15.5	Intel Core i5-3337U	4	NVIDIA GeForce GT 740M (2GB)	Windows 8	46990
Sony	Vaio Fit 15 SVF15219SNB	15.5	Intel Core i5-3337U	4	NVIDIA GeForce GT 740M (2GB)	Windows 8	59990
Sony	Vaio S SVS13126PNB	13.3	Intel Core i5-3210M	4	NVIDIA GeForce GT 640M	Windows 8	69990
Alienware	Alienware 14	14	Intel Core i7-4700MQ	8	NVIDIA GeForce GT 750M (1GB)	Windows 8	111490
Alienware	Alienware 14	14	Intel Core i7-4800MQ	16	NVIDIA GeForce GTX 765M (2GB)	Windows 8	140490
Alienware	Alienware 17	17.3	Intel Core i7-4700MQ	8	NVIDIA GeForce GTX 765M (2GB)	Windows 8	132490
Alienware	Alienware 17	17.3	Intel Core i7-4700MQ	16	NVIDIA GeForce GTX 770M (2GB)	Windows 8	176490
Samsung	NP550P5C-S04IN	15.6	Intel Core i5-3210M	6	NVIDIA GeForce GT 650M (2GB)	Windows 8	56500



Makerbot Digitizer

The folks behind Makerbot have come up with a digitizer for capturing the 3D profiles of objects <http://dgit.in/14KgDzt>



World's most precise clock

This clock – if you can call it that – predicts time accurately down to the hundred trillionth second. <http://dgit.in/1bZVSFp>

Price Watch



ULTRABOOKS & ULTRAPORTABLES

Brand	Model	Display Size (in inches)	Processor	RAM (in GB)	Graphics	OS	Price
HP	Pavilion TouchSmart 11-e006au	11.6	AMD Dual-Core A4-1250 APU	4	AMD Radeon HD 8210	Windows 8	31990
HP	Pavilion TouchSmart 14	14	Intel Core i3-2375M	4	Intel HD 3000	Windows 8	39990
HP	Pavilion TouchSmart 14	14	Intel Core i5-3337U	4	NVIDIA GeForce GT 630M (1GB)	Windows 8	49990
HP	Spectre XT	14	Intel Core i5-3317U	4	Intel HD Graphics 4000	Windows 7	59990
HP	ENVY TouchSmart 4	14	Intel Core i5-3337U	4	Intel HD Graphics 4000	Windows 8	59990
Dell	Inspiron 14z	14	Intel Core i3-3217U	4	AMD Radeon HD 7570M	Windows 8	47790
Dell	Inspiron 15z	15	Intel Core i5-3337U	4	NVIDIA GeForce GT 630M (2GB)	Windows 8	55990
Dell	Inspiron 15z with Touch	15	Intel Core i5-3337U	6	Intel HD Graphics 4000	Windows 8	65190
Dell	Inspiron 15z with Touch	15	Intel Core i7-3537U	8	NVIDIA GeForce GT 630M (2GB)	Windows 8	79490
Dell	XPS 12	12.5	Intel Core i5-3337U	4	Intel HD Graphics 4000	Windows 8	87490
Dell	XPS 12	12.5	Intel Core i7-3537U	8	Intel HD Graphics 4000	Windows 8	105490
Dell	XPS 13	13.3	Intel Core i7-3537U	8	Intel HD Graphics 4000	Windows 8	107490
Asus	Taichi 21-DH51	11.6 dual	Intel Core i5-3317U	4	Intel HD Graphics 4000	Windows 8	1,08,000
Asus	Taichi 31-DH71	13.3 dual	Intel Core i7 3517U	4	Intel HD Graphics 4000	Windows 8	139999
Asus	VivoBook F202E-CT148H	11.6	Intel Core i3-3217U	4	Intel HD Graphics 4000	Windows 8	35500
Asus	S550CM-CJ054H	15.5	Intel Core i5-3317U	4	NVIDIA GeForce GT 635M (2GB)	Windows 8	57999
Asus	S400CA	14	Intel Core i7 3517U	4	Intel HD Graphics 4000	Windows 8	59999
Lenovo	IdeaPad U310	13.3	Intel Core i5-3317U	4	Intel HD Graphics 4000	Windows 7	55990
Lenovo	IdeaPad U410	14	Intel Core i7 3517U	4	NVIDIA GeForce GT 610M (1GB)	Windows 7	63990
Lenovo	IdeaPad U510	15.6	Intel Core i5-3317U	4	NVIDIA GeForce GT 625M (1GB)	Windows 8	67490
Lenovo	IdeaPad Yoga 11	11.6	Nvidia Tegra T30	2	Nvidia ULP GeForce	Windows RT	49990
Lenovo	IdeaPad Yoga 13	13.3	Intel Core i5-3317U	4	Intel HD Graphics 4000	Windows 8	84290
Sony	Vaio Pro 11 SVP11213SNBI	11.6	Intel Core i5-4200U	4	Intel HD 4400	Windows 8	69990
Sony	Vaio Pro 13 SVP1321WSNB	13.3	Intel Core i5-4200U	4	Intel HD 4400	Windows 8	74990
Sony	Vaio Z SVZ13115GNXI	13.1	Intel Core i7-3612QM	8	Intel HD Graphics 4000	Windows 7	179900
Toshiba	Satellite U840W-X0310	14.4	Intel Core i5-3317U	6	Intel HD Graphics 4000	Windows 8	63500
Toshiba	Satellite Satellite 940X0110	14	Intel Core i5-3317U	4	Intel HD Graphics 4000	Windows 8	51890
Samsung	Series 5 NP530U4C-S04IN	14	Intel Core i3-3217U	4	NVIDIA GeForce GT 620M (1GB)	Windows 8	47700
Samsung	Series 5 NP530U4C-S03IN	14	Intel Core i5-3317U	6	NVIDIA GeForce GT 620M (1GB)	Windows 8	58800
Samsung	Series 5 NP540U3C-A01IN	13.3	Intel Core i5-3317U	8	Intel HD Graphics 4000	Windows 8	63300
Samsung	Series 9 NP900X3C-A02IN	13.3	Intel Core i7-3517U	4	Intel HD Graphics 4000	Windows 8	100000
Samsung	Series 9 NP900X4C-A01IN	15	Intel Core i7-3517U	8	Intel HD Graphics 4000	Windows 8	105500
Acer	Aspire S7-391C	13.3	Intel Core i5-3337U	4	Intel HD Graphics 4000	Windows 8	91290
Apple	MacBook Air 11	11.6	Intel Core i5-4250	4	Intel HD 5000	OS X	67900
Apple	MacBook Air 13	13.3	Intel Core i5-4250	4	Intel HD 5000	OS X	74900
Apple	MacBook Pro 13 with Retina	13.3	Intel Core i5	8	Intel HD 4000	OS X	99900

Work@tech

Find out what it takes to make or break a career in software testing

Flip. Read. Now.

Two weeks since Flipboard introduced its new magazine feature, its readers have already created over 500,000 publications

**SMARTER SURFACES:**

A smarter way to do business?

It's an interactive world out there. How do you use that to better your enterprise?

Anirudh Regidi

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We live in a world where we're using gestures everywhere. Where touch-screens were only in the realm of the geek, they're now part and parcel of our lives and aged grandmothers pinch-to-zoom just as easily as toddlers thanks to the plethora of smartphones and tablets that have permeated our lives. So much so in fact that traditional buttons and switches don't seem to cut it anymore.

As a company, you can take advantage of this fact, the gesture-ready human race, and leverage it to your advantage. There are many companies and organizations that provide services that will allow you to create

a custom, gesture-based interactive environment for you to best showcase your work and/or draw customers in. In fact, you don't even need to rely on someone else to do it for you, with a bit of patience, a bit of cash and some intelligent use of yours (or someone else's) programming skills, you can create your very own gesture-ready display.

How do these "interactive surfaces" work?

Anywhere. Most commercial implementations of this technology involve the use of projectors and Kinect style sensors or infra-red cameras to capture and interpret gestures and other movement. The technology involved is very simple, off-the-shelf components will easily suffice. You essentially have a projector that

projects the graphics onto a surface of your choice (a glass surface, a wall or a floor) and a sensor unit that usually comprises of infra-red LEDs and a sensor. The setup will be hooked up to a PC, you don't need a fancy one, and the requisite software will manage the whole thing for you. As long as you have a surface to project on and the sensor can see that surface, you can create an interactive surface.

The problem is in implementing the system for yourself as there would be quite a bit of image processing (IP) knowledge involved. Companies that provide this service are almost always using the same type of tech to create that surface, though the design may vary slightly, and then leverage their experience in IP and app design to create a solution that suits your needs.

New York Times turns around

The NYT now allows free viewing of its videos, a big step considering it is known for keeping news behind a defined paywall



Shh!

Want to know how the Spy Satellite Program was built? Be careful though – the CIA is onto you. <http://dgit.in/Z0kyIH>

Smart SoHo

Why bother?

Apart from the fact that interactive surfaces look cool, or rather because of it, they tend to draw attention. You can setup interactive exhibitions for your products, 3D models that people can interact with for example, and various other implementations. It can be something as simple as an entertainment zone for kids in your restaurant or commercial institution of some sort. People will tend to interact with those surface, and inadvertently your product, simply because they're curious and because it's a novel experience. Interactive billboards are a huge crowd pleaser as well and implementing them is not as difficult as you might think.

Schools can also use this technology to their advantage as a teaching aid of sorts (<http://dgit.in/NS4zWH>), not to mention hospitals and other such similar institutions. It need not be that smart surfaces have to be used only for advertising, maybe they're the best way to showcase your product. The technology is available and it's only your imagination that is the limiting factor.

Offices can make use of the technology as well, as a digital drawing board if you will. Of course, it can be considered more of an indulgence in such a scenario and it probably is, but hey, it might get more people to enter the conference room and actually contribute.

Now that you've got a rudimentary idea as to what goes into the creation of smart surfaces and what you can do with the tech, here's a roundup of some of the companies that offer such services.

TouchMagix

TouchMagix is a Pune based company that offers various interactive solutions to customers. These include the following:-

- **TouchMagix Interactive Wall and Floor:** These are essentially the same, it's just that in once case you have a projector aimed at a wall and in the other, a projector aimed at the floor. The software involved can, of course, differentiate between hands and feet, depending on the orientation.
- **TouchMagix Table and Kiosk:** These are also the same, almost. One is a table and the other a kiosk but the tech involved is identical. Both use LCD TVs or screens of any sort that are embedded in a frame that

uses infra-red beams to detect up to 40 touch points.

- **TouchMagix Phone:** This is an interesting interactive solution that can get people to interact with a display via SMS. It can be something as simple as some sort of voting system at the waiting line at a counter to something that can be used in theatres to say, vote on movies.
- **Custom solutions:** The Company also provides custom solutions for your interactive surface needs; they're backed by a team of designers and programmers who can create what you need.

We visited the company's offices in Pune and got a chance to interact with many of the interactive solutions that they've developed and we've come back impressed with the fluidity of the interfaces as well as the ease with which the systems can be implemented. For all those who're curious about their work and what we saw, don't forget to check out our Alpha DVD this month where we've included the videos that we shot there.

The company has a vast portfolio and have worked with many large corporations in India and abroad and include clients such as AT&T, McDonalds, Nokia, Intel, IBM, etc. They can be contacted at <http://www.touchmagix.com/>



Anup Tapadia, founder of TouchMagix demonstrating the TouchMagix table

Ubi-Interactive

Ubi-interactive's solution for the creation of smart surfaces is interesting. They've taken Microsoft's Kinect sensor and essentially implemented the same gestures and responsiveness that you would expect from an Xbox360 with Kinect and allows you to use it on any Windows-based PC. The advantage here is that you can project that screen anywhere and still have fully-functional gestures.

At \$1500 for a 20 touch point implementation, setting up a system is expensive, but cheaper than many other enterprise level solutions that we've seen. Also, the fact that there is no custom hardware involved means that getting spare parts is easy.

Full details are available at: <http://www.ubi-interactive.com/>

DIY Solutions

Setting up a smart surface need not be a ridiculously expensive project, especially if it's just for setting up a small, elegant solution for a restricted audience. There are plenty of tools and resources online that can get you started.

Atlas Gloves

This is a very simple DIY solution that anyone with a PC and `50 to spare can implement. Just head to <http://atlasgloves.org> and go through the site. They've provided the source code as well as instructions to build your own gloves from scratch.

The project might seem very basic on the surface and you're only restricted to one app (Google Earth) as a demo, but, with some rudimentary programming skills and some degree of determination, you can take the basic concept and source code to create almost any kind of responsive display that you like.

Intel

Intel has provided the so-called "Creative Interactive Gesture Camera Development Kit." The kit consists of a 3D camera (a slightly more complex webcam with two lenses instead of one) and support via the Intel SDK to get any developer started on the development. The camera and software can recognize simple gestures out of the box.

You can purchase the kit for yourself at <http://dgit.in/152jJy4>



Ben Affleck next Batman

That's right. Warner Bros. has confirmed their choice for the next flick in 2015. Surprised? <http://dgit.in/1dyQ3Aj>

New drug mimics exercise

A drug known as SR9009, currently being developed at Scripps Research Institute can make you enjoy the benefits of exercise <http://dgit.in/19Bsogq>

Our Opera moment

One of the stalwarts of the browser world, Opera holds a special place among power users. The browser has undergone many transformations recently, and to catch up on the latest and greatest from Opera, we had a chat with **Sebastian Baberowski, Product Management Director (Desktop), Opera Software**. Following is an excerpt from our exclusive interview:

Jayesh Shinde

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1 For anyone not using Opera browser right now, what would be the most compelling reason for them to switch to Opera?

So Opera is now lighter with our compact source which is one of the reasons and we also have the main features, which are speed dial, we group tasks (which is a completely new idea and I think it's quite great) and discover. We are switching from webkit to whole new engine and our goal is to have more time to focus on the really cool things, cool features for our users to really help them in their daily work. So over the time I expect that we will have a lot more of the great features and hope that we will continue to do what Opera did in the past. If you look at the current browsers, whatever browsers you want to look at like IE, Chrome, Safari and Firefox. The main functionality of those browsers are taken from Opera, so we were the first browser with an ad blocker, integrated search and speed dial. So we simply want to continue doing that and we want to be the leader in the innovation of browser technology.

1 Would you elaborate more about Opera 15's "Discovery mode"?

We have a dedicated engineering team for making that feature as it is still evolving and we are looking to adding a few more things. Our marketing and PR teams around the globe points us to the right content, from the tech point of view it is quite a good feature, and we constantly look for duplicates. For example, when the new pope was elected, there was a lot of content to catch on because every portal was saying the same about the new and old pope. Our team was happy trying to



Sebastian Baberowski, Product MD (Desktop), Opera Software

look for original content source and eliminating duplicates.

1 Opera's had issues with Google services in the past, they don't work as well as on Chrome, for e.g. Any particular reason why this seems to be happening?

I'm happy to report that we don't have these issues on Opera 15 because we now use the same engine as Chrome (Chromium and WebKit) so all services should work as normal and this also is a big reason for us to switch from our old engine (Presto) which used to have problems rendering those pages because we were the only browser using that engine and it is not accurate. So yeah, I can tell you that we used to have those issues and now that we don't have them anymore.

1 You mentioned briefly about how Opera has been pioneering tech that other browsers have duplicated. Can you talk about

them and other aspects that make Opera better than most browsers on the market?

So yeah I think that I said about a few features that we have now, and also about the features which we are about to include like Opera Sync (for syncing things) which is not a new feature since it is already present in Firefox and Chrome. But we are going to continue in that market and get on to cloud for the browser. We are really doing some research and spending a lot of time in the human interaction design and UI design and so on to make this browser really cool and really usable. Unlike Mozilla, Google or Apple, we are mainly a browser company and focusing more on those areas than other companies do.

1 So who do you think is Opera's core audience, is it geek users or the masses?

We were just working on targeting the browser and so on. Currently I can tell you that we have a lot of geeky users, it's nothing new. I think for the new Opera, Opera 15, the target user is one who wants to have a choice. It's not like for the masses because we don't have geek marketing forces that Google has and so on. I think, not technical but a user who wants to have a choice who can choose intentionally and download and use us. Then recommend to other fans.

1 So from Opera 15 the geekiness of the browser is reducing?

So the idea behind Opera 15 is to have a browser which feels good for the power users. So we want to have powerful browser which can please the power users but we also want a browser that can be user by normal users and not just geeky users. This is quite a hard task to do, you know join those things, but so far I think we are good at that and we are progressing well. **1**



NASA releases Europa wishlist

As it gears up to launch a mission to Jupiter's icy moon, NASA has made public a list of fancy gear it wants to take to Europa <http://dgit.in/19Buv3m>

Yahoo mail shuts in China

Yahoo's email service in China is shut down and it has asked users to transfer accounts to Alibaba's Alimail. Read more here: <http://dgit.in/1d8ePcL>

Memory matters

Who hasn't heard of Kingston memory and storage devices? Undoubtedly, a lot of us here in India have. Probably that's why duplicate or fake products bearing a close resemblance to Kingston drives have flooded the markets, recently. We interact with **Vishal Parekh, Marketing Director - India, Kingston Technology**, and find out how the company's dealing with this specific problem, and other product highlights in an exclusive interview. Excerpts follow:

Jayesh Shinde

jayesh.shinde@thinkdigit.com

Q Apart from the HyperX 3K (and its various capacities), there isn't any other model in the Enthusiast SSD lineup. With competition having a diverse range in the enthusiast segment, why does Kingston not have variety there?

Kingston chooses not to focus on any specified consumer groups, and we don't really believe in following trends set by our competitors. Instead, we have a range of SSD in different segments – from enterprise to enthusiast. You shall notice that Kingston always has something to offer various users. We put a lot of efforts into different products for different consumers, and we believe we have an impressive variety of SSD. For instance, the V300 is for regular consumers, the HyperX 3K ones are for enthusiasts, and the E100 SSD is for enterprises. One thing that's for sure, however, is that all our SSD have excellent quality, high speed, and great performance.

Q We are seeing newer players in the SSD controller segment recently. Does Kingston have any plans to move away from the SandForce controller in the near future?

No, we don't have any plans at the moment to move away from the SandForce controller.

Q The HyperX RAM lineup is quite interesting, Could you give us an idea of the adoption rate of enthusiast RAM, as in what

percentage of RAM sales includes HyperX RAM in India?

Yes, our HyperX memory modules are available in various designs and specifications, which make them ideal for the gaming and enthusiast segment. You'll find modules for home theatre systems, gaming rigs and overclockers in the HyperX range. In fact, HyperX is our most premium line of products and are immensely popular across the globe. India is no exception, as HyperX have always been popular among gamers and enthusiasts, especially HyperX blu. Kingston will focus on researching and continue bringing the high-performance memory products into the Indian market to fulfill consumers need.

Q Could you tell us about your Data Traveler encrypted pen drives and its security features?

Kingston's range of encrypted, secure flash drives provide the highest level of data protection that meets specific agency directives like TAA and FIPS compliance and are ideal for corporates or government use. We have 6 varieties of secure USB flash drives and in various capacities. While each of the flash drives is unique, the qualities they have in common are that they are durable, waterproof, easy to use, have hardware-based encryption, and come with a five year warranty. The hardware based encryption makes these flash drives a better option over the software based ones.



Vishal Parekh, Marketing Director - India, Kingston Technology

Q What is Kingston doing about the 'fake Kingston pen drives' being sold on the streets in Mumbai and other places? These drives offer huge capacities at lower prices and they come with the Kingston branding.

The concern around fake pen drives is more of a law-and-order situation in the country. What we are doing right now is to create awareness about purchasing genuine Kingston products through authorized distribution channel and dealers. Through our channel partners' initiatives, social media, and EDMs, we keep consumers informed about the benefits purchasing from authorized distribution. Consumers can also visit our website to verify if the Kingston product they've purchased is authentic. (http://www.kingston.com/en/support/product_verification)

Q At CES you showcased a first-of-its-kind 1TB pen drive. Was that just a proof-of-concept or do you actually expect demand for pen drives with hundreds of gigabytes of storage to increase?

We realize that the 1TB capacity flash drive will attract a group of more niche, enthusiastic consumers. But we do believe that in time, the demand for high performance flash drives with greater capacities will increase. **Q**



Download iOS 7

Can't wait to test drive Apple's new OS on your iPhone or iPad? With the following steps, you most certainly will <http://dgit.in/1907ldK>



Xbox at Gamescom 2013

Engadget previews what Xbox has to offer at this year's Gamescom gaming convention. Read on <http://dgit.in/1d8gHSM>

What makes GIGABYTE tick

To better understand some of the technical wizardry employed on their motherboards and future product plans, we got insights from **Colin Brix, Technical Marketing Director, GIGABYTE**. Excerpts from our interview:

Jayesh Shinde

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1 What unique new tech is Gigabyte packing into its 8 series motherboards?

For our 8 series motherboards, we have three main product segments including Gaming, Overclocking and Performance motherboards and we have added quite a few new features for each. For Gaming we are the first motherboard to include an onboard OP-AMP socket as well as Creative Sound Core3D, gold plated audio jacks, Killer + Intel dual LAN and a new water block + fan heatsink design. For our overclocking motherboards, our overclocker HiCookie has added a bunch of new features including GIGABYTE OC Ignition, OC Brace, OC Touch hardware overclocking buttons and gold plating for the power connectors, the PCIe slots, memory slots as well as the CPU socket.

2 With the 8 series motherboards, Gigabyte's introducing UD5 Plus for the first time. What's its significance?

GIGABYTE Ultra Durable 5 Plus debuts on GIGABYTE 8 Series motherboards, with a range of features and component choices that provide record-breaking performance, cool and efficient operation and extended motherboard lifespan. Some of the key Ultra Durable 5 Plus features include

1. Industry-leading PWM controllers and PowIRstage ICs from International Rectifier. These components are 100% digital, offering incredible precision in delivering power of the 4th Generation Intel processors.
2. All New Heat Sink Design offering uncompromisingly efficient cooling on key areas of the motherboard including the PWM area and chipset.
3. GIGABYTE UEFI DualBIOS : GIGABYTE DualBIOS provides a 'Main



Colin Brix, Technical Marketing Director, GIGABYTE

BIOS' and a 'Backup BIOS', making users protected from BIOS failure due to virus attack, hardware malfunction, improper OC settings or power failure during the update process.

4. Ultra USB3+ packs up to 10 USB 3.0 ports per board. Each of these 10 USB 3.0 ports are also provided with a dedicated fuse, ensuring that an unexpected malfunction on one port, will affect only that port, isolating potential damage and protecting other connected devices.

3 In the 8 series of motherboards, Gigabyte seems to have focused a lot of attention on audio implementation. Why is that? Can you also explain the audio tech deployed on your latest Z87 boards in detail? Do you think in a market like India such DIY mobo technology will take off?

We were the first motherboard manufacturer to put Creative's digital SoundBlaster processor on our first G1.Killer motherboards and now you see other companies doing the same. This genera-

tion we had added the Creative Sound Core3D as well as a new feature called GIGABYTE AMP-UP, which as you mentioned, is the world's first motherboard OP-Amp socket, allowing enthusiasts to swap out the motherboard's onboard operational amplifier (Op Amp) using a range of nuanced OP Amps available on the market.

We've already had quite a lot of positive feedback from our Indian customers for this feature, as not only are they able to customize their onboard audio experience for the first time, but it is also a relatively cost effective way to get a huge improvement in sound quality, without having to go out and buy really expensive high-end speakers or cables.

4 Gigabyte's boards are known for durability. Can you give us an insight into some of your testing (or R&D) methodologies that help ensure Gigabyte's motherboards deliver on their promise of durability?

The first step in ensuring the quality of our motherboards is to make sure that we use only the highest quality components for our design. This is especially important for the power delivery to the CPU and that is why every year we add a new Ultra Durable technology to our motherboards. From there, we build several stages of development boards that are rigorously tested for everything from audio quality to mechanical drop tests to see how the board will fare during transportation. We also send our motherboards to certified 3rd party testing companies to make sure our boards comply with all global regulations. Once the boards enter the manufacturing stage, every single board is tested multiple times throughout the manufacturing process to ensure our customers new motherboard will work from the day they open their box, to the day they decide to upgrade it. 



LG's new display

LG is working on a 5.5-inch AH-IPS display for mobile phones with a resolution of 2560x1440 pixels. <http://dgit.in/13QRmDm>

WP8 gets Bing Apps

Microsoft has launched a set of Bing Apps for WP8 including News, Sports, Weather and Finance. <http://dgit.in/1eukJ8z>

Indie-pendence

The high, the lows and the promises of life as an indie developer

Nikhil Pradhan

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With the explosive growth of smartphones and tablets, app development is no longer a hobby but a viable career choice. We speak to four promising independent developers, who've all witnessed varying amounts of success, about what it means to be an indie developer and what people looking to join the ranks should know.

The line-up: Sreekanth Sastry

Sreekanth, a Bangalore resident, is a software professional with a history of working with startups and established companies. He has now started Antara-jaal, a company developing vernacular lifestyle mobile apps for iOS and Android. He is behind 'Situational Gita', an app that recently broke into the Top 10 paid apps list on the Indian iTunes App Store.

Nirmit Gauravbhai Kavaiya

Nirmit, a 22 year old resident of Rajkot, has been working on and developing apps for Windows Phone and Windows for three years. He has so far published close to twenty apps, out of which Ludo, a free app for Windows 8 has been downloaded by over 50,000 users in nine months.

Raja & Shanthi

Raja and Shanthi are a husband-wife duo from Chennai who used to work in the



VFX industry but now have their own company- WapleStuff- that publishes apps for iOS. Their first app, Pick- The Purchase Tracker, has been downloaded by over 1,14,000 iOS users across the world and was also featured by Apple in the 'Apps for Shopping' and 'Shopping Assistants' sections in the US App Store.

Rahul Mathur

The youngest of the lot at 21 years, Rahul develops for Windows Phone and is cur-

rently interning with the Walt Disney Company in Mumbai. He is responsible for the WP app, Instant Access that has been downloaded over 20,000 times.

Now that you're familiar with them, here's what they had to say about life as an indie developer:

On choosing to become an indie developer

Sreekanth, Raja and Shanthi said their decision was based on their excitement at the potential of mobile apps and how they were connecting with users at a personal level and changing lives at the ground level on a day to day basis.

Nirmit and Rahul were more pragmatic with Nirmit looking at earning some money and strengthening his resume by developing apps. Rahul came from a coding background and then joined the Microsoft Student Partner program, following which he realised that the WP App Store was anemic and decided to make apps for it.

On picking the ecosystems to develop for

Sreekanth started developing first for iOS because of its simplicity and ease of testing. However, he soon recognised



Sreekanth Sastry



Nirmit Gauravbhai Kavaiya



Raja & Shanthi



Brain cells for navigation

American researchers have discovered a new type of human brain cells that help in navigating unfamiliar environments. <http://digit.in/15jdeqt>

New Dragon Age game delayed

Dragon Age: Inquisition, the upcoming Bioware RPG has been delayed so that the developers could add multiple playable races to the game. <http://digit.in/19IXdCT>



Rahul Mathur

the numbers behind Android and began developing for it as well. Nimit exploited his background in Microsoft .Net and developing software for Windows and Windows Mobile to move on to Windows Phone and Windows 8.

Raja and Shanti picked iOS because the iPhone was the first smartphone they used and they “fell in love with it.” They also preferred the iOS audience who were more likely to spend on an app. Rahul saw the potential of Windows Phone and the convergent future that Microsoft has promised with Windows 8 and Windows Phone 8.

On what were the biggest pitfalls of working as an independent developer

All five had different experiences to share from their time as indie developers. For Sreekanth, the biggest drawback is the absence of a team and the relationships you develop when working with a team. Rahul revealed that another drawback of working as a solo developer was that he didn't have a second/third-party whose experience he could count on, especially with respect to things he wasn't so great at like design. Nimit pointed to the difficulty in getting freelance projects as an indie developer especially without a strong portfolio and experience, both of which take time to build upon.

Raja and Shanti made an interesting observation about how developers expect their work to end when the app is com-

plete. However, through their experience, they realised that without a marketing plan, their app got lost in the crowd, especially one as huge as the one in the Apple App Store. They stressed on the importance of things like building a dedicated website, creating demo videos of the app, reaching out to review sites and even making the app free for a limited time to generate buzz, in order to get the kind of download numbers that stand out.

On whether life as an independent developer provides financial stability

Sreekanth said that a developer working on services can expect a semblance of financial stability by pursuing multiple projects that can generate consistent cash flow. However, developing products (read: individual apps) is risky and all the developer can hope is for the product to be noticed by a large number of users and generate some cash.

Nimit stressed on choosing the right platform to ensure quick monetization for apps. However, where platforms like iOS and Android may seem like they would be easier to make money off, even a burgeoning platform like Windows Phone

could be monetized by someone with patience and a good sense of what works and what doesn't. Raja and Shanti had a similar outlook and revealed that they were making little money before their app was featured by Apple.

Their advice

Sreekanth said that he believes that aspiring developers have a wide gamut of options and it's not necessary for an independent developer to produce their own apps. Instead they could also work as consultants and work on app ideas of other people. He added that while developing apps on your own is a risk, the huge number of smartphone users out there means that there are plenty of investment opportunities and users to target.

Rahul emphasised on the importance of coding and comprehending your own code. He said that every developer should enjoy debugging their apps and pushing them towards perfection. He added that developers should participate in forums and discussions and not be afraid of asking questions, even the simplest ones, in order to improve their own understanding of the field.

Nimit's advice to aspiring developers was to start immediately and allot daily time to work on ideas and apps. Like Rahul, he focused on the importance of feedback and the need to open up to suggestions, in order to help to develop confidence in your own work. Raja and Shanti also talked about having confidence in the products you create but to be prepared for the fact that there was no 'easy money' in app development. To garner success, Raja and Shanti said that developers need to be willing work very hard and put maximum effort into every single app they create.

If given the choice, would they work for a development firm or continue as indie developers

Nimit, Sreekanth, Raja and Shanti were all happy in their current profiles as independent developers. Nimit felt very strongly about the fact that he wouldn't fit into a 9 to 6 job in a development firm. He revealed that he codes during the weekends and sometimes pulls all-nighters when working on something exciting,

TOTAL ITEMS : 5			
Jean			
ORIGINAL PRICE	DISCOUNT		
\$ 25.00	\$ 12.50		25%
OFFER PRICE	QTY		
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Beats Solo HD Headphone			
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OFFER PRICE	QTY		
\$ 179.96	1		\$ 179.96
AppleCare+ for iPhone			
ORIGINAL PRICE	DISCOUNT		
\$ 99.00	NIL		NO OFFER
OFFER PRICE	QTY		
\$ 99.00	1		\$ 99.00
iPhone			
ORIGINAL PRICE	DISCOUNT		
\$ 85.68	NIL		NO OFFER
TAX			\$ 85.68
			14
			\$ 1,051.
ON <input type="checkbox"/> INCLUDE TAX OF 8.875%			
TOTAL DISCOUNT \$ 32.50			



New traffic control

C-DAC has developed WiTraC, India's first wireless traffic control system that will run on solar power. <http://dgit.in/1593SSq>



UK to ban small mobiles

The UK government is mulling over plans to ban small form factor phones to prevent prisoners from getting them <http://dgit.in/17PIIre>

Work@Tech

THE STORIES BEHIND THEIR APPS

Sreekanth Sastry on Situational Gita (iOS/Android): The intent behind the app was simple - can we present the answers from the Bhagavad Gita in a new format that people can relate to in an obvious way, and can we match learning to day-to-day situations? Dr. Dinesh Anvekar who has devoted many years to the study of Bhagavad Gita helped us in this effort.

We wanted to be different from the rest of the "Gita" apps so we based the navigation on categories. We thought that would help users easily identify with their situations and quickly dive into sections they were interested in.

Rahul Mathur on Instant Access (WP): It took me a week to learn about the SDK, brush my C# skills and in another week the application was up in the marketplace. The feedback was incredible- I would get mail from several people every week telling me how useful it was. I found out that Microsoft employees were using that app too but the best part was noticing a random person in a restaurant using my app.

The whole 'post-publishing' scene was such an amazing inspiration for me to develop more applications. Instant Access isn't my most downloaded app and is one of the simplest apps I have ever written but definitely the one I am particularly proud of because it ended up giving me a head start that I required at that point.

Nirmit Kavaiya on Ludo (Windows 8): I developed Ludo for Windows 8 last year after attending a coding hackathon organized by Microsoft in Pune. I was already developing Apps for Windows Phone, so I was quite familiar with the new features added to Windows 8. I learnt the new APIs, UI guidelines and completed Ludo in 20 days and got it approved from Microsoft.

Ludo is a free ad-supported app and has an average rating of 4.5 stars since its launch nine months ago. The in-app ads are only available in the U.S. and some European countries and I get a payout of ₹2,000 per month. That is a very small amount but, I'm working on some more features for the game like Board themes, 3D Dice, etc. and they will be available via In-App purchases so I'll be able to get more revenue from the game.

Raja & Shanti on Pick - The Purchase Tracker (iOS): The Idea for this app came to us when we took a trip to Europe last year during Christmas and shopped quite a bit. We started the development process by deciding on the core functionalities and use-case scenarios of the app.

We decided the app would do quick currency conversions, percentage calculations and keep a track of spending. The app would be targeting shoppers and travellers and would be optimized for single hand use (because shoppers will most likely have their shopping bags in one hand). The app would also need a simple and bright colour palette.

For version 1.x, we wanted to develop the core functionality of the App with a simple and intuitive user experience. Our intention was not to overload the user with "features", just to keep the App simple. Since launch, we've received a lot of positive feedback and we are gradually implementing new features.

something he wouldn't be able to do at a development firm.

Sreekanth stated that he wanted to stay away from working in bigger organizations as people there tended to have responsibilities but without the corresponding authority. Conversely, as an independent developer, he was glad to have the responsibility and authority to decide on a product plan. Raja and Shanti said that they too were happy as independent developers but were open to the idea of collaborating with others to work on projects.

If given the chance, Rahul said that he would love to work in a development firm as it would give him the freedom to simply focus on what he was good at and not be distracted by things like design, publishing and monetization. He


added that he would like to gain experience in a firm and then return to indie development in the future with a better skill-set.

On where they see themselves five years in the future

Sreekanth: "I see Antarjaal with a rich portfolio of apps that have a cumulative download count of at least a million."

Rahul: "Hopefully sipping coffee with Elon Musk and heading a product in the right direction!"

Nirmit: "Working in a small start-up of my own with small team of people passionate about creating great Apps for whichever ecosystem they're targeting."

Raja and Shanti: "Sitting in front of a Mac, creating apps with the focus same as now." 



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Community

Check out what our Digit Squad members churned out this month including the XOLO Q800 and more

Digit101

A non-photographer's complete guide to the jargon that's involved in photographers l33t speak

Of accidental inventions

If you thought all the invented wonders of our world were thanks to the efforts of thousands of man hours spent closeted inside a science lab somewhere, you couldn't be more wrong. Well, not all of them, at least. A few inventions happened by pure accident. Or was it aliens?

**Saccharin**

One can be forgiven to think that this sweet sugar substitute was invented by a diabetic. Instead it was chanced upon by a chemist experimenting on coal-tar derivatives – hardly an appetizing topic. An experimental compound spilled on his hand made everything he ate taste sweet that day. It made him think and retrace his steps. The rest is history.

Viagra

Viagra's remarkable invention was spearheaded by a *common side-effect* noticed while testing Pfizer's drug on high blood pressure and a heart condition. The pharmaceutical firm instead of ignoring this *common complaint*, seized on the opportunity to explore a whole new market. Men all over can't thank them enough. Probably women too.

**Microwave oven**

It would sound a little absurd that the first microwave oven was an accidental invention triggered by a magnetron (instrument to power radars) inspection. But when a candy bar melted in Percy Spencer's trouser pocket, while standing next to a magnetron, he studied the effects of microwave. And got the brainwave for a kitchen appliance.

**Potato chips**

Believe it or not but the very first potato chips ever made were meant to be an insult. As the story goes, in 1853, a cranky guest complained about a chef's soggy fried potato slices. The chef decided to get back at the customer by slicing the next batch of potatoes paper-thin, frying them to a crisp and sprinkling too much salt. But the customer loved it. History!

X-rays

Wilhelm Röntgen was dabbling with cathode-ray tubes, but despite covering it with cardboard he found a chemical glowing near the machine. How can this be when it's fully covered and no light escaped? As we've all read in our school science text books, Röntgen named these mysterious waves as X-rays and they've been immensely useful in medicine.

**Popsicle**

Ah, sweet summer delight. While popsicles are synonymous with summer days, they were actually chanced upon by an 11-year-old boy who forgot his fruit-flavoured soda in a cup with a stirring stick outside his house in the middle of winter. When he saw what his drink had transformed into the next morning, a whole new ice addiction was born.

UK to ban small mobiles

The UK government is mulling over plans to ban small form factor phones to prevent prisoners from getting them



Lenovo and Pokki tango

Lenovo will pre-load Sweetlabs's Pokki software suite in all of its upcoming Windows 8 PC's with native store support

Unwind

How we unwind



Scrubs

Sid and Jayesh are big fans of the show, and tried to peel Regidi's eyes off of his Animal Planet documentaries during lunch time. They weren't too hopeful, but Regidi got hooked onto the comedy sitcom in no time. And we were all too glad to welcome the inmates at Sacred Heart Hospital into our lunch breaks.

The Showdown Effect

This time Regidi introduced this game to the rest of the team, keeping a hawk-like gaze on all gaming deals the World Wide Web has to offer. It's an absolute gem of a game, bought by everyone with much gusto. Since then, beating the crap out of each other has been a lot of fun. We highly recommend it.



Kindle Paperwhites

After a common friend went to the US, Sid and Jayesh wasted no time in placing their respective Kindle Paperwhite orders. And ever since they got their newly delivered babies, they've been their most prized possessions. It has definitely re-kindled the love of reading for pleasure in both of them.

digit DIARY

Now we don't know if it's because of the humiliation he suffered last month or if it was because he got his precious mouse working again, but the Ant was on a roll this month (we're speaking only of Quake here) but he's been whooping our collective behinds the entire month. We barely manage to hold our heads above water as he unleashes his pent up angst (in the form of rockets) against his tormentors.

The situation was so bad that when the Humble Origin Bundle came out (WHAT! You didn't buy it yet?) and the Ant was begging for someone to purchase it for him (muahahahaha) Siddharth made a bet with him. The terms were as follows, Sid gifts Ant the bundle if Sid loses a Q3 match in the negative and the Ant gets the call sign "BJ" (for the sake of this self-respect, you should just assume that he's a big fan of Wolfenstein) assigned to him if Sid goes above zero.

The fact that Sid went on to lose the match 8-0 in a game that was possibly the worst he's played in recent memory and the fact that because of the skoar, Sid bought him the bundle but also assigned him the call sign is not the point. The point, if you haven't noticed, is that the bet wasn't about who won or lost, it was about Sid losing in negative or positive figures. (Heavy sigh....) Oh how the scales have fallen.

Moving on, this was the month we tested MFDs and Regidi was assigned to test them since he-who-shall-never-be-named-ever-again left us and has been tasked with filling his shoes. The test

really took its toll on him and he set a record for going 39 hours without sleep (well, not counting a short, two hour spell anyway) and only stopped when he realised that his vision was so blurry he couldn't see through the loupe. Hard times. So, if any of you have any complaints about the test, you'd better keep it to yourselves. The wrath of the Regidi can be fearsome to behold.

We are very aware of the position we're in, and the jealous letters that we got from our readers expressing their envy at the insanely expensive and shamefully geeky hardware that we have access to don't help. In fact, sometimes we seem to take things too much for granted. For example, scrounging around the test centre for spare parts can actually be quite rewarding at times.

In fact, that's how we discovered a Thermaltake Level 10 GT (yes, this massive case was lying unused and invisible in our store room for over a year) and a few other odds and ends. Our discovery this month was something on a similar scale, we discovered a Tagan 900W PSU that's apparently been lying unused for the past 3-5 years, not to mention more than a handful of SSDs, 1TB and 500GB hard drives and a few other assorted odds and ends.

The return of the prodigal Mithun was also a high point and his arrival managed to jumpstart the Sid's failing heart for a while (refer to last month's diary entry)

Disclaimer: No rats were harmed in the making of this issue. Not voluntarily, we actually wanted to take turns at watch, gun in hand. No, we just ran out of sticky traps.



Pro gaming: A story

A fascinating account of one pro gamer from Chile and his love of fighting games
<http://dgit.in/16CHiKR>



Google Now improved

The already amazing but spooky Google Now has new features for travel and entertainment. We wonder which card will it pull up now. <http://dgit.in/GooNow>



This month we highlight some aspiring tech writers and their spirited attempt to get published in the magazine. Let's have more!

Readers' write-ups



Leap Motion Controller Review

Uddip Talukdar

I was *Googling* 'molecular structure' and a series of careless clicks lead me to a website where they claimed they are making a software to build virtual molecules, and the software would take hand gestures as inputs. Immediately, 'Minority Report' came to my mind. A quick glance at the website said that a promising technology is coming up which will make our PCs and Laptops understand finger movements. A software was also being made for this new technology. The technology they were talking about is called Leap Motion.

Leap Motion is actively designed by Leap Motion Company. When I first got to know about it in May 2013, the company was taking pre-orders for the Leap Motion Controller. I researched a bit and figured that my Dell Vostro with Windows 7 was enough to take in the controller. Its price was \$79.99 excluding shipping. I placed an order on a whim as I just wanted to get some taste of gesture recognition technology, and the price seemed justified.

The shipment arrived and it contained one small cardboard box. Inside sat the actual controller which was just 3x1.2x0.5 inches in size. Its top was covered with a black glass, bottom had the Leap Motion logo and an aluminium casing covered its rim. The bundled accessories included a microUSB 3.0 connector, and warranty documentation. The order confirmation mail itself, the company had given 'how to begin' instructions.

As per the instructions, I hooked the controller to my Laptop and checked in to the activation web site. As I opened

an account, the website started downloading the required drivers. Along with the drivers, it also installed Airspace, the app warehouse for Leap Motion. Once the driver installation was complete, I could see the controller working its way through its 'Orientation app'. With the orientation app, I could make waves on the screen ripple by waving my fingers over the controller. You just have to keep the controller device on a surface and any hand movement above is perceived by the controller.

So, the first impression was cool! The installation was extremely easy; the technology showed that it was not totally bogus. But, was it precise enough to do serious work? For that, I had to download a few apps from Airspace. As I browsed through the app collection, I learnt that most of the apps weren't free, though not very costly. So, I downloaded the *Cybermotion* app which allowed you to take apart the bones of a skull apart, and join them again. I had some tough time picking up the movement patterns for *Cybermotion*. But, after some time I could do the maneuvers to move the bones and con-

nect them again. Next I downloaded *Corel Painter* and tried some air-drawing too. But, soon enough I found that keeping your hands aloft and waving is very cumbersome. In no time, my hands got fatigued, and I had to resort to the use of a mouse. My experiments are going on till now with the Leap Motion Controller, and had fun in some of the apps, and for other apps, it was almost unusable.

But, I have learnt that for gesture recognition to be made acceptable to people, developers have to create apps which truly need gesture recognition to function. Most of the reviews of Leap Motion Controller have brought-up the problem of fatigue while using the controller. But, what I feel is that Leap Motion is not there to replace the mouse and keyboard. Our current computer tasks are best done by the mouse and keyboard, and no, gesture recognition can't make them any easier, because the tasks are designed for the mouse and keyboard. So, we should not compare Leap Motion Controller against our mouse and keyboard. There are rumours that this technology will soon feature in smart phones too.

So, am I satisfied with the technology? Yes, for starters it's quite sophisticated and precise. The cost is very reasonable. But, we need software that makes real use of this device. In some fields, gesture recognition would open new ways to use a computer. But, is it time that we all should get one? No! Leap Motion is a novel and innovative idea, but it is not necessary as of now. It's up to the developers to improve upon this technology, maybe then we will see some takers.

Sadly, I could not get the Molecular structure software, which brought up all this. In Airspace, I saw that the free app works only in Mac!



The Leap Motion Controller in action



Tt eSPORTS Posiedon launched

Tt eSPORTS by Thermaltake has introduced yet another illuminated mechanical gaming keyboard. This new one is christened Posiedon.

Apple buys Embarq

Embarq, a company that makes transit apps has been bought by Apple recently. This is the third mapping company Apple has bought this year.

Digit Squad



XOLO Q800 Review

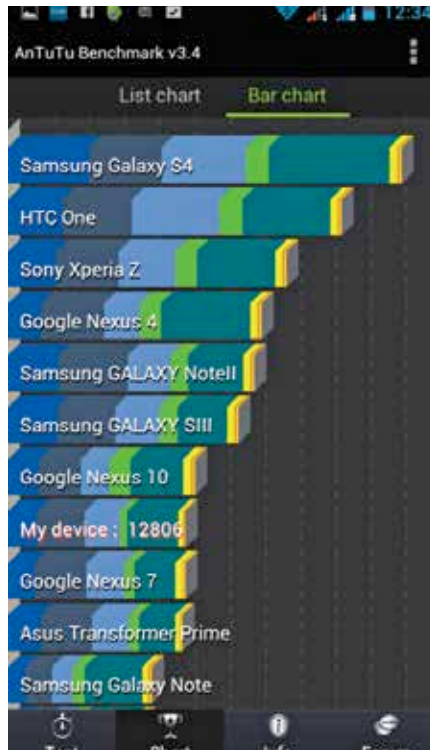
Amogh
Bharadwaj

The XOLO Q800 is well built and doesn't feel cheap at all. The phone is equipped with a 1.2GHz quad core processor on the MTK6589M chipset.

Powered by a PowerVR SGX544 GPU, it has 1 GB RAM and 4GB internal memory that can be expanded upto 32GB using a microSD card. Running Android OS v4.1.2(Jelly bean), the phone has an IPS LCD capacitive display with 16M colors and a screen size of 4.5 inches (~245 ppi pixel density) that has a resolution of 960X540 pixels. Available in white, the XOLO Q800 is a dual SIM phone. It has white casing, a back panel which is not prone to finger prints and gives good grip to the phone.

Multitasking is simple and it can run most graphic intensive applications easily. The included music player app has a shake phone to change the track feature. The Q800 has an 8MP primary camera with autofocus, BSI sensor and LED flash. The camera picture quality is good and there was very little noise when taking pictures outdoors although, some noise was present when taking pictures in low light but the noise was very less presumably due to BSI sensor. The camera can take 40 images continuously and can also record videos at 720p. There is a 1MP secondary camera thrown in the front as well. Though the Q800 supports 720p playback, it is not able to recognize mkv, mp4 files directly, but AVI or DivX format file playback is smooth.

Gaming performance of the Q800 is at par with most feature rich phones as it can easily play games like Asphalt7: Heat, NFS Most Wanted, Templarun 2, Rayman Jungle Run, without lags. Dead Trigger which is a well known resource consuming FPS game on android platform runs quite easily. A 2100mAh battery provides juice to the Q800 and it does its job quite well. The battery easily lasts for a maximum of 10hrs and 16 hrs on 3G and 2G networks respectively. Synthetic benchmarks like NeanMark, 3Dmarkicestorm, Antutu



As you can see from the screenshot above the XOLO Q800 gets a score of 12806 on the AnTuTu Benchmark

benchmark and smartbench were also run and they gave a decent result.

Verdict: In all, the XOLO Q800 is a good value for money phone, worth buying at about ₹11k.



Tarun Dham

Tricks to improve Laptop usage

When it comes to using technology, there are some guidelines you should actively follow.

Below are a few important pointers for you to take a note of while using your laptop.

Shortcuts - For ease of use, group programs into folders depending on their type or make shortcuts for the programs you use often. This not only saves time but also makes it easier to work. But keep in mind, not to add too many icons on the desktop as that may hinder productivity in some way.

Boot Faster - To make the laptop boot faster, remove unwanted programs from startup. To do this, "Press Win+R > type: msconfig > Press Enter > Select Startup tab". Here, uncheck all programs you do

not need or use at startup, like Adobe, etc. and when you are done press OK.

Un-installation - Uninstall any application you do not use anymore. This will not only save disk space, but also prevent your laptop from slowing down.

Backup - Occasionally, take a backup of your data on a portable hard drive. So, if your laptop crashes you won't pull your hair out in frustration as you would have a backup of everything important.

Cleanliness - Cleaning your laptop occasionally, especially from the ports will prevent it from heating up.

Power Management - Laptops these days manage power well. In Windows, you have a choice to save energy and put it in a low power state or in a full performance state. Alternate between the choices wisely. You can also turn off Wi-Fi and Bluetooth when not in use and even decrease screen brightness to save more power.

Close applications - Close applications when you are not using them, as they not only hog battery but also lower the laptop's performance.

Disconnect - Remove external peripherals or devices like external HDDs, optical drives and pen drives when you do not need them.

Shut down - When the laptop is not in use for a long time it is better to shut it down rather than putting it on suspend or sleep mode.

Carry Safe - It is better to buy a good laptop bag instead of risking it getting drenched or falling down.

Extra Power - If you have the feeling that your laptop's battery is not up to the mark for you, you can buy a laptop battery that fits your laptop. Although, keep in mind that you buy an original battery, and not a local one. As this is very harmful for both, you and the laptop. There have been cases where, the local battery has exploded and harmed the user.

When in Rome - If you are traveling, you must have a universal socket adapter, as different countries have different types of power sockets. If you travel to a lot of country's it is sensible to buy a universal adapter.

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Decoding consciousness

Ever wondered how consciousness works? A Princeton neuroscientist recently wrote a long article about it. Read more. <http://digit.in/1dzdZnc>

**PirateBay launches browser**

In act of defiance towards Web censorship, PirateBay has released their own browser, which is a bundle of software apps. <http://digit.in/16UHKOA>

Cameras 101: The Jargon Explained

Have you always been fascinated by photography but found the whole thing to be a little too daunting? Have you always been “clicking on auto” but want to learn the finer details of functions? Well, worry not as we're going to simplify all the technical jargon that comes with having to operate a camera, so that all you have to do is dial in the settings and just shoot.

Aperture:

Aperture is the term that refers to a circular curtain inside the lens which determines just how much light goes into your camera. An aperture value signifies just how much the curtain opens and is measured in fractions. Therefore, a bigger fraction denoted a bigger opening, e.g. 1/2 is bigger than 1/16, meaning the curtain is “open wider” at 1/2 than it is at 1/16. The larger the aperture opens, the more light hits your sensor. Therefore to shoot in low light, a big aperture is a must.

Shutterspeed:

Once the light has crossed the aperture, it sort of just sits inside your camera before hitting the sensor. What's blocking it is another curtain called the shutter. The shutter decides for how long all this light that has entered your camera will hit the sensor. Allow it too much time and your image will start turning white and allow it too little time and it will be too dark. The duration for which the shutter is open is measured in fractions as well, unless you're doing a long exposure of several seconds/minutes/hours.

ISO:

The ISO on your camera determines just how sensitive your sensor is to light. The higher the



ISO, the more sensitive it is, meaning it needs lesser light to create an image. This, however, does not mean that you can crank the ISO setting all the way to the highest, as there are a few downsides to using High ISO.

Light Meter:

A Light meter is a little module that measures the amount of light coming into the camera and factors all the conditions to generate a “good” exposure based on preset parameters. This is what tells you how much shutter speed and aperture values to use. Unfortunately, the light meter is not always a 100% accurate, so always review your images after shooting and if they look over or under exposed, do use exposure compensation.

Exposure Compensation:

Exposure compensation is the method where you expose a little longer or for a shorter duration than what your light meter says should be the right setting. This can occur when you shoot at the light meter recommended settings and your exposure is either over or under exposure. So you can do positive exposure compensation (to increase exposure) or

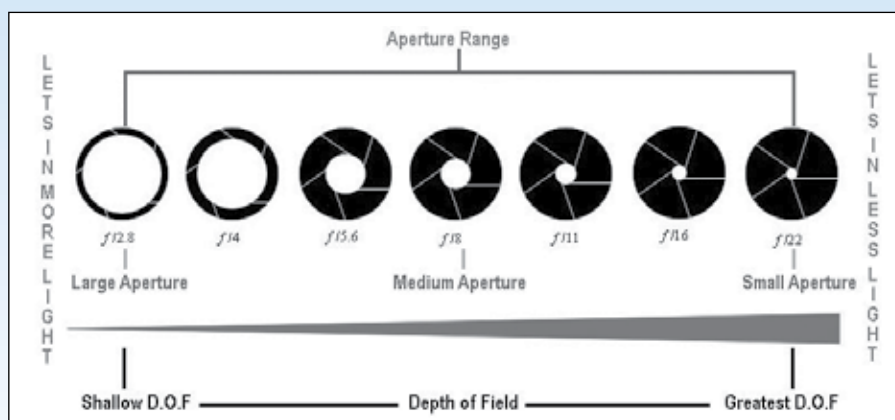
negative exposure compensation (to underexpose). You'd ideally use exposure compensation as a quick fix to your exposure problems, without having to change the shutter speed and/or aperture etc.

Depth of Field:

The Depth of Field (DoF) of a particular photograph essentially refers to the area in front and behind your intended point of focus. The more the depth of field, the more you will have in focus in your image and smaller the depth of field, the more background (and foreground) blur you will get. Macro shots tend to have a “shallow” depth of field, while group shots must have a great depth of field.

Bracketing shots:

Interestingly, (and possibly sadly) this neither involves the brackets from mathematics nor any shots of intoxicating beverages. Bracketing is a method where the camera can take a number of shots simultaneously at different exposure values. Normally, this would be a “0” exposure (the value determined by your light meter as ideal) and two (or more even numbered shots) more with an exposure value of a higher and an equally lower value. This is an extremely handy method for shoot High Dynamic Range images.



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