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When the words fit...

Much debate happened this month. It's not a regular thing for a magazine to use a cuss word on its cover, and certainly not something Digit has ever done.

We honestly tried to find an alternative to this headline, with multiple suggestions from everyone in Team Digit. Yet none of them put the message across in the same way. There's just something about the slang that just fits – it's not sexual, or pornographic, yet is perhaps the most succinct way of getting across a lack of emotion, a lack of caring, almost dismissive of your very existence.

This is how we feel some companies treat us consumers – as a mass of money waiting to be tapped, and then forgotten. Taken for granted, almost. The beauty is, that you don't even know it. In fact, we're told the opposite – we're "kings", and "always right", and more such nonsense.

It's not surprising we feel special, because of the amount of ads that seem targeted at us, the sweet ways in which companies will pander to our questions – all before we buy, of course. After we've bought, well then we go from a prospective consumer to part of a customer base. Market share is the name of the game in emerging markets, and that means targeting people who don't already use your product is much more important than looking after those who already do.

Also, it's not always about evil men in boardrooms plotting to take over the world... Sometimes it's a very geographical problem. Those of you who have been abroad to Europe or the US, will immediately understand the great divide in customer service here, and there. As a magazine, we're reputed to have one of the best customer service experiences available in India, and yet there are certainly a couple of hundred of you that will immediately disagree with the statement. As hard as we try, the problems intrinsic to India always rear their ugly heads.

Transport is a common problem, and the vast numbers to deal with are another. For example, as much as we'd like to, we can't always find a courier company to deliver this copy to a reader in some very remote location of a state. However, you'd expect us to find a way if we were a multi-billion dollar global giant, right? Wrong.

See there are these people called shareholders. They're customers too, because if enough of them get pissed at you, they're going to start dumping your shares, and the value of your company falls, no new investors come on board, the capital dries up, the markets lose faith in your products, and your business goes down the toilet. To prevent this, you have to make healthy profits, and making profits is inversely proportional to how nice you can be to your consumers. That's not to say companies are not nice to you at all. Some will give you amazing customer service, some will keep their rates at rock bottom, some will give you more bang for your buck... but not all of the above. They can't.

Let's face it, every single one of us has felt cheated by a big brand at some point or the other. Only in the West, where penetration of technology is almost saturated, and there are options galore, do companies truly focus on customer service. Here, we're a few thousand disgruntled customers in a market of hundreds of millions of potentials consumers. Who would you choose to focus on if you ran a business?

As we approach the Indian shopping season, next month's issue will focus on helping you buy smart, how to spot a good deal, where you can get those deals online, and will generally be in the upbeat celebratory spirit of Diwali. This month though, is the reality check we all need in order to ensure that you consumers, are being taken for granted. Some of the problems you can avoid, some are absolutely unsolvable, but all of them you should be aware of.

After all, no one likes it when they're being flipped off behind their backs. This way, you're facing them when they're telling you in no uncertain terms...



Robert Sovereign-Smith
Executive Editor
editor@thinkdigit.com

"Some companies will give you amazing customer service, some will keep their rates at rock bottom, some will give you more bang for your buck... but not all of the above"

Liked or hated this column? Write in to *editor@thinkdigit.com* and let me know your thoughts.

SEPTEMBER 2012 VOLUME 12 \ ISSUE 09

Contents

QUICK NAVIGATOR

001 ENTER

016 CONNECTIONS

030 DIGITAL LIFE
Droolmaal
Thumb PCs

036 SCI TECH
Plastic Electronics
True purpose of the space station

041 TOOLBOX
Tips & Tricks
Q&A
DIY

068 TRIED & TESTED
DSLRs
Projectors
MFDs
Bazaar

098 STREET SMART
Agent 001
Price Watch
Killer Rigs

116 ESC



056 **F**k You, Consumer**
Manufacturers are f**king you over and there is not a thing you can do about it.

112 **Digital tools for the entrepreneur**
Find out what you need to become a smart entrepreneur

TRIED & TESTED



88 SONY DSC RX 100
Sony comes out with yet another game-changer



89 ANDROID MINI PC
A palm-sized device to smart-up your TV with Android ICS



90 HTC DESIRE C
HTC's most affordable Android ICS phone



030 **Droolmaal**
Eco friendly gadgets, making the earth smile

103 **World View**
Our pick of some of the best tech stories from respected sources around the world

107 **devworx**
Understanding HTML5 canvas. Interview with Jitender Verma, CIO of PVR

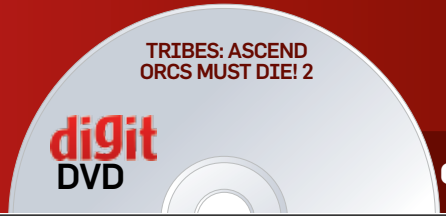


SKOAR!

118 **Inversion**
Gravity gone bad!



120 **Tribes Ascend**
Multiplayer madness!



GOING GREEN

ON THE DVDs

Full Games
Tribes: Ascend
Orcs Must Die! 2 (demo)

devworx
Unreal Engine 3 SDK
CryENGINE 3 SDK
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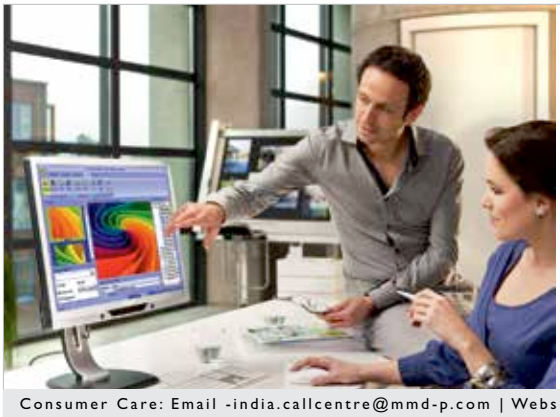
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Designers **Suneesh K, Shigil N, Charu Dwivedi Raj Verma, Peterson, Midhun Mohan & Prameesh Purushothaman C**
Chief Photographer **Subhojit Paul**
Sr Photographer **Jiten Gandhi**

Contributors
Writers **Abhishek Chaudhary, Mithun Mohandas, Nimish Dubey, Paanini Navilekar, Raj Saxena**
Copy editing **Infancia Cardozo**

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

Brand
Product Mgr **Navneet Miglani**
Mgr - Online **Shauvik Kumar**
Mgr - Product Marketing **Chandan Sisodia**
Co-ordinator / Scheduling **Kishan Singh**

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

Reader Services
Lead Associate **Sourabha Shakya**
Executives **Itishree, Pinky, Sudhir, Sufiyan**
+91-22-678 99 678 / help@thinkdigit.com

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Cover design **Anil T**

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Manager (East):
Jayanta Bhattacharyya, Mobile: **+91-93318 29284**

ADVERTISING INDEX

Brand	Page No
Amkette	9
AOC	3
Asia Power	128
Asrock	57, 71
Asus	7, 15, 61, 69, 75
Cricket Today	121
Digisol – Smartlink	25, 45
Esset	47
Excel	79
F&D	127
HP	29
iBall	13, 73
India Antivirus	113
Kaspersky	Back Cover
LG	11
LIC	19
LiverMedia	55
McAfee	17
Panasonic	114, 115
PNY	23
QuickHeal	67
RDP	77
Reliance 3G	Inside Front Cover
Ricoh	33
RP Info	Inside Back Cover
Rx Infotech	87
Seagate	21
Sujata	99
Taitra	39
Tech Com	59
Techsonic	63
Top Gun	37
Toshiba	53
Vat69	35
Western Digital	27
Xerox	5
Zoho	43
Zotac	49

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ZOTAC GTX 660Ti AMP Edition

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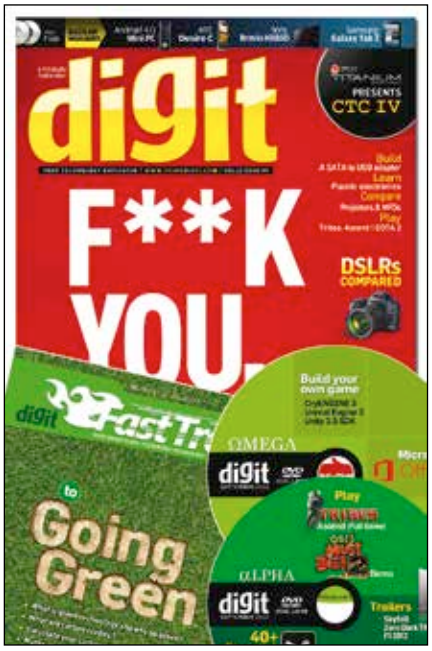


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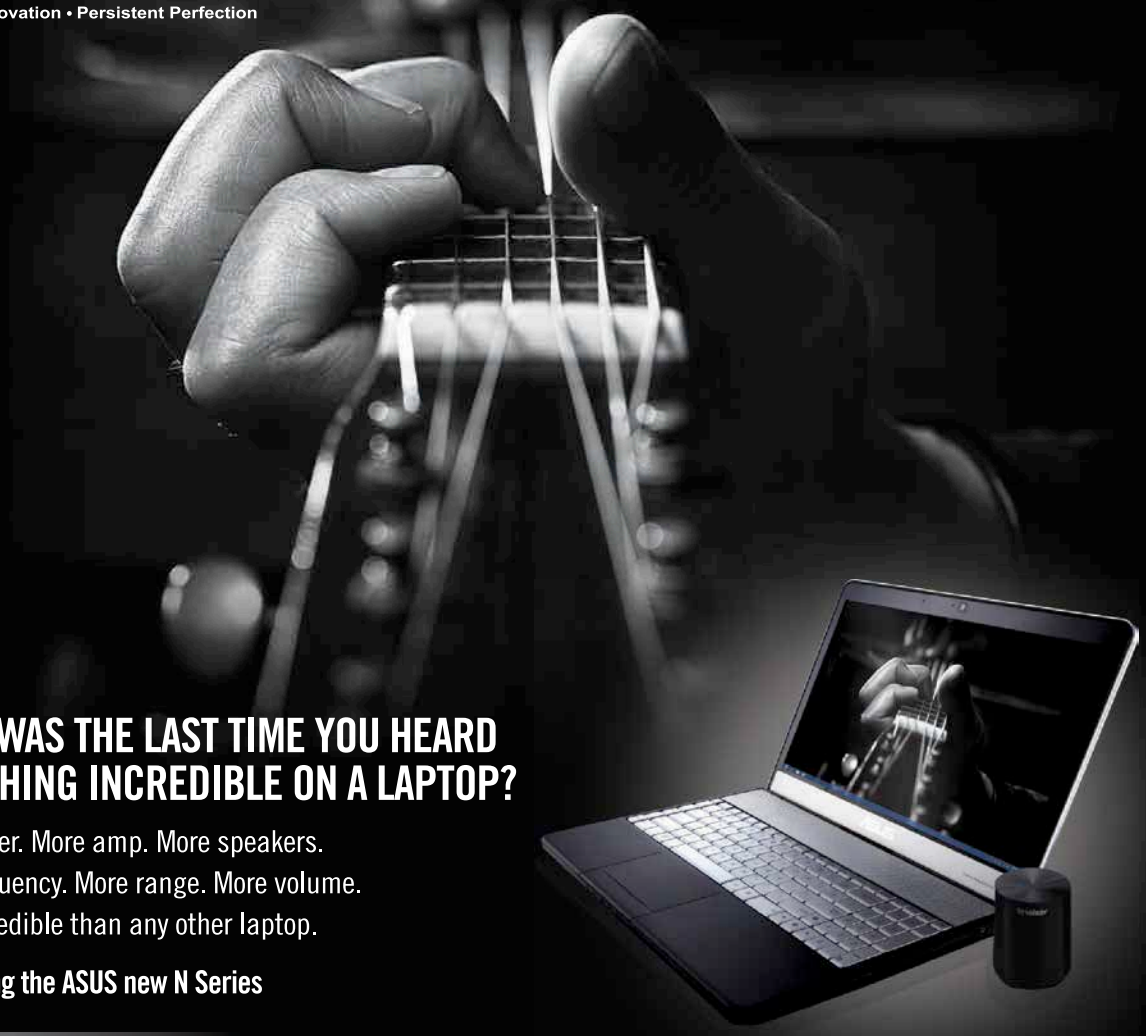
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Feedback for the August 2012 issue of Digit



✉ I have been a Digit subscriber for the past 3 years. Recently you had provided soft copies of past editions, and after going through them, I found it just amazing how much Digit has grown, yet it never left where it belonged. You have always known the perfect ways to explain technology. One part of your magazine that I like is the way Robert picks recent topics and explains them so plainly that even the most non-technological person would understand it easily. So whenever I get the magazine, I always read the first page, no matter what, and I'm always enlightened. To go on, Digit has recently brought two changes in my life. The first being turning me into an Open Source user, which I know is kind of late. After reading most of Digit's past articles, especially the August Edition, and after finding a stable distro in the Jan 2012 DVD, I have finally opted for Linux 12. After using Linux, I am surprised as to why I haven't tried it before! The second change was brought about by the "Enter" and "Connections" section of the magazine. I realised that, after communicating with my teachers and friends in college, that most of the students were unaware of the new technologies booming in the world and the different methods to approach them. So with major help from you and my teachers, I now conduct presentations, which has certainly helped them as well as me. For all this, I'm truly very thankful of you.

And now, for dessert! I would like you to look at the resolution of the flash content on the provided DVDs. As most of us have Full HD as native resolution, it becomes hard to read. Also, would it be possible to make DVDs interactive for Linux too? Here, I would conclude and say in Vulcan style, "Live Long and Prosper"

Piyush Phalak

Thanks for your feedback, we're extremely thrilled to hear about it every time someone commits to open source because of us. Sadly, our research shows that most people still do not have 1080p monitors, and that's why the Flash interface is made keeping the majority in mind. As for interactivity on Linux, we're working on something, but it will take a while before we are able to implement it.

Robert

✉ Happy Independence Day. I am from Bihar, and am studying in Class XII. This is my first letter to you. I have been reading Digit since September 2008 and haven't missed a single issue since then. I really like every aspect of Digit and appreciate the hard work you put behind it every month. I must say it is miles ahead of all other computer magazines. I eagerly wait for Digit every month, especially the special issues.

The story of how I got my hands on Digit is interesting. I went to the railway station with my father in search of a computer book (not magazine) for beginners. I couldn't find any, but then I saw Digit and bought it. I must admit I bought it only for the DVDs, and did so the next month as well, but then I realised that the real gem was the magazine. I started reading it and have been hooked ever since.

Now, thanks to Digit, I have turned from a noob to "The Most Knowledgeable Person" in the field of computers in my city. That's what people tell me. Keep up the good work guys!

Ankit, Bihar

Thanks for your kind words Ankit. We're glad we were able to take part in your transformation. Don't wait another four years before writing in to us.

Jayesh

✉ I have been reading Digit since 2000, and have collected almost every single edition and CD / DVD.

I am sure a lot of your readers are curious to try out new OSes and know more about them. I wanted to see if it is possible for you to tell us more about Chromium OS, and if possible, include it on the DVD so that we can try it. It has a free license; I don't think it would pose a copyright threat. Would it?

Additionally, I wanted to see if you could dedicate a page where your readers could post the specs of their rigs along with photos. I'm sure that would help a lot to see rig making talents in India.

Arijit Ray

Thanks for writing in Arijit. We've covered Chromium OS quite a bit since its inception. The June 2011 double issue in fact carried an article titled "How to Make Your Own Chrome Os Chromebook" in the World View section. Since you're a collector, do dig up that issue and go through it. The issue incidentally is one of our favourites. As for showing off you rig, there's already a forum category (http://www.thinkdigit.com/forum/show-off/) to do just that – whatever your gadget or config. We will take exceptional items from there for the magazine from time to time, so watch the community pages.

Siddharth

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12

Buzz
Find out the news about the latest budget Tablets, cameras, phones and more



PNY unveils Mini M1
PNY technologies launched the new Mini M1 USB Flash Drive. It is one of the smallest USB drive available in the market today

LETTER OF THE MONTH

✉ I'm a regular reader of Digit and a fan of your DVDs. They offer a great way to try new apps / games and to get updates for software you don't use too often and forget about updating. I have a few suggestions for your DVD that will be useful in making the DVD usability experience better.

Screenshots – There's a lot of good content on your DVD along with some not so useful stuff. There is a very good chance that good games get thrown out just because I didn't want to install the rest of the crap. Screenshots or a link to a page will help a lot in deciding if an app/game is worth my time.

Links from the magazine – Please add a category that offers all the links from the magazine. I am not talking about a text page full of links like you have on your website but a proper directory that also gives you the context of the link you're about to click.

Launcher for Linux – Digit regularly offers ISOs of new Linux operating systems and some really good Linux software. But unfortunately, Digit experience on a Linux OS leaves a lot to be desired. First of all, there's no UI launcher. Trying to launch the swf file doesn't work too well either. Would be great if you can add a launcher for Linux as well.

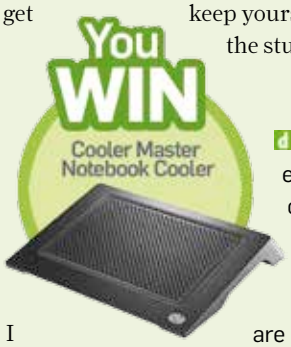
Deb/RPM installers – Is it really too much to ask? Almost all apps are available as .deb packages which are easier to install for a new Linux user.

It's the age of HD monitors, why you are stuck with that iPad lookalike UI is beyond me. It wastes half the screen real estate and there's not enough space inside the border to fit enough content.

Make the DVD more interactive, add links to stuff already on your web site. Make DVD-only sections on your site with more free stuff that can only be accessed when connected to from inside the DVD launcher.

Please use the above ideas. Digit is a great magazine, I want to see you guys improve further. Print Media is dying so keep yourself relevant by improving the stuff that still holds value.

Hardeep Singh



As I mentioned in an earlier reply, we're working on a way to get the DVDs to run on Linux that will not eat up too much of someone's time, as we are a very small team. The interface was changed based on popular demand, and honestly, I didn't find anything wrong with the old OS-like interface we had, which could have just been updated for HD resolutions. However, I'm open to suggestions for new interfaces, so write in to me about that. As for the links, our bit.ly public page (https://bitly.com/u/thinkdigit1) will give you a list of all our shortlinks along with a small contextual blurb. It's also a common misconception that all print media is "dying", but the fact is that although mass publications have shown declines, more niche publications, and educative ones such as Digit have shown growth – as the IRS figures will tell you. Of course eventually we're all going to be reading on devices, and we have an iPad version out that you can subscribe to as well.

Robert

✉ It's been almost two and a half years since I was introduced to Digit and started on a journey to the center of the tech. I have come a long way, and still have an even longer way to go. Now I am in class 11, and studies are the priority, but I still enjoy every article and never miss a single issue – I'm a subscriber ;-)

I have even applied for the Digit Squad, as I think it would provide me with the best opportunities, and expose me to the best tech gurus. Although I have no complaints, I do have a few suggestions. An ad-free experience of Digit would be very nice, but again it will give rise to financial problems. But please try and avoid ads in the middle of the articles as it breaks the fluency of reading. Some suggestions for topic of Fast Tracks are Augumented Reality, Adobe Photoshop, 3D Displays, Fiber Optics, Data transfer and Booting. I still have all the earlier editions of the magazines, Fast Tracks and DVDs. They are filling up a lot of space so please do plan out something to reuse them. I really don't want to just dump them.

Harshit Singhal

We try as much as possible to not let ads disturb articles; unfortunately, as you'll notice in all other forms of media as well, advertisers actually want advertisements to be disruptive so that you see them. Imagine asking TV channels to show ads only at the start or end of a program!

One of your Fast Track suggestions is actually what we're working on for the coming months. Which one we'll leave for you to discover.

You should join the Digit forum (www.thinkdigit.com/forum), as a lot of members like to make and display their Digit collections, and those who are missing mags from the past 3 years would be happy to take the magazines and DVDs from you. Some have collections of all 11 years, for instance.

Robert

✉ Digit is Simply Superb! I started reading it from the February issue of this year and I became an extreme fan of it. I have not subscribed to it as my parents won't allow it.

In the June issue, there were 4 DVDs which made my face glow with a 400 Volts smile! It also had Windows 8, none of my friends had it. I became the Tech-Guru of our school. I just wanted to share my feelings.

Robert and Team are working very hard... GO DIGIT !

Rohan Govindgoudar

We <3 you too Rohan :-)

Team Digit

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Xperia Ion in India
Sony has officially announced the launch of its Xperia Ion in India, which is priced at ₹36,999



Google Play gift cards
Google has announced Google Play gift cards using which you can purchase apps or multimedia on Google Play

Gadgets Galore

The month of August saw a lot of new additions to the Indian personal technology market, with the host of new budget ICS tablets stealing most of the attention, along with some expensive tablet offerings. Some global announcements were also noteworthy, including new cameras from major manufacturers

Tablets Ahead

So far, Microsoft has not revealed even the tentative pricing of its two upcoming tablets, Surface for Windows 8 Pro and Windows RT, or those of its OEM partners' offerings. Recently however, Lenovo's David Schmook, in an interview with news agency Bloomberg, let slip the expected price range



Funtab Fit Tablet 522

of the two versions of Windows 8 tablets, with the x86-based Pro editions expected to be between $600 and $700, and the ARM-based RT editions expected to be $200 to $300 less, putting them between $300 and $500.

In the meanwhile, back in India, the 10.1-inch Funbook Pro tablet has been launched by Micromax, an Android 4.0 ICS-based offering priced at ₹9,999, featuring a 1.2 GHz processor and 1 GB of RAM. Other specs of the Funbook Pro include a VGA front facing camera, and 8 GB built-in storage.

Karbonn Mobiles has also launched a 7-inch budget ICS tablet, called the Smart Tab 1, which is scheduled to get a Jelly Bean update soon. Strangely, Karbonn Mobiles further muddied waters, by announcing an identical Smart Tab 2 (also



Karbonn Smart Tab 2

priced at ₹6,990), with the only difference being it will ship with Jelly Bean out of the box. The tablets are powered by a 1.2 GHz Ingenic JZ4770 SoC.

Zync has launched another 7-inch budget tablet as well, except this runs Gingerbread. Called the Z909 Plus, which will retail for just ₹3,699, and feature a 1 GHz processor and 256 MB of RAM. ICE X Electronics launched an ICS-based tablet as well, called the ICE Xtreme tablet, which was priced at ₹6,999, and features a 7-inch



Micromax Funbook Pro-522

display, a 1 GHz processor, and 1 GB of DDR3 RAM.

Joining the budget ICS bandwagon, was is the Funtab Fit, which was launched at ₹5,999, and features a 7-inch display, a 1 GHz processor and 512 MB of RAM. Pantel has once again teamed up with BSNL, to release an ICS-based T-Pad IS701C tablet at ₹4,999. It's a 7-inch tablet with a 1 GHz processor, and 512 MB of RAM.

Swipe Telecom has also launched three budget ICS tablets in India – these are the Swipe 3D Life, Swipe Halo TabX74S and Swipe Float TabX78, priced at ₹5,999, ₹6,999 and ₹8,999 respectively. They all feature 7-inch displays, with processors clocked between 1.2



BSNL Panel Tpad

GHz and 1.5 GHz, coupled with 512 MB of RAM.

Globally, the Samsung Galaxy Note 10.1 has gone on sale in the US and UK. Interestingly, the Korean giant has also released the Galaxy Note 10.1 in India.It will set you back by a whopping ₹39,990.

Under the hood, the ICS-based Galaxy Note 10.1 called the Samsung Galaxy Note 800 boasts of some pretty impressive specifications. The device has an Exynos 4412 Quad 1.4



ICE Xtreme



Samsung Galaxy Tab 2

GHz quad-core processor, Mali-400MP graphics and a whopping 2 GB of RAM.

Meanwhile, new leaked images of Sony Xperia Tablet have been doing the rounds of the internet, showcasing a slimmer design. Also known as the Tablet SGPT1211, the ICS-based tablet is said to run on the quad-core Tegra 3 processor, and feature a 9.4-inch display.

The Jelly Bean platform lead device, the Google Nexus



Sony Xperia Tablet

7 tablet, has been eagerly awaited in India ever since it was revealed at Google IO 2012, with Indians looking forward to a cheap tablet with the fastest upgrade paths. However, no official availability was disclosed by the search giant. The 7-inch device however, has been made available in the country via Indiatimes and other online retailers, with the 8GB model starting at ₹16,952. After con-

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- 1-WAN/LAN port & 1- USB slot
- Universal Power Adapter - USB / Power



3G+ Wi-Fi Travel Router (with Built-in Battery)
- Compact design with Li-ion Battery ideal for Travel Use
- Broadband Internet (Cable/DSL)
- 2G/3G+ Internet (GSM /CDMA)
- WISP Internet - Configure Internet through Wireless client mode
- 1-WAN/LAN port & 1- USB slot

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Micromax Superfone A84
Micromax has recently introduced the Superfone Elite A84 in the Indian market for ₹9,999



Dead Trigger
Experience modern ways of killing zombies with high-end graphic effects: **http://dgit.in/MRccyO**

tacting ASUS Technology Pvt Ltd (India), a spokesperson confirmed that the Galaxy Nexus isn't officially supported (yet) in India.

The 10.1-inch Samsung Galaxy Tab 2 P5100 is also available online in India, for ₹32,990. The ICS-based tablet features a dual-core 1GHz Cortex A9 processor, coupled with a PowerVR SGX540 GPU, and 1GB of RAM, on the TI OMAP 4430 chipset.

Shutterbug nirvana

Fujifilm India has just announced the Fujifilm FinePix S4500, a 14 megapixel superzoom camera. The S4500 incorporates a 30x Fujinon lens for shooting those far away objects. With a CCD-Shift based stabilization system, there is absolutely no need to worry about



Fujifilm S4500

camera shake ruining the photographs, especially at the telephoto end. There is no word on the price or the availability of the FinePix S4500 so far, but the camera is expected to hit stores in the coming weeks.

In the meanwhile, Nikon announced the J2, as a part of its Nikon 1 mirrorless family, along with an 11-27.5mm lens. The Nikon 1 J2 is a slight upgrade to the Nikon 1 J1, wherein it gains an additional feature on the mode dial, a higher resolution display and a full metal body, along with a host of modes from Nikon's Coolpix series of cameras.



Nikon 1 J2

The major update on the J2, is the addition of a 'Creative Mode' on the rear mode dial, which allows the photographer to shoot a host of varying styles of photographs, ranging from panoramas to miniature effects to selective color. The Nikon 1 J2 also gains a full metal construction to lend the body sharp looks all the while adding to the comfort of holding the camera.

The Nikon 1 J2 and the 11-27.5mm f/3.5-5.6 lens should be available in September 2012 for a price of $549.95 and $189.95 respectively.

Canon also announced its first mirrorless camera, the Canon EOS-M, which resembles the build profile of the S100, but features an 18MP CMOS sensor, the same one found in the recently launched EOS-650D, which means it sports the same hybrid AF as well. It even has the same Digic 5 processor accompanying the sensor, making the imaging aspect of this camera identical to those of the 650D.



Canon EOS-M series

The EOS-M has a proprietary lens mount aptly titled "M" (we think to denote 'mirrorless'). To start with, Canon has introduced a 20mm f/2.0 prime lens along with an M-variant of the popular 18-55 kit lens, but featuring the new STM motor instead of USM. The EOS-M will be available in October for $799 (body+20mm f/2.0 kit lens) while the 18-55mm lens and the EF mount can be had for $300 and $200 respectively. So far, there is no word on availability or pricing in India, but we can expect that information to come by soon.

Windows 8 90-day trial edition released

Microsoft has released a 90-day trial edition for its final version of Windows 8 operating system, which is slated to go on sale on October 26 this year. The trial, however, is available only for the Enterprise edition of Windows 8 and is aimed at developers who intend to build apps and IT administrators who want to try out the new OS before making their decision to migrate, all ahead of its official debut. Microsoft recently released final version of Windows 8 to MSDN and Technet subscribers.

Fuel cell power

Airbus has revealed that it plans to use fuel cells to power airplanes – while currently available fuel cells are no match for the mighty jet engine, fuel cells can still be used to decrease the overall carbon footprint, powering all non-propulsion systems. Testing out the system on an A320, Airbus found it could lower the aircraft's fuel consumption down by at least 15 per cent, using a 90-kilowatt hydrogen fuel cell was installed. The aviation giant plans to commence test flights by 2015.



Airbus plans to power their aircrafts with fuel cells in the future

EA's announcement

Elsewhere, Electronic Arts, one of the biggest publishers and developer of video games, says that the sale of digital games will surpass that of physical games in the coming years. Speaking with Reuters, EA's chief operating officer Peter Moore said, "There will come a point, whether it is two or three years from now, when we say. 'We are doing more in digital media now than we are in physical media,' and it's clearly ... not far away."

New-age Walkman

Finally, we have Sony introducing its new Walkman music players, including one that is based on Android 4.0 ICS - the F800, which bears a 3.5-inch touch display. Other more basic, new models include the S770BT, E570 and E470. So far, India pricing has not been revealed.

REPUBLIC OF GAMERS

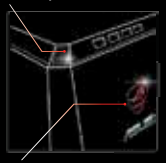
ASUS recommends Windows® 7.

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CG8580 (i7)

CPU	: 3rd Generation Intel® Core™ i7-3770K Processor
OS	: Genuine Windows® 7 Home Premium
Chipset	: Intel® Z77
Memory	: 8GB DDR3
Graphics	: GTX 680 2GB GDDR5
HDD Storage	: 1TB
SSD Storage	: 128GB
Optical Drive	: Blu-ray writer

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UPGRADED AND BATTLE READY

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CM6731 (i3)

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



CM6830 (i5)

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



CG8270 (i7)

CPU	: 3rd Generation Intel® Core™ i7-3770 Processor
OS	: Genuine Windows® 7 Home Premium
Chipset	: Intel® H77
Memory	: 8GB DDR3
Graphics	: GT 640 3GB DDR3
HDD Storage	: 1TB
Optical Drive	: Blu-ray writer



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Mobile Watch: This month in mobility

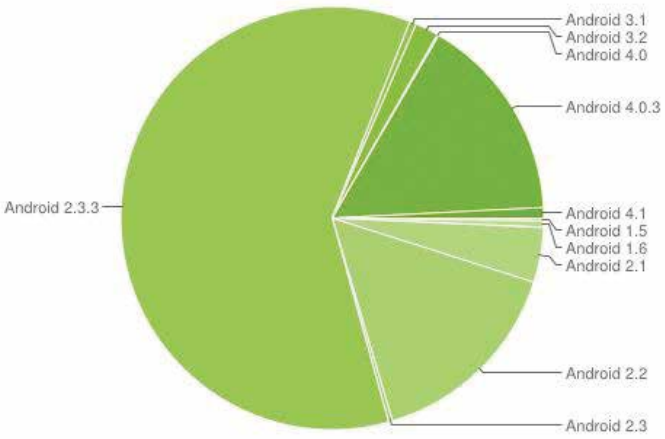
Not much has changed in the world of mobiles and associated services since we met last in August, except in terms of expectations. Devices with Windows Phone 8 (and Windows 8 in tandem) and those with an Android 4.1 Jelly Bean update in their future are currently ruling the public consciousness, preventing unwary expenditure into dated technologies, when the next-generation of two platforms is nigh, yet unsure, or in some cases (like Mango and WP8), disappointingly unavailable.

Version	Codename	API Level	Distribution
1.5	Cupcake	3	0.2%
1.6	Donut	4	0.5%
2.1	Eclair	7	4.2%
2.2	Froyo	8	15.5%
2.3 - 2.3.2	Gingerbread	9	0.3%
2.3.3 - 2.3.7		10	60.3%
3.1	Honeycomb	12	0.5%
3.2		13	1.8%
4.0 - 4.0.2	Ice Cream Sandwich	14	0.1%
4.0.3 - 4.0.4		15	15.8%
4.1	Jelly Bean	16	0.8%

Android Distribution Chart

Jelly Bean is an obvious attempt by Google to make Android natively as touch-friendly, intuitive, and (in the minds of consumers) as Siri voice-capable as Apple's iOS. It also brings interface changes, such as detailed and interactive notifications (giving Live Tiles a run for their money), better widgets and groupings, voice dictation and typing, and a better native camera app.

While Jelly Bean may just make Android as good as iOS and iOS devices, the ecosystem is always in question – can Google Play and Google Drive compete with iTunes and iCloud? The question is still hard to answer, without easily available Jelly Bean devices to test, the iOS 6 update pending, and the still mysterious future availability of an Android 4.1 update for Gingerbread and ICS devices.



Android Chart

Current state of Android

As of now, Android 4.0 ICS has grown to a 16 per cent share, with Jelly Bean occupying just 0.8 percent. As of August 1, 2012, Gingerbread is still the most popular of the Android operating systems available in the market, occupying more than 60 per cent of the market. Fragmentation is still a truism for Android, it seems.

Will Jelly Bean help? When will it arrive?

So far, only the Galaxy Nexus (and Nexus 7) officially run Jelly Bean. Manufacturers like ASUS, HTC, Samsung have detailed ICS upgrades for some of their devices without real timelines (in some cases strangely leaving out devices, like the HTC One V) and the recently announced Karbonn Smart Tab 1 and 2 tablet will also get Jelly Bean sometime in the near future. As we said, the future of the incremental update to Jelly Bean hitting even Ice Cream Sandwich devices is so uncertain, that consumers can almost be sure their Gingerbread devices have been left out of the loop.



Jelly Bean notifications / widgets

None of this has daunted Indian players from launching a variety of ICS and Gingerbread devices, with promised incremental updates in most cases, ranging from budget smartphones to tablets.

Apple's iPhone 5

Amidst all these hopeful dreams, lies the next-generation of the Android nemesis – iOS and the iPhone. For now, rumours place the official appearance of the iPhone 5 around the second week of September. Expectations couldn't be higher – just what will Apple to do to innovate their offering – iOS 6 has already been unveiled, will the hardware rock Android's world?

For now, industry speculations suggests Apple would not being doing anything very revolutionary with the iPhone – they'll give it a unibody design, a larger higher resolution display and a faster processor. Will that be enough? Some feel Apple has not been very innovative with their design elements across their product categories, maintaining a 'if it's not broke, then don't fix it' philosophy. We'll just have to wait and see if Apple will prove these critics wrong.



iPhone 5 mockup

Security Watch
Protecting your online identity is as important as protecting your desktop. Read on to find out how you don't face Mat Honan's fate

Browser Wars
Chrome vs IE9 vs Firefox. The best browsers of this day are pitched against each other to see which one rains superior. **http://dgit.in/QQaCJT**



Nokia WP8 Invite 522

Windows Phone 8, Nokia's laments

While some of the biggest additions to Microsoft's Windows Phone 8 platform, discussed in last month's edition, include native support for higher-performance hardware (multi-core support) and support for many missing hardware features (microSD card support, Bluetooth file transfer), at the end of the day, Microsoft is truly hoping to capture its audience with the promise of a vast mobile ecosystem – one that encompasses the massively-popular (for consumers and developers) Windows desktop/laptop and now tablet platforms.

Sharing the NT kernel and the same developer framework, porting applications in either direction is apparently very easy, according to Microsoft, giving developers and users the freedom to enjoy Windows Phone 8 apps in the Metro UI of Windows 8 and full blown Windows 8 software and games in Windows Phone 8. However, not all is rosy in Microsoft's vista – current Mango users will never get a WP8 update, just cosmetic changes with Windows Phone 7.8. Nokia and its entire current lineup of Lumia Windows Phone smart devices, has been embarrassingly abandoned, with users offered no recourse except investing once more in new hardware for the new ecosystem.

Nokia, the former world leader, is still struggling to play catch up with Apple and Samsung in the smartphone-sphere and while its future doesn't look as grim as its death before Windows Phone, the company evidently isn't reassuring any of its current users of a stable future. The company is hoped to unveil its Windows Phone 8 offering ahead of the pack though, in the first week of September.

Brimful of Ashas

Nokia's Symbian offerings have virtually stopped being counted in the smartphone race, being almost relegated to a dumb, feature phone role. In the meanwhile, Nokia is challenging the very murky boundary of the smartphone-feature phone divide, by releasing feature-phones with smart features. Unfortunately for consumers, but fortunately for journalists, the definition of a smartphone has come to mean those devices that run on Android, Blackberry, iOS and Windows Phone.



What is a nerd?
Intelligence, obsession, social ineptitude and having suffered at the hand of the cool kids?
http://dgit.in/R8tnfB



Last minute changes
Here's a look at some games that went through drastic changes during their development cycle
http://dgit.in/SRM8l1

The big three of the web world

The internet is a massive place, and keeping a track of trends can be quite tedious, and comprehensiveness is absolutely unfeasible. Major trends however, are evident, and since the last month, the web has been abuzz with myriad changes, slowly moving further towards complete cloud connectivity.

Updates continued to be made to the rapidly evolving messaging, mail, and social networking platforms, essentially allowing users to more easily share and manage their content, and better connect with their contacts across the world. The usual suspects of the internet, Google, Facebook, and Microsoft, are once again the biggest movers since last month, announcing new features to existing services, rebranding older properties, and in come cases, spring-cleaning away less-used services.

The most popular search engine in the world, our window to the internet, Google Search, also got its fair share of updates, adding personalized results from Gmail, while demoting sites with copyright violation histories – an anti-piracy move that was a surprise turnaround to the search giant's previously espoused internet freedom slogan.

Outlook.com

Microsoft has released a preview version of a social network friendly online mail service called Outlook.com, the successor of the company's old Hotmail service. Microsoft is touting Outlook.com as a new free mail service that pulls in features of Hotmail and Exchange. Microsoft further says the new mail service has been designed for personal use. Outlook.com is integrated with Windows and Office, and can even pull in contacts from websites such as Gmail, Twitter, Facebook, Google+ and Linked. The company is working to bring Skype integration to make the email more relevant for all users.



Outlook Inbox with Skype dialog box



Outlook message PhotoMail

As rumoured previously, the new mail client comes with cleaner and fresher UI, having lots of white space, similar to Google's recent facelift to Gmail. Outlook.com also uses Exchange ActiveSync, enabling users to have more control over mail, calendar and experience on the smartphone, tablet, and the new Outlook 2013 Preview. Outlook.com is also said to be compatible with Windows 8, which is scheduled to launch on Oct. 26. This means, the new mail service will be equally friendly to touch and mouse-and-keyboard input.

Microsoft has also introduced improved spam control features that can differentiate between important e-mails, newsletters and junk mail, and place them where they belong. Launching a veiled attack on Google, Chris Jones in the blog says the company does not scan mails or attachments to show relevant ads in the mail box.

Existing Hotmail users can upgrade to Outlook.com by simply choosing the upgrade option from their Hotmail settings. Users, however, have the option to retain their same account id with @outlook.com or get a new alias. New users can simply visit Outlook.com and create a new account.

Google Round-Up

Apart from entertaining and connecting the world to the London 2012 Olympics with its competition-inducing interactive sports doodles, Google made several headlines this month. To start with, the company announced it would be replacing the Gmail video chat feature with Google+ Hangouts video chat, helping it deepen Google+ integration with Gmail, and offering better video-chat reliability and quality.

Google also announced that Google+ profiles and pages will be getting custom URLs,



Gmail-hangouts

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Facebook expecting a baby

just like the vanity URLs that Facebook and Twitter provide their users. For now, Google+'s custom URLs are currently available to a limited number of 'verified' profiles and pages. The service, however, will be soon rolled out to more brands and individuals.

In other Google+ related news, the search giant announced the launch of a new audio setting for hangouts, Studio Mode. The new feature is said to enhance sound specifically for music. Rounding up the Google+ news, a customer satisfaction index found Google+ to be higher ranked than Facebook. According to the American Customer Satisfaction Index (ACSI) E-Business Report, Facebook is now one of the least liked social media sites in its index, while Google+ and Wikipedia are on the top of the list. According to the report, people appreciate Google+ for lesser stress on advertising. Google+ was included in the list for the first time.

As we mentioned earlier, Google has updated search, adding Gmail messages to search results, thus allowing signed in users to find relevant content from their inbox, apart from the web as well, in a single location. The company has also expanded Knowledge Graph across the world, added a new interactive carousel, apart from bringing voice search to its mobile app for iPhone and iPad. In the meanwhile, Google also announced it would be changing the way it would display results, demoting those websites with copyright infringement notices. It will be using data of the number of copyright removal notices a site has got as a negative signal. The data comes from copyright infringement notices posted on Google's 'Removing Content From Google' page.

It's being speculated that YouTube will not be affected by the new search ranking process, as the site has its own built-in copyright violation takedown system, called the Copyright Center, and data from the 'Removing Content from Google' page won't be used. Most Internet freedom experts are worried Google will not be putting in sufficient effort into validating copyright infringement claims, and in the case of all bad-faith tactics, be misled by false positives. Google Search now also has a full-fledged 34-button scientific calculator, with buttons for 16 scientific functions. Google is offering a compact version of the calculator for the mobile browser on both Android and iOS platforms. Moreover, the calculator works with Desktop voice search as well, which means you can simply speak aloud equations for answers. Finally, Google also shutdown a few services, such as Listen, Google Apps for Teams and Google Video for Business

Facebook Round-Up

Facebook is reportedly testing a new feature called 'Mail A Postcard', which allows users to turn their photos on the social networking website into real postcards and have Facebook send it to their friends. Facebook will be charging users a small fee for the service, though the company is currently working on different price points.

Facebook is also reportedly working to improve the online presence of Instagram. The free photo sharing service has been a massive success as an application, and Facebook is now looking to leverage its popularity on the web as well.

Apart from this, Facebook has also introduced a new Timeline feature called 'Expecting a Baby", which enables users to share time when they are going to become a mother or father. The new life event for Timeline allows expectant parents to share their baby's due date and also choose gender, whether it is a boy or a girl.

Finally, Facebook said that it has fixed a glitch that allowed links to deleted photos to stay live long after a user thought they'd been banished from the site. Photos that users have deleted are quickly removed from Facebook profiles and newsfeeds, but if you happened to have a link to the deleted pic, that link stayed live for some time. An update to the Facebook network, however, has fixed the problem, a spokesman for the social network said.

London Olympics 2012 and Social Media



The London Olympics 2012 will be remembered for various reasons – scintillating performances of athletes such as Usain Bolt and Michael Phelps, match fixing scandals and much more. The London Games, however, will also be remembered as the first 'social Olympics' in view of the massive fan following and publicity on the social networking websites such as Facebook and Twitter. Facebook has also vindicated this notion in its latest report, revealing statistics related to content shared during the event. According to Facebook, the social networking website saw more than 116 million posts and comments related to the Olympics games, while athletes went to add 12.2 million new Likes to their Pages. Over 1 million people liked Jamaican Usain Bolt's Page during the games, bringing his total to more than 8.1M. More than 850K people liked Michael Phelps' Page during the games, bringing his total to more than 6.3M.

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Bitten by the nostalgia bug

Move over boring RSS readers. Here are some apps that will present news to you, the way it's supposed to be presented – via a digital newspaper format

Nimish Dubey
readersletters@thinkdigit.com

If getting the latest news update meant opening a messy RSS reader, then we have some good news. Now, you can get apps that deliver news to you in the way in which it is meant to be read – in digital newspaper/magazine form.

The Early Edition 2 (iOS)

The battle between the supporters of Flipboard and The Early Edition is as vicious as that between those of Tintin and Asterix, with each claiming superiority. While each has its strengths, there is no doubt that for pure news hunters, The Early Edition (The Early Edition 2 being its latest avatar) is



The Early Edition 2

THE app to go to, with its ability to transform and blend feeds into a newspaper-like appearance with silky smooth page turnovers and a column-based layout. Top that off with a very good offline reading option and we think the app does more than enough to justify its price tag.

Available from: iTunes App Store
Price: $4.99

Zite (iOS, Android, and Windows Phone)

"Personalised magazine" is the term used for Zite (read our review: http://dgit.in/QA0ggz), and it certainly fits the bill. Unlike the other apps mentioned in this piece, this is a side scrolling app, rather than a "page turning" one. What's more, it is an excellent option for those who want to get their news without having to bother too much about choosing individual sources. Zite's system works around your choosing sections (and there are plenty of those) and then leaving it to the app to bring the best news under each to your device. An excellent option for those who wish to get their news in a smooth interface with minimum fuss.

Available from: iTunes App Store, Google Play, Windows Phone Marketplace
Price: Free

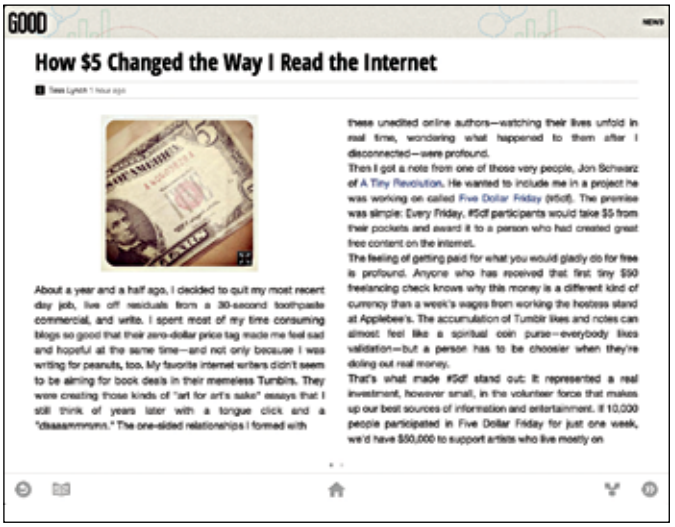
Evri (iOS)

It converts news feeds into magazine-like content, giving you the option to choose between different channels. But where it stands out, is in the fact that it not just shows you a story, but also keeps displaying you links to related topics. In terms of layout, it is a sides-croller with a single columnar layout, but it works very smoothly indeed. It comes with Facebook and Twitter aggregation as well, for good measure.

Available from: iTunes App Store
Price: Free



Evri



Google Currents

Google Currents (Android and iOS)

It might not quite be the Flipboard killer that many Google fans hoped it would be, but Google Currents remains a very decent app for those who want to read their news with a bit of style. The launch screen remains a tad drab, but pick the sites you wish to follow and the app converts them into neat digital magazines, which you can flick through at your leisure. No, it is not as smooth as Flipboard or Early Edition, but it more than compensates with the absence of a price tag and information delivery.

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Comic-book nirvana

We take a look at some of the free comic-book reading apps, some of which even offer free comics, to keep the comic-book junkies happy

Sameer Mitha
sameer.mitha@thinkdigit.com

With devices such as the iPhone, iPad and the plethora of Android devices making their mark in virtually every household and in the hands of today's youth, we thought we'd list down five cool comic-book reader apps for comic-book fans. The apps can be downloaded for free and some of them even offer free comics.

Comics

Housing a variety of comics under one roof, Comics is an app that can act as your one stop shop for downloading comics from a variety of genres.



Comics

There are some comics in the app that are free but most of them need to be purchased. If you aren't finicky about having a dedicated app for your Marvel and DC comics you can check this one out.

The library of publishers supporting this app is pretty large and includes the likes of Marvel Comics, DC Comics, Image Comics, BOOM Studios, Dynamite Entertainment, Red 5, TOKYOPOP and Zenescope to name a few.

The interface of the app is fairly simple. You can directly search for the comic book you are looking for or browse through the featured comics, browse by publishers, series and genres.

Download: iOS, Android

Marvel Comics

If you are a die-hard fan of the Marvel universe, then this is an app exclusively for you. You can get instant access to your favourite superheroes like Iron Man, X-Men, the Incredible Hulk, Spider-Man and many more under one roof.

Once cool feature of the app is that each of your downloads will be protected and backed up when you use your Marvel.com account, meaning the next time you lose or upgrade your device you'll find your comics waiting to be read again!

The app gives users access to over 3,500 comics of the Marvel super heroes! Free comics for download are updated weekly. The app also offers a customizable reading experience – choose between panel to panel, full page display, and more!

Download: iOS, Android

DC Comics

Most comic book readers support both the DC and Marvel universe but there are those that have set up camps on one side. We have seen the exclusive Marvel app and now it is time to move on to the DC universe.



DC Comics

From Batman, Superman, Green Lantern and the Justice League, all the comic books about the DC super heroes are available under one roof.

DC Comics publishes more than 80 comic format titles monthly and over 1,000 comic books and graphic novels annually. DC also presents different flavors of graphic storytelling through its diverse imprints.

The app also enables users to take advantage of the unique Guided View reading experience or enjoy the classic full-page view. What's more, readers will be able to conveniently manage and read their entire collection anytime, on a desk computer, laptop or on the move.

Download: iOS, Android

Digital Comics

Digital Comics brings comic books to life in a unique way. The Panel Mode automatically guides readers from panel to panel, on a timer, or at the tap of a button; no more tedious manual panning and zooming (although Digital Comics also provides manual navigation as well).



Archie Comics

A cool feature of this app is that as gunshots fire, and explosion go off in the comic, you'll see the screen shake and even feel the device vibrate in your hand adding to the involvement level with the comic.

The only drawback is that the app doesn't look the best especially on the third generation iPad when compared to the competition.

Download: iOS

Archie Comics

For most, comic books are about action, adventure, normal people falling into chemicals, getting bitten by bugs and growing superpowers. We respect you, but you need to respect the other side of the coin – Archie. Many people are fascinated by the adventures of Betty, Veronica, Jughead, Reggie and of course, Archie.

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Download: iOS, Android

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Upgrade your online security

The recent hack on a journalist's online accounts highlights how woefully out of date our security practices are

Paanini Navilekar
readersletters@thinkdigit.com

A few weeks ago, Mat Honan, a writer at Wired magazine got his online accounts hacked. Yes, that's 'accounts' as in plural. In a matter of an hour, Mat Honan's iPhone, iPad and Macbook were wiped clean of their data by hackers who got into his iCloud account. Next, they proceeded to gain access to his Google account and subsequently deleted it. The motive? Mat's three-letter Twitter handle – '@mat'. The hackers saw the lucrative handle and decided to go after it, using whatever means they saw necessary. The only tool they needed, were a couple of phone calls.

In a scary coincidence, Amazon and Apple's contrasting security policies, along with some carelessness on Mat's part led to him losing access to all his digital accounts along with all of his data (including pictures of his one-year-old daughter). Apparently, Amazon displays the last four digits of the account holder's credit card publicly, but Apple uses these very same last four digits to confirm your identity over the phone. Using this loophole in the operating procedure of the two tech giants, the hackers gained access to Mat's iCloud account and used a temporary password to remotely wipe his Macbook, iPad and iPhone. Since Mat used his Mobile Me address as a secondary address for his Gmail, they were able to obtain his Gmail credentials with ease. Since his Gmail address was linked to his Twitter account, the hackers reset his Twitter password and gained access to his Twitter handle.

The hack was successful for a lot of reasons, but it could have been entirely avoided with a few precautions. Mat (and most of us) use security practices that were cultivated in the early days of the internet. But in this day and age where we store such a great deal of our personal data on the cloud, these practices need some reviewing. One example is the traditional approach of using a 'strong' password, or even different passwords on all your online accounts. The hackers didn't use any 'traditional' techniques to break into his accounts and they never needed to use Mat's original passwords to any of his accounts.

There are several lessons one can learn from this incident. First and most importantly backup all your online and offline data, redundantly. The term 'redundantly' is important here, as having multiple copies of your data in different places is a sure step towards mitigating the effects of a hack. When making backups, make sure you make both online and offline backups, make sure the backups are securely encrypted, and if possibly use an automated backup mechanism so you don't have to bother with it yourself. (Note that tools like Dropbox and Google Drive aren't exactly backup solutions, they're more suited for file syncing. With a few tweaks however, they can be adapted to our needs)

For offline backups, we prefer a program like Crashplan (www.crashplan.com) which automates the entire process. The application works on practically all platforms (Windows, Mac, Linux and Solaris), is completely free of cost and can simultaneously backup your data to multiple locations for you. All backups are compressed with a highly optimised algorithm and securely encrypted, can be scheduled and fully automated. There is no limit on the file size or total size of the backup; the only restriction is the size of your physical drive. We recommend using an external hard drive that remains attached to your main computer at all times. (If your wireless router has a USB port, that's the ideal place to attach the drive). Download the application, set up the directories you would like to have backed up, and let Crashplan take care of the rest. Note that Crashplan can also backup to locations on the cloud, but you'll need to subscribe to the paid Crashplan+ plan.



Crashplan provides an automated, flexible solution for all your backup needs

Instead, assuming you're already a user of cloud storage via a service like Dropbox or Google Drive, you can leverage this space and configure it as a destination for your Crashplan backups. This ensures you'll always have a local copy on your working machine along with a copy on the cloud. Furthermore, since we're using Crashplan to encrypt our backups, in the event your cloud credentials are compromised, your personal data should be reasonably safe. As a thumb rule, any critical data you store online MUST be encrypted. You can compress and encrypt your data yourself using a password protected archive file format like .7z (www.7-zip.org)

Now that you've safely set up a backup system, let's turn our attention to the real threat: your online accounts. That passwords aren't the safest way to protect your account is quite well established. The old rules of using unique, strong passwords for your accounts still stand, of course. If you're worried you may not be able to remember a dozen or so passwords, let a program do it for you. Password managers such as Lastpass (www.lastpass.com)

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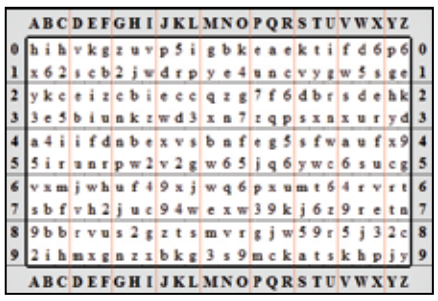
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and KeePassX (www.keepassx.com) integrate with your workflow quite well, and are known to be very secure, using multi-factor authentication and strong methods of data encryption.

Lastpass, for example, requires you to remember a single password to a 'vault' that holds the login credentials to your other online accounts. Lastpass will automatically sign you into websites whose login information you've stored (thus thwarting any keyloggers that may be installed on your system without your knowledge), automatically generate a random password for every new service you sign up for and fill up online forms for you. It's quite robust and works on nearly every platform with browser extensions for Mozilla Firefox, Google Chrome, Apple's Safari, Microsoft's Internet Explorer and Opera as well as mobile and desktop applications for nearly all devices. It also has a few handy features such as a virtual keyboard to prevent keyboard sniffers and a one-time password that you can use when logging in from an untrusted computer. If you're wary of holding all your credentials in one digital egg basket, Lastpass offers multi-factor authentication. Multi-factor authentication essentially means your password alone isn't sufficient to sign you in. Lastpass offers Grid multi-factor authentication for its free users or you can choose to use the Google Authenticator app for smartphones in conjunction with Lastpass as well. In the former, you are required to print out a grid that contains some codes. While logging in, you'll be asked for a code on the grid corresponding to a specific row and column. Even if your LastPass account password was to be compromised, your password data would still be safe.

Google's Two-Factor authentication isn't new, but it's a very effective and little-known second layer of defence for your Google (or LastPass) account. It works by setting up your mobile phone with your Google account, along with a backup number in case you misplace your phone. Whenever you need to log in to a Google service like Gmail or Google Reader, you'll first have to enter your password, and then a 6-digit code will be sent to your mobile using SMS. Only after successfully authenticating will you be allowed access to your data. In case you misplace your phone, you can choose to have the verification code sent to your backup phone(s). (You don't have to do this every time; you can mark some devices as 'trusted' for a period of 30 days). If you're in a place without cellular network, Google provides a smartphone app called the Google Authenticator that can perform a similar function. (This app can also be configured to work with LastPass for an extra layer of security).

Finally, if all else fails, Google provides you with a set of ten codes that you can print out and keep with you at all times. These are one-use codes and can be used in case of an emergency if you don't have access to your phone or are in a place without cellular network. If you have a Google account, we strongly recommend that you set up two-factor authentication RIGHT NOW. Here's the link: http://goo.gl/8GQrj (Facebook also provides two-step verification called 'Login Approvals' that works similarly)



Lastpass' Grid Multifactor Authentication is an effective way to secure your account

Another weakness in Mat's case, was that all his accounts were chained to one another, and by gaining access to one account, hackers could infiltrate all of them. Make sure this isn't true in your case. Ensure that all your major online accounts like your primary email, social networks and bank accounts are isolated from one another. If possible, use separate emails for these services and use a slightly different identifier (the part that comes before the @ sign in an email address) for each service. Email is free, and if you think you'll have trouble remembering all those passwords (remember to use unique passwords), let LastPass handle it for you.

Another oft overlooked item, is the security question. Never answer security questions honestly. Most services don't let you choose your question and anyone who knows you personally may be able to answer (or guess the answer) to the question. Instead, use wacky, unconventional answers that only you know of. Make up funny phrases completely unrelated to the question. You can use the secure notes feature of Lastpass to store a list of these wacky phrases in case you ever forget them. (Just like your passwords, these notes are encrypted and safely stored in your vault.)

Lastly, if your device itself were to be stolen, make sure you have a form of remote login or remote wipe configured. iOS users can use the 'Find my iPhone' feature to remote login and wipe their devices, and



Avast Mobile Security is a free app with Anti-Theft features

Android users can use the Google Apps 'Device Policy' app (http://goo.gl/5I1GF) to remote wipe the contents of their stolen or misplaced device. Note that this will only wipe the internal storage and not any of the data stored on the SD card. To wipe the SD card as well, consider using an app like Android Lost that has a tonne of other security features as well. As a precautionary measure, consider installing Prey, a software that can track the location of a stolen device and can email you details including its location, periodic screenshots of the device and snapshots from the device's camera / webcam. It's cross platform and available for laptops as well as smartphones, so there's no reason why you shouldn't set it up!

No amount of security is going to be 100 per cent fail-safe, but in the wake of recent events, reviewing your digital security is a necessity. While some of the methods mentioned above may cause some inconvenience at first, the added security in the long run makes it worth it. After all, you'd rather be safe than sorry!

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*Battery life will vary depending on the product model, configuration, loaded applications, features, use, wireless functionality and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See MobileMark07 battery benchmark. †Requires a select Intel® processor, Intel® software and BIOS update, and Intel® Solid-State Drive (SSD). Depending on system configuration, your results may vary. ©2012 Hewlett-Packard Development Company, L.P. Microsoft, Windows and Windows Vista are trademarks of the Microsoft group of companies. This system may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See http://www.microsoft.com/windows/windows-7/ for details. Ultrabook, Celeron, Celeron Inside, Core Inside, Intel, Intel Logo, Intel Atom, Intel Atom Inside, Intel Core, Intel Inside, Intel Inside Logo, Intel vPro, Itanium, Itanium Inside, Pentium, Pentium Inside, vPro Inside, Xeon, and Xeon Inside are trademarks of Intel Corporation in the U.S. and/or other countries. Intel's numbering is not a measurement of higher performance.

32

Thumb PCs
Tiny PCs are slowly flooding the market. Are they the next big thing? We find out...

iTunes library management tips
You pack lots of stuff in your iTunes library including music, movies, TV shows, and audio books. Learn to manage it better **http://dgit.in/SurXfD**



Wagan Solar ePower Cube 1500

Ours is still a third-world country (remember the Northern Grid collapse?) and uninterrupted power is still a luxury concentrated in big cities. For ₹66,000, you can solve the riddle by wholly relying on the energy of the sun. This solar power generator from Wagan is capable of providing 1500W of continuous A/C output with a peak of 3600W. And the generator is portable, with solar panels that spread out and fold in with ease. The ePower Cube 1500 has power sockets and USB ports built-in for instant plug-n-play power output.

Eco-friendly gadgets, making the earth smile

Logitech K750 wireless keyboard

A thin, PVC-free wireless keyboard packed in a box made from recycled paper, the Logitech K750 takes its eco-friendly tag pretty seriously. The wireless solar keyboard claims to run on both natural and artificial light -- yeah, you read that right. It means you can use the keyboard in front of your monitor or in a well-lit room and not worry about charging it ever again. Brilliant, for a one-time investment of ₹5,900, isn't it?





SolarFocus' Kindle cover

The Kindle is still the best-selling and yet unmatched ebook reader out there. What better way to make the digital book carrier eco-friendly than powering it with solar energy? A lightweight jacket with a solar panel in front, the Kindle cover not only charges the device's battery but also comes with an additional 1500mA battery pack built-in. Fully charging the battery takes about eight hours under sunlight, which gives you about three weeks of additional time. That's not all, at the top of the SolarFocus Kindle jacket is a built-in LED light which can be propped open to illuminate the Kindle's surface for reading in the dark. Practical? Yes! Funky? You bet. Price? ₹4,500.



Mac OS X 10.8 Mountain Lion
Apple recently launched its latest desktop OS, Mac OS X 10.8 Mountain Lion. Lets take a tour:
http://dgit.in/NFhKO1



Another Tablet
Zync recently launched its low cost tablet, the Z-909 plus for ₹3,699.

Crosskase Solar 15 Backpack

Imagine a backpack with a solar panel and built-in ports to charge your laptop and gadgets as they snuggle inside? Well, that's what this smart, eco-friendly bag does, converting natural light into power for your early 21st century gadgets. With a visible 3 Watt solar panel outside, the backpack generates enough energy to charge a 2200mAH battery. Spread across the backpack's internal compartments are ports compatible with eight device charging adaptors (micro USB, mini USB, Nokia, Samsung, Apple, Sony, Motorola, etc.) to plug-n-charge your smart gadgets. The backpack can accommodate a 15.6-inch laptop and is made of durable water-repellent ballistic nylon with dedicated iPod and iPad pockets. This can be yours for a little under ₹17,000. Going green anytime soon?





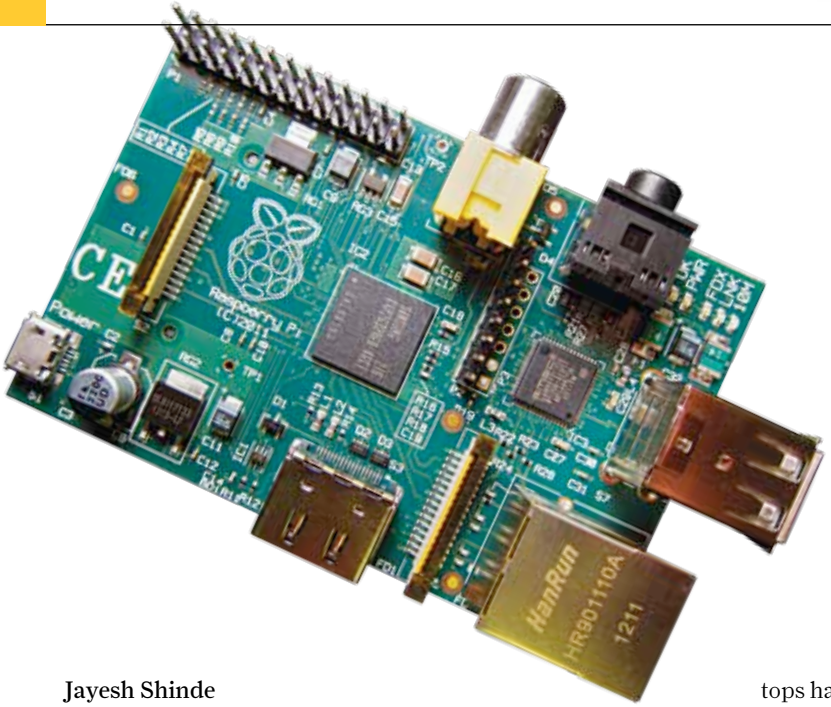
Rukus Solar

A portable Bluetooth speaker that runs on sunshine? That's what the Rukus Solar's all about. It has an internal 7V 1500mAH Li-ion battery which is charged by a monocrystal solar panel. With two full-range stereo speakers, the Rukus Solar needs only a Bluetooth audio source to get the good times going. Not only does it have a cleverly crafted handle in its design, but the portable speaker also maintains a USB port for charging mobile devices -- so thoughtful. Weighing just under a kilo, this solar-charging bluetooth speaker is available for a minimum of ₹8,500.

Sharing files in OS X
When emailing someone a file, attaching is one option. There are other ways to do it too. Find out here: **http://dgit.in/NphKvL**



Chinese Dragon Flash Drive
Silicon Power unveils the Dragon theme Touch 836 USB flash drive in India. It's design is based on bronze colour with Chinese Dragon **http://dgit.in/Q3qddY**



Thumb PCs: A silent revolution?

Jayesh Shinde
jayesh.shinde@thinkdigit.com

Late last year, news of a credit card sized mini computer developed in the UK spread like a wildfire. Boasting all the elements of a fully functional traditional desktop PC – CPU, RAM, graphics, storage slot, ethernet port, HDMI out, USB port and 3.5 mm jack – the whole device along with its circuit board weighed only 45gm and cost $35! Talk about a revolutionary PC that could fit into your shirt pocket and go easy on the wallet. Not only had the prototype device generated enough buzz and excitement, it also managed to attract enough potential customers for this tantalizing "breakthrough" in modern computing to be out of stock within no time. The Raspberry Pi has been referred to by many glowing adjectives since then, and its unheralded launch has spurred others on the path of designing and manufacturing truly tiny, thumb-sized PCs. But is the trend a flash in the pan or an inevitable force of future computing?

Steady revival

People have been making tiny PCs against the dominant form factor of their respective generation for ages. But what the Raspberry Pi has done is to bring back the spotlight firmly back on tiny PCs at a time in personal technology where PCs have shrunk into tablets, laptops have shrunk into ultrabooks, and mobile phones have morphed into performance beasts sporting quad-core processors. The semiconductor industry is all about shrinking silicon dies and thinner fabrication processes, but while chips are getting smaller their performance is soaring. For the first time in the history of computing successful, mass market handheld products like smartphones and tablets sport faster processors and better tech than most table-top desktop or laptop PCs. It's no surprise that the cult of Thumb PCs should get revived now, aiming to strike the proverbial iron while it's still hot, hoping to make a permanent dent across the personal computing landscape.

As technology consumption becomes mass market, companies are waking up to the fact that most consumers of technology expect their gadgets to be fancy but at the same time less complicated. Also, most people who use the latest tech gadgets and who've experienced the digital age and forms of personal technology fairly late in their life, use gadgets and PCs for extremely basic work. A traditional PC with the latest quad-core processor coupled with multiple GBs of RAM is wasted and redundant on folks interested in merely surfing the Web and working on documents. For such consumers, the prospect of a cost-effective Thumb PC becomes a lot more attractive. Feeding the demand is a steady number of manufacturers who've identified a niche market.



The Mele A1000 with its I/O ports

PC re-imagined

Apart from the $35 Raspberry Pi, the $74 Mele A1000 is one such cost-effective Thumb PC launched earlier this year. Albeit bigger than the Pi, the Mele can dual-boot Android 2.3 and Ubuntu, boasting an underlying hardware comprising a 1.2GHz Cortex A8 ARM chip with a MALI400MP OpenGL ES 2.0 GPU and 512MB of RAM. Connectivity ports include a VGA port, audio-video in, eSATA port, two USB 2.0 ports, SD card slot and an ethernet jack. The thing also has 2GB of onboard flash storage and 802.11 b/g/n Wi-Fi support. It's potentially marketed as a media device.

The APC from VIA is another tiny PC with a lot of promise. Measuring slightly larger than an iPhone, the APC is a $49 Android PC that packs quite a punch. The device has an 800MHz ARM

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Movie Challenge Lite
Looking for a movie trivia game? If yes, then Movie Challenge Lite is worth a shot
http://dgit.in/PHkjLM

No Facebook Phone
Mark Zuckerberg quelled all rumours about a potential smartphone from the social network by completely denying any such development

SoC, 512MB of RAM and 2GB of internal storage, while I/O ports like microSD slot, USB 2.0, VGA, HDMI, 3.5 mm audio and headphone jack are also supported. The VIA APC runs a slightly modified version of Android 2.3 Gingerbread with the ability to detect keyboard and mouse (Android doesn't natively support external keyboard or mouse). The form factor of the device is dubbed as Neo-ITX which is considerably smaller than mini-ITX boards. With a fully functional web browser, and the range of I/O devices supported by the APC, it truly is a tiny PC at an unbelievable price.

Just this month, we got our hands on a Chinese made Android 4.0 Mini PC which isn't any bigger than a USB pendrive, justifying the label of a Thumb PC to the fullest. Only a handful of connectivity ports are present on the slim



The VIA APC has a neo-ITX form factor

and tiny device – mini USB, microSD card slot, USB 2.0 port, and a mini HDMI port, not to mention built-in Wi-Fi. We tried connecting a USB keyboard and mouse through a hub and tried operating the Thumb PC and its Android 4.0 ICS interface. Obviously, it isn't the same as using a Windows-based PC, but with a little patience and the might of Google's Play store at your disposal, you can get by. Like any new product of an emerging category, the Android 4.0 Mini PC has its pros and cons (read the extensive review at http://dgit.in/Py41Vv) but for Rs. 5,000, it's a good second PC that you can take around wherever you go.

The Norwegian manufacturer FXI has started shipping Cotton Candy, which is just another example of the potential of these tiny computers. It measures just a tad over three inches and has a dual-core ARM processor. A micro USB port, mini HDMI port and a microSD slot make up



The pendrive-sized Android 4.0 mini PC

the physical I/O ports available on the device. It also has built-in Wi-Fi and Bluetooth radios for connecting a pair of wireless keyboard and mouse. You can either install Android 4.0 or Ubuntu on the Cotton Candy, which sells for a price of $199 and can be used to make any TV a smart TV or extending your smartphone's screen environment.

While steady in number, the current state of Thumb PCs isn't really a mass market product simply because they aren't great examples of a PC for general use. No complaint about their form factors – they're fantastic – and that's the right direction to go, but on a hardware and software level it will continue to be a restrictive environment. Unless something changes fundamentally, and that change may well be in the offing.

What's in store

Obviously, the current wave of Thumb PCs is clearly piggy-backing on the phenomenal success of modern day smartphones and tablets, and we all have ARM's architecture (prevalent in over 90% of smartphones) to thank for. On current evidence, there is no way to tell whether Thumb PCs will make a significant dent in the market. But Intel, a giant from the PC

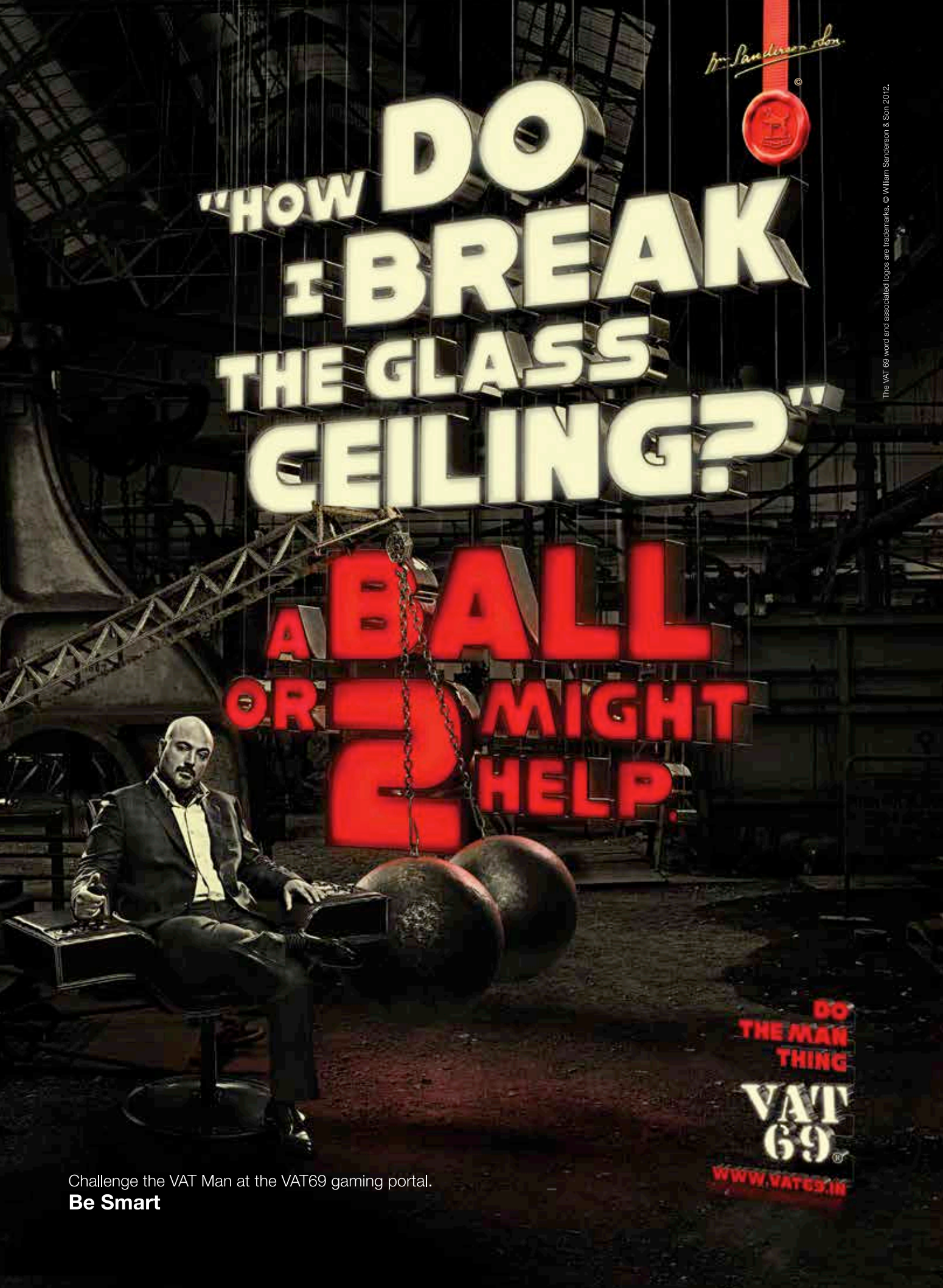


FXI's Cotton Candy measures just 8 cm

chip manufacturing sector, is expected to make huge inroads by offering a flavour of x86 computing on smartphones and tablets. It has already launched the Lava XOLO X900, an Android smartphone running on a 1.6 GHz Intel Atom Z2460 processor. According to one report, Intel's upcoming Medfield-based offerings will be better in power utilization and graphics performance compared to a competing ARM offering. All this points to a Thumb PC based on Intel's architecture in the near future.

While comparing hardware projections, don't forget the beauty of software. So far, Android and Linux has played an equally important role in re-igniting interest in Thumb PCs. But come October, Microsoft will reveal the latest version of its operating system, Windows 8, and with it support for products based on ARM architecture – which includes smartphones, tablets, and the present state of Thumb PCs. All this is just excellent news for the immediate future of Thumb PCs. Windows is the most widely-used operating system on the planet, and there's no ruling out the impact Microsoft's upcoming Windows 8 may have in boosting the widespread acceptability of Thumb PCs. While it may be struggling to woo developers on Windows Phone so far, it has a global army of developers for Windows x86 and x64, the traditional PC versions. Imagine the potential of a Thumb PC based on Intel's Medfield chips like the one on the Lava XOLO X900 (supporting x86 instruction set) running on Windows 8. That is a potent combination, and one can only hope that such a scenario does come to fruition.

All said, there's a lot of flux in the PC market. The PC as we knew it in the mid-90s was first conceived by IBM, and who's to say that PCs of the near future won't be radically different in design? In this age of digital convergence, we are habituated to expect accelerated performance on shrinking form factors. By all indications, and after tablets and hybrids, Thumb PCs resemble the latest step in the journey of personal computing. Linux will always be there, but for the explosive rise of Thumb PCs, a lot will ride on ARM, Intel and Microsoft's near-term future.



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38

The space station
Why is a $35billion space station orbitting the Earth? How much does it really cost? We give you the skinny on its existence

A cellphone screen extender?
Check out the demo of Plastic Logic's flexible e-paper being used as a cellphone accessory
http://dgit.in/O8Wizi

Polymer Promises

A look at the research in the field of plastic electronics

Nimish Sawant
nimish.sawant@9dot9.in

Whenever we talk about clean and green energy alternatives, plastic is the last thing that will come to anyone's mind. Well, how would you feel if we told you that a team of researchers has created the first completely plastic Solar Cell?

A subset of electronics

We will get to the plastic solar cell in a bit. But first, welcome to the field of plastic electronics – a branch of organic electronics that uses organic carbon-based polymers which are semi-conductive in nature to build electronics instead of silicon. You are familiar with organic polymers, which are all around us in the form of plastic bags, bottles to even solar panels.

Plastic electronics basically comprise a plastic substrate made from organic material onto which electronic circuits are printed in the form of flattened sheets. Unlike silicon-based electronics, plastic electronics, by their very attributes are much more robust and can easily be flexed or bent while maintaining the conductivity at the same time. Inorganic materials in electronics are brittle in nature and thereby cannot be subjected to flexing without affecting the overall conductivity in some way or the other.

Ongoing research

Researchers at Princeton University led by Yueh Lin Loo have developed plastics that can conduct electricity. It was initially difficult to produce plastic which excelled in three attributes, namely translucence (ability to be semi-transparent), malleability (ability to be beaten into thin sheets) and conductivity. According to her team, the first two attributes came by compromising on conductivity. It was eventually discovered that while making polymers (scientific term for plastic) moldable, their structures were trapped in rigid forms thereby preventing electric current to pass through them. The researchers relaxed the structure of the plastics by treating them with an acid after processing.

Circuits are made by first coating the polymer material onto a plastic base substrate using a process called spin-coating. This involves placing a drop or two of the coating polymer on the substrate which is then spun at a fast speed. The spinning ends up spreading the polymer film evenly on the substrate whose thickness is about 100 nanometers. This is followed by evaporating gold on the film using a mask which is placed on the polymer film and then put in a gold evaporating contraption. The pattern of the mask determined where the gold will be evaporated.



Plastic Logic's companion epaper as an accessory to your mobile phone allows reading documents, attachments, news articles on the go very easy

The materials

Material matters a lot when it comes to making plastic conductive. Cambridge University's Cavendish Professor of Physics Richard Friend is one of the pioneers of the study of organic polymers and the electronic properties of molecular semiconductors. "Polymer semiconductors are developed for their own specific application. For example colour of light emissions is important in OLEDs whereas speed of switching is important in FETs", he said.

Even at Princeton University, some researchers from the team make new materials, others characterise the structure of these materials and others incorporate these materials to understand their potential in certain applications. An example is polyaniline, a conducting polymer which changes color when different voltages are applied to it. Such a polymer can be used as a sensor which changes colour when it comes in contact with a reagent, for instance in purifying water.

Simpler manufacturing

Another advantage with plastic electronics lies with the simple manufacturing process involved. Chip makers have to invest in large fabrication plants where silicon-based electronic chips are mass produced under the most cleanest of environment using the most expensive of manufacturing processes. You require very high temperatures for processes such as etching, lithography and extremely clean room facilities. We are all familiar with those space-ship-type suits which engineers wear before entering a fab. Polymer based electronics, on the other hand do not need any of the above-mentioned meticulous processes for production. Polymers can be printed out using traditional inkjet printers.



Michigan Univ connects vehicles

A total of 3,000 vehicles in Ann Arbor, Michigan are taking part in a one-of-a-kind year-long smart car safety pilot project

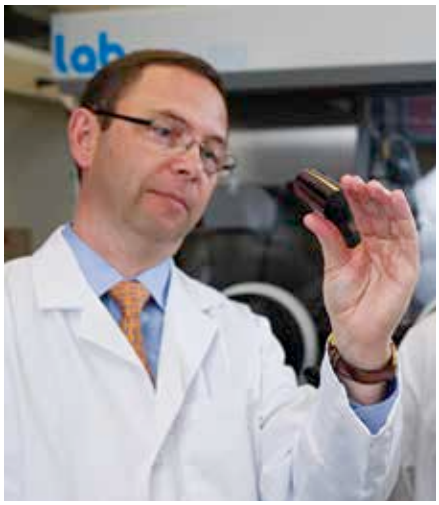
Applications

Plastic Solar Cells

Researchers at Georgia Tech's Centre for Organic Photonics and Electronics led by Professor Bernard Kippelen, have created the world's first plastic solar cell. By spreading an ultrathin layer of a polymer on the surface of a conducting material produces a strong surface dipole. This converts the air-stable conductors into efficient electrodes. Conductors such as calcium, lithium or magnesium are extremely reactive and will stop working when exposed to oxygen or moisture. This is the reason why solar cells are covered with glass or expensive encapsulating materials. With the plastic solar cell, the conductor can be made of plastic material and will not require any encapsulation. Because of its thin size and ability to bend, you can install these plastic solar cells anywhere – window slides, over cars, on your backpack for all you care.

Packaging

Researchers at Philips have made plastic electronics based RFID tags which resemble a postage stamp. These tags are capable of transmitting multi-bit digital identification codes at 13.56 MHz which is the dominant industry standard for RFID tag applications. Belgian nanotech research group Imec, alongwith its partners have developed a plastic electronics-based RFID tag with a reader-talks-first communication protocol. In a shopping mall if many products have such tags, the communicating with the RFID reader will be confusing. According to Imec director Paul Heremans, with the reader-talks-first technology, when the RFID reader powers and contacts the RFID tag on the product, it sends clock and identification data.



Bernard Kippelen with the worlds first plastic solar cell



Photo Courtesy: Philips

Novatel's Liternity Victory OLED Lamp

OLED lighting

OLED is already used in cellphone screens and in the near future we are going to see a lot of OLED TVs in the market. LG and Samsung already showcased their OLED TVs at CES this year. Germany headquartered Novaled, a leading firm in OLED supply chain has come out with a brand called Liternity to market its OLED products for home use. Check out their table lamp Victory shown alongside which has OLED strips embedded in a wonderfully designed body. It will also save you a log of money on your electricity bills. Now wouldn't you want one of those? There are still other applications whereby light sensitive plastics can be used as sensors, flexible materials can make for wearable materials, interactive packaging using thin film OLED screens, and so on.

The Future?

Will we see plastic electronics replacing silicon electronics? "Plastic electronics is complementary to silicon and is unlikely to replace silicon in applications which are suited to silicon, such as computation," asserts Prof. Friend. The future should accommodate fast silicon electronics with cheaper plastic electronics.

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A dozen space stations?
Did you know that more than a dozen space stations have been launched between 1971 and 2012? The earliest space stations didn't really last long in orbit though

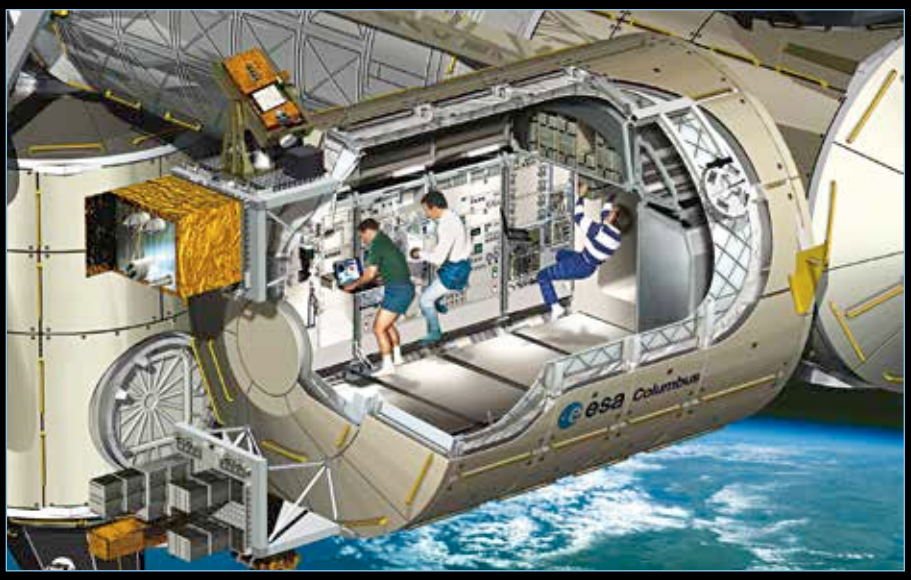


A salute to Salyut
Salyut 1 was the very first space station ever to be launched into space. Due to technical issues, it was functional for only 23 days

The TRUE purpose of the space station

At an estimated cost of over $35 billion, the International Space Station is one very expensive satellite. What is the true purpose of the ISS?

Anirudh Regidi
anirudh.regidi@thinkdigit.com



The current space station, better known as the International Space Station, has been in orbit for over a decade and has swallowed a very large portion of many a country's resources. At $35 billion dollars (probably much more) at the very least, you have to wonder if it is really worth all that effort, especially as China has now embarked on its mission to setup its own space station, the Tiangong series, one that can rival the current ISS in terms of technology and overall functionality.

A history lesson

The very first functional Space Station that was put into orbit was the Russian Salyut 1. Launched in 1971, this was a very basic spacecraft and while technically a space station, it wasn't really anything more than a crew compartment with nominal research facilities. For the Russians (and the world in general for that matter), this station was the first step in establishing that long-term survival in space was possible. The initial Salyut series were very primitive by today's standards, the Payload of the current Space Shuttles is far more than the weight of the entire station itself.

The Russians were of course, happy to piggy-back their Almaz stations along with the Salyut, the Almaz series being entirely military spacecraft. Meanwhile, the Americans went ahead and launched their Skylab station. This was far more advanced than the Russian stations and had far better facilities and observational tools.

The purpose

The problem however wasn't that the stations could be launched; that was established a long time ago. These primitive stations were far too simple to actually serve much of a functional purpose considering that satellites even at that time would have been far better at conducting the very same experiments that the space stations were deployed to conduct in the first place, and at a fraction of the cost. It was like having a manned Hubble space telescope. The human element served no essential purpose on those stations. In fact, senior scientists in NASA had rejected the initial proposals for the space station programs on the grounds that the stations were redundant and even more so, unnecessary.

The government did eventually go ahead with the plan. What they didn't accpet at the time was that the space stations were just, to put it mildly, nothing more than a game of one-upmanship between the Russians and the Americans. There was nothing wrong with this of course, the Russians were quite proud of their stations for what they were, a symbol of their superiority in the "space age". The Americans pretended otherwise but they knew the truth.

MIR and the ISS

These were the first truly international stations. Primarily made with collaboration between the Russians and the US, these stations, while expensive, were proper space laboratories. Despite the cost of maintaining these stations, $8 per month per American citizen by some estimates, the kind of research being conducted is claimed to be generating as much and more in returns.

Their research into microbiology (astrobiology), astronomy, human research and even Space Weather is revolutionary. Even the technologies used to build and design the space station are some of the most revolutionary the world has ever seen. This research includes fuel cells, development in solar cell technology, entirely new strains of fruits and vegetables, liquid metal... the list goes on. The developments and advances in human conditioning couldn't have been done anywhere else. If we plan to conquer even just our solar system in the near future, without the space stations, these goals would have been set back by decades.

So what is the true cost of the space station? Priceless.

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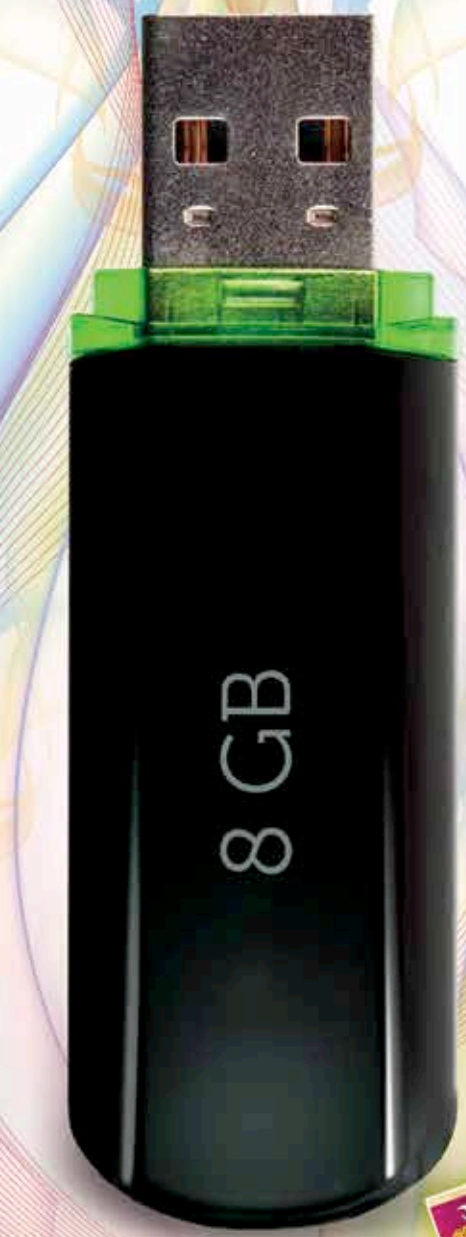
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OUTLOOK

Microsoft recently unveiled Outlook.com, its redesigned email service based on the fresh and modern Metro user interface. Outlook.com entirely connects you to social media while you're checking your email. It also assures the privacy and security of your data and information. If you're using Hotmail, you can easily upgrade to Outlook.com. You just have to click "Upgrade" in the options menu of Hotmail. Your email address, password, contacts, old email and rules will be retained. Outlook.com allows you to send or receive email from your @hotmail.com or @msn.com or @live.com address. You can also add a @Outlook.com alias email address to your account if you want. Let's explore some interesting tips and tricks within this latest email client from Microsoft.



Outlook 57
Office 2013 58
Windows 8 60

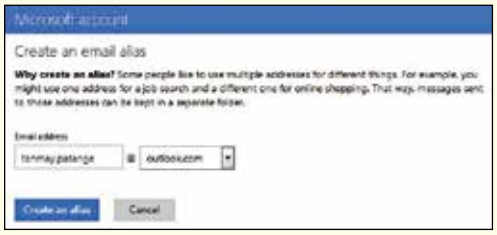
Tips & Tricks has its own page numbers, and does not follow the rest of the magazine's page numbers. This is done to ensure that you can cut out and save T&T in a separate folder for later reference.

Keyboard shortcuts

While using Outlook, you can increase your speed of operations by enabling keyboard shortcuts. While inside the inbox, click the Settings icon which you'll find on the upper right-handside corner next to your name. Then go to `More mail settings > Keyboard shortcuts` and select the mode you'd like to use. Besides being able to easily manage common tasks with your keyboard in Microsoft Outlook, if you're more familiar with Gmail or Yahoo! keyboard shortcuts, you can use them too. Just take a brief look at the table in the mentioned URL. It indicates various keyboard shortcuts that you can use in Outlook. In the table for Gmail and Yahoo! shortcuts, the empty cells indicate that there's no corresponding keyboard shortcut in that email program. Check them out! http://dgit.in/NpvWdO

Add an email alias

An alias works as an alternate email address to associate with your existing Outlook account. We often use multiple addresses for different purposes such as for blogging, online shopping, job search etc. With the help of aliases, we can use different @Outlook.com email addresses in the same inbox. Aliases use the same contact list and account settings as the primary account. Outlook automatically sends incoming email into separate folders for each account. It's possible to add up to five aliases per year and up to a maximum of 15 per account. Go to `Inbox > More mail settings > Create an Outlook alias.`



Outlook lets you add email aliases easily

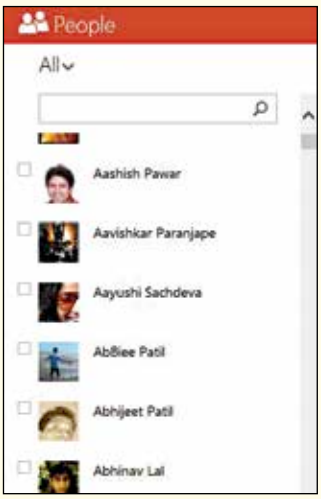
Access social media accounts

Social media management on Outlook allows you to negotiate with and view photos, updates contacts and tweets from Facebook, Google, LinkedIn, flickr and Twitter. In the future, Outlook promises to even make Skype services accessible right from your Outlook inbox. Besides Facebook updates from your network, you can also see links to user profiles and pages. Chat, like, update your status or comment straight from the right-handside pane.

You'll notice a smiley symbol at the top-right corner. Click to view the pane and then click 'Add' right at the bottom to add accounts. Connect each of the social networks you want to be viewable inside Outlook. Once you're all done, go to Add accounts › Do more with the accounts you've connected and tick the appropriate boxes.

Go to the "People" interface on Outlook to enjoy the ultimate social media experience. The Outlook logo at the top-left corner will take you there. Simply click the dropdown arrow to locate the "People" tile.

The public names and profile pictures imported from the social networks you chose to associate with Outlook will show up here. There are quite a few settings you can play around with. You can allow other tweeters to follow you by emailing them directly from Outlook. Your Twitter setting or "Let others find me by my email address" allows tweeters to find your public Twitter account by your email address. Before tweaking this setting, make sure that you're using Twitter with Microsoft Email client. To enable this option, follow the steps mentioned below:



Chat with your friends

Go to `Twitter.com > Settings > Account > Email`. Check the option "Let others find me by my email address". Save changes

If you want to stop people from finding you on Outlook, simply uncheck the option and click on "Save changes". Similarly, your Facebook privacy setting controls who can find your Facebook account by your email address or phone number on Facebook.

Go to `Facebook.com > Privacy Settings > How You Connect > Edit Settings >`

Password vaults
How many passwords does Direct Pass remember for free? Hint: Refer to a short-link in the board game. Add this answer to the page you came from to know your next destination in the magazine

who can look you up using the email address or phone number you provided? > Everyone. Click Done

Active Views in Outlook inbox

Isn't it cool to preview your Outlook contents right within your inbox, rather than navigating to other websites? Yes, it's possible with the help of Microsoft Outlook Active Views. Outlook offers two ways to use Active Views - previews and interactive email.

Previews:

- When you get email messages from your friends containing links to photos or videos, you can easily preview the contents with the help of Active Views.

Interactive email:

- When you get email updates about the different products and services you're using online, you can easily interact with the content right from within the same email. This is similar to being able to post comments or accept friend requests when you get updates from Facebook or Twitter.

To activate this setting head back to Mail once again using the dropdown arrow on the left-hand corner, go to More mail settings > Active view settings > Save

Preview pane in Outlook inbox

Outlook.com offers a feature called Preview pane which allows you to see the inbox contents and email messages before opening it. It saves the time taken to load your entire email. You can easily choose whether to position the pane on the right side or at the bottom. It also shows the contact's social network profile photo to inform you in detail about their identity. Go to Inbox > More mail settings > Reading pane > Save

Forward your Outlook email

Outlook.com provides various useful features to its users, and one of them is the 'Email forwarding' feature. If you're using another email client service in addition to Outlook, for example Gmail or Yahoo, your email will automatically be forwarded from your Outlook inbox to your alternate email address. However, you can add only one alternate email account to get forwarded email from Outlook. Make sure that you sign in at least once every 270 days to avoid inactivation or deletion of that alternate email account. Go to Inbox > More mail settings > Email forwarding

Manage attachments

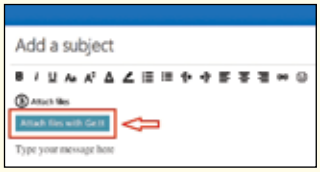
At times, it's difficult to access third-party services to share huge files and attachments over the internet. Also, large attachments that you send to friends can easily consume valuable space in their inboxes. Outlook.com helps you here as well. It enables you to send links to files that exceed the 10MB attachment limit via SkyDrive. This is so much better than uploading or sending attachments. It's easy to share hundreds of files at a time. Go to Inbox > More mail settings > Attachments. You'll find three options: "Always send files using SkyDrive", "Always send files as attachments" and an option to use SkyDrive for large attachments and Office docs. You can enable this option by selecting "Let Outlook choose".

Send large files instantly

Ge.tt is a very useful online file-sharing platform which enables you to share and publish files instantly in real-time. It supports almost all types of files including documents, video, music and photos. You can integrate the Ge.tt services with your Outlook account using a simple Chrome extension. The next time you send out an attachment with an email, the same file will get uploaded to your Ge.tt account. We tried sending a video file of 150 MB. Within a matter of seconds its URL was generated and it took just 5 minutes for the file to be uploaded on our Ge.tt account. Download the "Ge.tt on Outlook.com" extension for your Google Chrome: http://dgit.in/PgQZNX

Use filters to organize mail

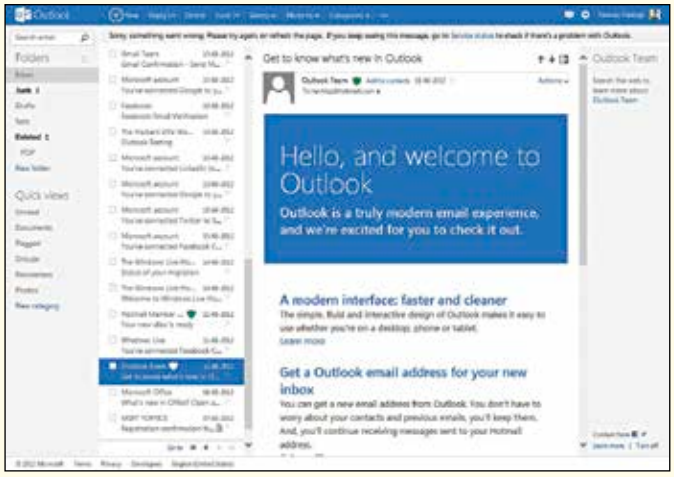
Outlook.com offers several ways to automatically sort or filter incoming email including newsletters, shipping updates and social updates. The Sweep feature is one of them. It allows you to move and delete your email and even configure rules in a few simple clicks to manage the email you want. If you want to get email from a particular sender inside a specific folder, then rules will help achieve that task. If you want to move an email to a specific folder, you can easily drag email and drop them inside a folder, among other ways to do it.



Attaching files with Ge.tt

Manage categories

Outlook.com automatically categorizes incoming email which contains newsletters, social updates and photos. Categories are custom creatable for different types of mail, groups of people, dates, subject lines, or anything else you want. You can easily set up instant actions to quickly file mail into those custom categories. Go to Inbox > More mail settings > Instant Actions to do this. It's even possible to display the different categories on the left pane under "Quick Views". If you want to manually categorize your email, then drag and drop allows you to transfer email to the particular category.



The Outlook.com interface is reminiscent of Windows Phone

OFFICE 2013

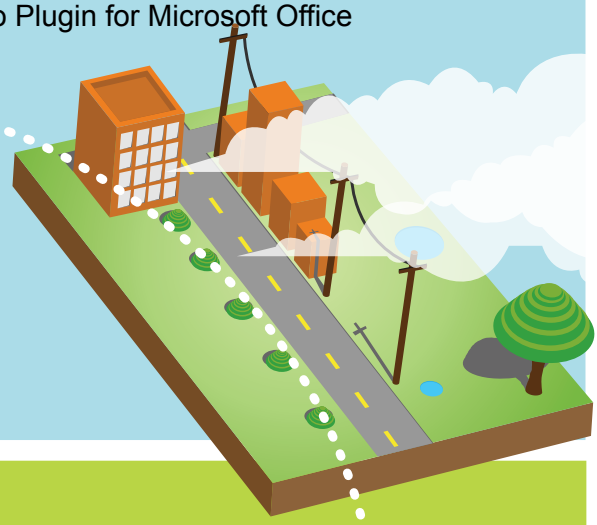
In July, Microsoft released the updated preview version of its office productivity suite known as "Office 2013". It took three years for Microsoft Office to release in its new avatar with some major changes and feature improvements. Office 2013 is entirely based on Microsoft's

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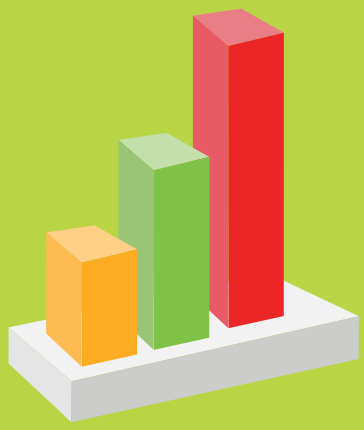
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Windows 8 user interface. Before trying our Office 2013 tips and tricks, first you'll need to download and install Office 2013 from Microsoft's website at http://www.microsoft.com/office/preview/en

Say goodbye to PDF readers and editors

A welcome new feature in Microsoft Office Word 2013 is the ability to do a lot more with PDF files right within the program itself. If you remember, in the previous version of Microsoft Office, Word 2010 only provided an option for users to save a document in the PDF format. The upcoming Word edition lets you even edit a PDF file the way you'd edit a Word document, by opening it from right within the Microsoft Word 2013 Preview program. The Microsoft PDF Reflow feature converts the PDF document, along with all of its formatting such as paragraphs, lists, headers, columns, footnotes, tables, etc. into a Word document. Converting a 5MB PDF document within Word 2013 took between 50-55 seconds. In Word 2013, go to File > Open > Browse and locate the PDF from your computer's hard drive or from your SkyDrive account locate the PDF and then go to File > Open in Word.

Convert a document to the Word 2013 mode

To access a Word document created using previous Microsoft Office versions, including Office 2003/2007/2010 in Word 2013, you either have to work in Compatibility Mode or convert the older document to the newer Word 2013 file format. The Word Convert command clears the compatibility option if a document has originally been created in Word 2013. If the file is in .doc format, the Convert command automatically upgrades it to the .docx format. Converting allows you to take advantage of the updated features in Word 2013. To access and edit older documents inside Word 2013, go to File > Info > Convert. If you want to create a new copy of the document in Word 2013 mode, click Save As > Choose the location and type a new name for the document. Click "Word Document" in the Save as type list. Just make sure the checkbox next to "Maintain compatibility with previous versions of Word" is unchecked.



In-line images and text wrap in the new Word

Use touch gestures for Tablets

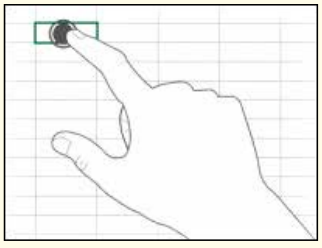
Similar to Windows 8, Office 2013 also entirely supports gestures in multi-touch tablets. Based on our usage, Office 2013 on tablet devices offers several gestures including tap, pinch, stretch, slide and swipe. To get started with Office 2013 on your tablet, first you have to learn some of the basic and important touch gestures for use on touch-screen devices – that will definitely help you get up to speed. For detailed information on basic operations and touch gestures support on Office 2013, simply log on to http://dgit.in/TLxv4V



Different document modes in Word

Save Office files to SkyDrive

Office 2013 finally brings features that give the venerable program a much-needed modern feel. And one of the realities of modern offices and documents is their constant accessibility – in other words, working in the cloud. You can easily save your document files from Office 2013 right into your SkyDrive folder. Office 2013 lets you to save all of your files in the cloud by default. With the help of SkyDrive, you can easily access your documents from wherever you are. To save your documents right into your SkyDrive account, go to `File > Save As > Places > SkyDrive > Browse > Save`.



Office has gesture support

Embed and Play videos in Word

Word 2013 is not just a word processing application anymore, and Microsoft proved this by adding support for embedding online videos. You can search for and insert any online video using either Bing's Video Search or by adding a video's embedded code snippet offered by sites such as YouTube. Go to Insert > Media > Online Video. Once placed into your document, the videos can be run right there.



Saving files on SkyDrive

Bring and Share your spreadsheets

Spreadsheets are an essential tool in the business world and hence it's important to be able to access them from wherever you are, regardless of the device you're using. So, here's another exciting tip for Office 2013, specifically geared towards Excel sheets. In Excel 2010, the Save & Send menu options were helpful for creating and sharing spreadsheets. Excel 2013 offers similar, organized and user-friendly options through the "Share" tab. Within this tab there are four options: you can invite people, generate a unique link, post to social networks or email the file.

After signing in to your SkyDrive account, you can invite people to share with by specifying their names and email

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Embed videos in word

addresses. Go to File > Share > Invite People.

The Share feature also allows you to post unique view links or edit links of your spreadsheets with your team or friends on social media platforms such as Facebook, Twitter and LinkedIn. Go to File > Share > Get a Link.

You can also select parts of the worksheet you want to make shareable and then easily embed them into your social network streams using the "Export" tab.

Another way to collaborate on a workbook online is through Microsoft Lync. It allows those in the conference to take control of them.

Flash Fill your data

Microsoft Excel 2013 provides an update to "Fill Down", a feature that promises to save your time and effort called "Flash Fill". Flash Fill intelligently follows and recognizes the patterns of your data and trends. For example, after filling in the table column with full names, you may want to enter only the first names in a new column. Before you know it, Excel 2013 automatically fills the entire column. Flash Fill auto-completes content including formulae, macros, etc. The Flash Fill algorithm for recognizing patterns doesn't treat numbers or digits any differently than text. Do more with Flash Fills: c

Export presentations to video

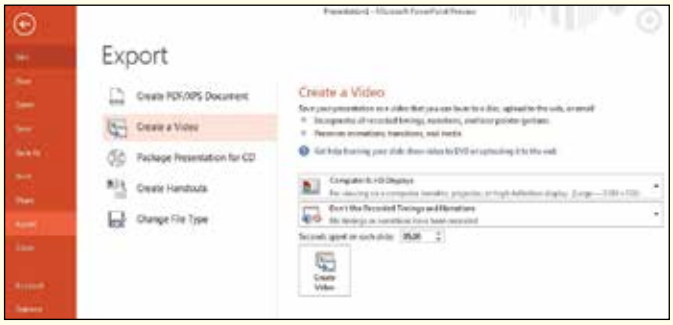
Office 2013 is entirely based on time-saving features and functions. Take for instance PowerPoint 2013. To work on several projects or give presentations in business meetings, you always give first priority to PowerPoint. After all, it offers you various useful tools to use in your presentation and slides. PowerPoint 2013 takes you to an advanced level. Now, you can convert your .ppt presentation into .wmv, or .mpeg video files – a useful feature for video bloggers, project leaders. You can easily create slide presentation videos instead of using screen recording software to create and process your videos. Another interesting part of this feature is that there's no need to add any music or sound effects after conversion. The video will carry the same music or sound effect that you added while creating the PowerPoint presentation. So, what are you waiting for? Go to `File > Export > Create a Video > Configure options > Create Video`.



Share stuff from within Office

Carry your PowerPoint presentation in a Word document

In the previous tip, we discovered the ability to make your PowerPoint presentations into videos but what if you wanted to carry your presentation, specifically the speaker notes, on print-outs? You can export your PowerPoint presentation into a Word document with the help of "Handouts". Once you're done with your presentation, go to File > Export > Create Handouts. While configuring, you'll find several options such as "Notes next to slides", "Blank lines next to slides", "Notes below slides", "Blank lines below slides" and "Outline only". Pick the one you want, and you'll get your entire presentation in a Word document.



Export to video

WINDOWS 8

Microsoft's latest OS is all set to release within the next couple of months or so. Here are some tips to get you familiar with the OS and ease your transition from a previous version of Windows.

Benefits of a Microsoft account

Unlike earlier versions of Windows, Microsoft now gives you the option of setting up a "Microsoft account" as they call it. Unlike a local account, a Microsoft account will actually sync your settings, contacts, apps, browser bookmarks and calendar settings and even passwords, across PCs and devices. This will be particularly useful when their tablets start to trickle into the market. Think of it as analogous to a Google account for Android devices.

Similar to a Google account, a Microsoft account is required if you want to download anything from the Microsoft store. You can still use a local account and other apps that are not available on the marketplace of course. You can sign into or create a Microsoft account at any time by hitting "Sign in" in the "modern" (it's not Metro anymore) Start screen. You will also be prompted to set up such an account during the first install.

One major benefit of using a Microsoft account is that you can manage your connected PC's and their accounts from anywhere. All you need are a working internet connection and a web browser.

Setting up a "Trusted PC"

A new feature of Windows 8, to complement the Microsoft account, is the option to set a PC as a trusted PC. Only trusted PCs are allowed to sync passwords, but anyone with access to your trusted PC can potentially reset your account

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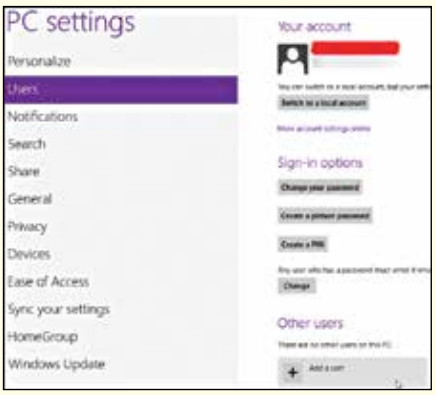
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password. Use this option with care and make sure you really do "Trust" only those PCs that you truly trust with your passwords. Public computers are a strict no no.

If you lose your Microsoft account password, all that you will have to do is go to http://dgit.in/RFgwnH and recover your password using the "Use my trusted PC" option. You will then be able to reset the password without needing access to your phone or e-mail. The only danger, as mentioned earlier, is that someone else can do the same thing if they have access to your PC and you left it unlocked. So, again, do not "Trust" a PC that you do not trust.

To trust a PC, open PC settings. To do this either type "PC settings" in the search pane or look for "Change PC settings" in the charms menu. Go to "Sync your settings" and click on "Trust this PC".

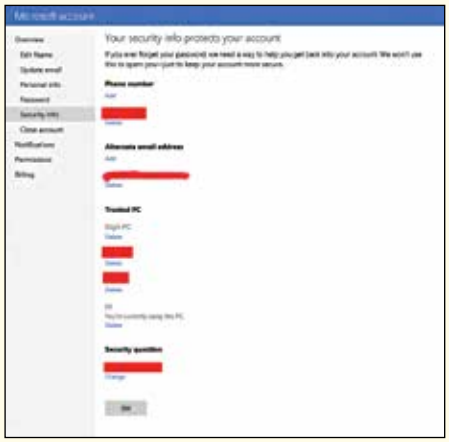
A security code will be sent to your Microsoft account and/or your recovery e-mail id. Enter the code in the confirmation dialogue that pops up and submit the code. You might get a confirmation e-mail and you will need to click on the link which was sent to validate your request. Your PC should now show up as "Trusted".



Configuring user accounts

If you go to the "Security Info" page when you login to your Microsoft account online, you should see all your trusted PCs listed. You can select any PC here and click on "delete" to un-Trust that PC.

Once your Microsoft account is set up, go to your charms menu->Change My PC Settings->Sync your settings. You will be presented with a list of settings and information that can be synced across all your devices linked to your account. Note that passwords will only be synced on "Trusted" PCs.


Setting up Trusted PCs

Managing your accounts

Whether you're a parent trying to monitor your child's PC usage or just a paranoid geek, Windows 8 has some really nifty tools to help you monitor the various accounts on your system.

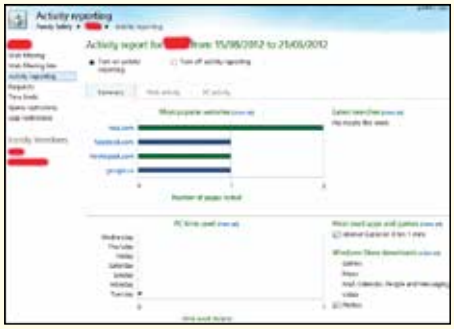
- First, you will need to create a "Child" account. To do this:
- Go to "Change my PC settings" in the charms menu.
- Click on Users and select, "Add a user".
- Click on "Is this a child's account?" to activate it and turn on the Family filter.

From now on, you can head over to https://familysafety.microsoft.com/ to monitor the "Child" account usage. You can view activity logs, assign multiple "parents", edit settings and many more.

You can even monitor the time spent on certain websites, app downloads, the searches that they performed, etc. You can take action based on the reports that you see and even restrict access to websites and apps, etc. You can even set time limits on usage of apps and sites. There are many web filtering levels present, so you can fine tune the "Child's" usage as you desire.

Running older applications

.Net framework 2.0 and 3.0 are now considered optional extras under Windows 8. These frameworks are probably not much use to the average user, but for those who want to run some older generation apps, they will be required. As it's considered optional, these features will have to be enabled again. To do this, hit "Win+R", type "appwiz.cpl" and click OK. Click on the "Turn Windows features on or off button and select .NET framework 3.5 (includes .NET 2.0 and 3.0) from the list that pops up and hit OK. Windows update will automatically download the required frameworks for you. You can specifically download these files separately, but if installation was deliberately disabled for whatever reason, you will not be able to proceed.


Use the family filter to monitor usage

Installing the good ol' games

Windows 8 now comes with Xbox live enabled games and apps, this means that your regular Minesweeper, Solitaire, etc. are not provided and you can use only the Xbox versions. If these apps are not pre-installed, you will have to download them from the Xbox Live marketplace.

To do this, click on the "Games" tile in your Start screen and install Solitaire, Minesweeper, Mahjong, etc. from within the interface. You will need a Microsoft account first though.

If you are still a fan of the earlier versions of these games or just generally have a dislike to the new UI, there is a way to get back your old games.

- Head over to `C:\Program Files\` on your Windows 7 PC and copy the Microsoft Games folder to a USB drive (the games that you want if you don't want all).
- Now navigate to `C:\Windows\System32` and copy the `CardGames.dll`, `cmncliM.dll`, `zgmprxy.dll` and `cmncliM.dll.mui` to that very same USB drive.
- Now plug in the USB drive to the PC with Windows 8 installed on it and transfer the contents of the Microsoft Games folder from the stick to the `C:\Program Files\Microsoft Games` folder from the Windows 8 root partition.
- Copy the `CardGames.dll` into the game folder of every game that you transferred from your old PC

and the rest of the files into the `C:\Windows\System32\` folder on your Windows 8 machine.

- Download Microsoft Game Patcher from http://dgit.in/SreEOu on your Windows 8 machine and run it. Your games will now be patched and you should be able to play them.
- Make sure that you only transfer 64-bit games from Windows 7 to a 64-bit Windows 8 installation, and 32-bit games from Windows 7 to a 32-bit Windows installation. The patching process will not function otherwise.

Running applications as a different user

Running applications as a different user in Windows 7 was easy, all you had to do was hold down shift and right-click on the application you wanted to run and the option was there. In Windows 8 however it's been disabled. To enable it again:

- Open the run dialogue by hitting `[Win]+[R]`
- Type `gpedit.msc` in the box and hit OK.
- Go to `User Configuration > Administrative Templates > Start Menu and Taskbar`
- Click on `Show Run as different user` command on Start and enable it.
- To make sure the policy takes effect, hit `[Win] + [R]` again and type gpupdate /force
- Now whenever you right-click on an application you will see a "Run as different user" option.

Creating a portable version of Windows 8

Unlike previous versions of Windows, Windows 8 comes with an in-built option to install and run the OS from a USB drive. Note that these steps are only applicable with the Windows 8 RTM version. Users of the preview versions might not be able to access this.

To enable this:

- Plug in a USB drive (preferably one with 16 GB or more storage capacity) and format it.
- Insert your original installation media, a Windows 8 bootable USB drive or DVD that you used to install Windows 8 on your PC. If you don't have one, you will need to create one. Head over to http://dgit.in/wIn8rPins for instructions if you do not know how.
- Go to your Control Panel (right-click on taskbar)
- Search for the "Windows To Go" option and click on it.
- Choose your formatted USB drive from the device list and hit next.
- You will be prompted about BitLocker encryption and it is up to you whether you want to use it or not as it is not essential.
- Just keep following the instructions and keep hitting next. When your settings get finally confirmed, hit create and your drive will be made.
- You can now boot into a portable version of Windows 8 when the USB drive is plugged in!



TREND MICRO TITANIUM
Stay Safe with Titanium

Driving in the fast lane
The world is changing, I feel it in the water, I feel it in the earth, I smell it in the air. Going "520-570 nanometers" is the way to go. The page you seek is where no one writes. Find it.

Making an old working drive usable, faulty hotkeys and more...

We take a look at some nagging issues and help resolve them

Q Salvaging old drive

I had an old desktop (bought around 2004). It stopped working and after a few attempts at getting it to work, I bought a Lenovo laptop. While I was browsing the web, I came across an article which said that I could use my internal hard drive as an external one after some modifications. I would like to use my PC's hard drive which is lying useless. I have already detached it.

Neel Thakur

A You can use your internal drive as a secondary storage drive. You will need a SATA to USB adapter to do that. Since it is a 3.5-inch internal drive, you will require an adapter which also has an external power port. Seagate GoFlex Desk adapters allow you to connect any 3.5-inch drive and use it as an external



SATA to USB adapter

drive. Here is one: http://goo.gl/8tsMC You can also get alternatives at any shop which sells PC components. These options (one of which is shown above) might even turn out to be more economical than the Seagate adapter.

Q Gaming woes

Hello Team Digit. I am a little worried about the battery life of my laptop. I purchased it 5 months ago. I play Mass Effect 3 on 800x600 resolution because it crashes as soon as I switch to full HD. My question is, does playing such high-end games for long hours degrade battery life, specially when the laptop is connected to an AC adapter?

My Laptop configs are:

- Make: Sony VAIO VPCCB45FN
- Processor: Inte Core i5-2450m 2.50 GHz
- RAM: 4 GB DDR3
- Operating System: Windows 7 Home Premium (64-bit)
- Hard Drive: 640 GB
- Internal Graphics: AMD Radeon HD 6630

Yash Kher

A Keep a tab on the system temperatures when you are playing games. If the temperatures cross 60 degrees, then it is advisable to remove the fully charged battery from the laptop if you are using the AC mains supply. Excessive heating rather than excessive gaming, can affect your laptop's battery. If you don't want to remove the battery, then it is best for you to invest in a laptop cooler, which will help keep the laptop temperatures low.

Q Laptop issues

I am a regular reader of Digit and like it very much. It gives me great pleasure while reading the magazine and the reviews. I recently bought a Dell Inspiron 15R Special Edition with following specifications:

- Processor: Intel Core i7-3612QM
- RAM: 4 GB RAM
- Hard Disk: 1 TB HDD
- Internal Graphics: HD 7730M

I am experiencing following issues:

1. Out of the 4 rubber contacts beneath the laptop, one of the contact does not touch the flat table and touches the table when I apply pressure. Is it a manufacturing defect? Should I be concerned about it and ask Dell customer care for replacement?
2. Another problem is that the computer tends to slow down drastically when I run custom or full scan using McAfee as it should not happen seeing a i7 processor on board. Please tell is it common issue or a software/hardware problem because in other cases (when scan is not running) the laptop is very smooth.

Karan Ghai



Cooler master Notepal U

A Let's look at each issue:

1. If you claim that your table is completely horizontal and still the rubber feet arent making contact, then you can take your laptop to your nearest Dell service centre and ask them to check the issue, they will most likely replace the faulty rubber foot with a correct one. If you do not want to visit the service centre, then one way you can get rid of the problem is by attaching a flat folded piece of paper using a cellotape, so that it is in line with the other feet.
2. You will have to check your Task Manager to see if you have anything else running in the background while you are doing a full system scan via your security suite. System

scanning is a resource heavy activity and will tend to slow things down. If there is another background process on, then it will make things even more slower. It is a natural process for everything to slow down while a system scan is under process. You should ideally perform system scans when you will not be using your system actively.

Q Hibernate option missing

My problem is that there is no Hibernate option right side of Shut Down tab. Please help me in activating that option. My keyboard has no dedicated power and sleep buttons on it.

Ramakanta Mohanta

A To activate the Hibernate option, simply run command prompt as an administrator. Enter the command `powercfg -h` on and press enter. Now you will be able to see the Hibernate option in beside the Shut Down button. If you still cannot see it, the go to `Power Options > Change Plan Settings > Change Advanced Power Settings`. Expand the Sleep option and under Allow Hybrid Sleep, make sure that this option is Off. This should make the Hibernate option visible. This step is necessary only if the first step fails.



Hibernate option activation

Q Faulty hotkey

I have an HP 630 Notebook PC with the following configuration:

- Processor: Intel Core i3 M 370 @ 2.40 GHz
- RAM: 2 GB
- HDD: 500 GB
- OS: Microsoft Windows XP Service Pack 3

My problem is that out of all the hot keys provided on the keyboard, only the brightness hot keys are not working. I have to manually go and set the brightness in the graphics properties dialog box. Please help me in resolving this issue. Thank you very much in advance.

Prateek Mathur

A You will need to download HP Support Assistant which will run a scan and inform you of any outdated drivers: http://goo.gl/r44zp

You will probably need to update your hotkey drivers, if they are out-dated.



The Impossible Test
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Makeshift USB - SATA Adapter

Putting old stuff to use, the DIY way

Mithun Mohandas
readersletters@thinkdigit.com

Don't throw away your spoilt external drive yet, for it could be of some use to you. These external drives contain a simple USB-SATA bridge IC which can be adopted to handle all kinds of drives if you have the right power source.

To see if your old drive is worth anything, first split open your external storage drive enclosure. You'll come across a hard drive encased in a rubberised protective sheath. Check the SATA interface of the



Left - Separate PCBs, Right - Integrated PCB

drive, you'll either have a hard drive that has a USB bridge IC (JM20329 in this case) on the HDD PCB or it'll be separate.

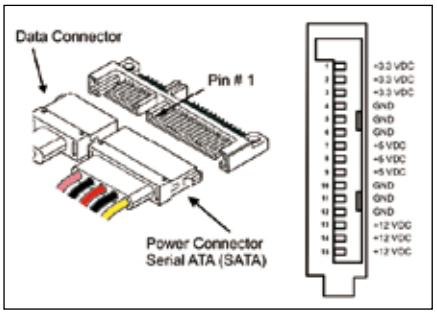
What we want is for the hard drive to be separated altogether from the hard drive PCB like the one in the left-hand portion of the image. At this moment you can put in a new hard drive and close the enclosure to use it as a normal external like you have been doing for so long, or you could go through the following steps to adapt it for multiple hard drive types. However, if your PCB itself is messed up then there is nothing you can do than throw it away. You could hook up your drive to see if it is still working.

The SATA interface consists of 2 ports, the 7-pin data port and the 15-pin power port.

We are interested in the power connector (shown on the right). We'll have to make a power source so that all sorts of hard drives can be powered while we hook up a normal USB cable to the adapter to run it. 3.5-inch hard drives draw power primarily from the 12 volt and 5 volts lines while the 2.5 -inch hard drives draw power from the 5 volt line with the 12 volt line used in rare cases for the initial drive spin-up. The power consumption chart tells us that we'll need a maximum of 1 ampere on the 12 volt line and about 1.2 amperes on the 5 volt line.

So basically, we'll be having our power source (with a current limiter) which is connected to the hard drive, the hard drive in turn is hooked onto the adapter using a MALE-FEMALE SATA data cable. A normal laptop charger can be used as a DC power source for obtaining the two power lines which we'll need. We can use two linear power regulators to get the job done, however, it would be prudent to limit the input current for both the regulators so that accidental burnouts can be avoided. For this we'll be using a simple current limiter circuit. The reason being that in case there is an electrical short in your circuit then you'll end up blowing up your power source by either melting your fuse or transformer winding. Since we don't want that happening to your laptop charger, the current limiter was added to the circuit.

The 5 volt line can be sourced from a normal USB Y cable that has two USB inputs to get ample current from the computer. Warning! Do not source without a current limiter circuit or you



SATA power connector pinouts

may cause irreparable damage to the computer's motherboard. While for the 12 volt line we'll be using the 7812 linear voltage regulator.

Most laptop chargers are rated at 65 watts and output 19 volts @ 3-4 amperes. We'll be drawing out 12 volts from this. This is a simple current limiter circuit that uses two NPN transistors to limit the current on the load line to 1 Ampere. R2 is a current sense resistor which monitors the current going through T1. The voltage across R2 increases as current through T1 rises. If the voltage on the top of R2 reaches the cutoff limit then T2 is turned on which in turn channels some of the current into the ground. Here is a circuit simulator java applet [http://dgit.in/RJc6fJ]. You can vary the hfe values of the NPN transistors to get the proper output as you desire. In our case it is 1 Ampere. Ensure the resistors (R1 and R2) are of proper wattage on all lines or you'll risk burning them out.

The linear voltage regulator 7812 is then placed across the 19V (laptop input) and collector of the transistor T1. Remember to select a 7812 that can handle

Power consumption of hard drives (Approximate values)

Average Power Consumption (Watts)	12v line	5v line
2.5" SSD	-	3 W
5400 RPM 2.5" HDD	-	6 W
7200 RPM 2.5" HDD	-	6.8 W
Green 3.5" HDD	3.74 W	1.36 W
7200 RPM 3.5" HDD	10.8 W	2.5 W
10000 RPM 3.5" HDD	10 W	3.2 W
15000 RPM 3.5" HDD	12.7 W	5.4 W

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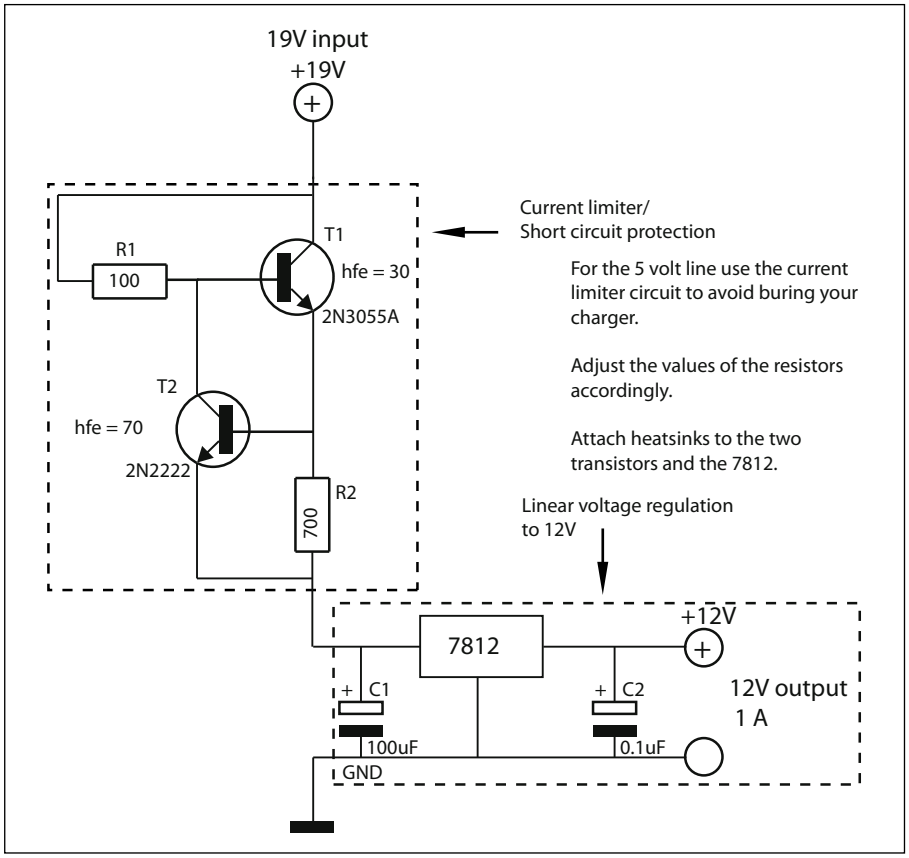
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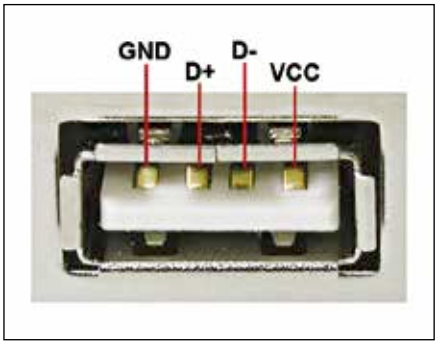
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Cookie Manger manages cookies and protects your accounts privacy. You can edit cookies through its simple toolbar. **http://dgit.in/Oa7Yjy**



Logitech G400
Logitech introduces rock-solid performer optical gaming mouse G400, at ₹2,095. **http://dgit.in/P4gfUd**



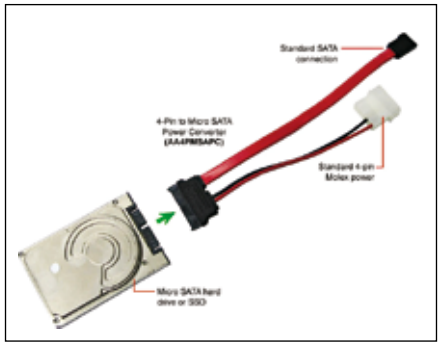
Circuit for the current limiter + voltage regulator



You'll need the VCC and GND to get 5 Volts



12 V on the yellow wire and 5 V on the red



mSATA power and data cable

an input of 1 ampere and have a heatsink attached to it as it will get quite depending upon the power dissipated across it.

Similarly build another circuit for the 5 volt line, use the simulator to help you out. Cross reference the transistor data sheets to get the proper parameters.

Usage scenarios

1. If you are using the adapter on a simple 2.5-inch HDD or SSD then you can directly connect the adapter to a USB cable and then your adapter to your HDD. For 1.8 -inch drives, you'll need to further reduce the voltage down to 3.3 volts and modify the wiring as they do no use the same SATA power connectors like the others do.
2. When using this on a 3.5 -inch HDD, you'll need to make use of the above circuit as these drives are heavily dependent on the 12 volt input line. Take a 4-pin Molex to SATA power adapter like the one below and snip off the molex connector. The yellow wire is where the 12 volt output from the voltage regulator goes in. The red wire is the 5 volt line which is sourced from the USB port.

A Y cable needs to be used for this purpose and ensure that the two male USB A ports are inserted into either a powered hub or ports which are connected to different headers. This is because each header is limited to 500mA and your drive will need nearly 1A or a bit more for the initial spin-up stage. For this the power needs to be sourced from two different headers on the motherboard. If you are using a laptop then insert them into ports at opposite sides of the laptop as they are from different headers. If you only have ports which are close together then most probably they obtain power from the same header. In case of powered hubs you need not worry as each port is capable of 500mA.

Always have both inputs (from the USB ports and the laptop charger) connected to individual current limiters before connecting them to the SATA power adapter. This is because your drive will try to draw as much as power that it requires and when this amount is greater than what your motherboard can provide, it'll blow a fuse. Or worse, the VRM circuitry on your laptop/destop's motherboard.

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F***k You, Consumers!

A chilling tale of how cartels were born, and consumers were left out in the cold and the rain

Anirudh Regidi
anirudh.regidi@thinkdigit.com

It was a very still night, calm and peaceful, with only a gentle breeze stirring through the trees. But as I stared over the terrace I couldn't really appreciate the beauty of the place, it was just something noted in passing. The very thought of the weight of responsibility resting on my shoulders was weighing me down. As I looked as the limousines slowly pulling up the driveway, at the hard-faced, somber businessmen and industry leaders that were stepping out and hurrying in, I knew that they too were worried. This was a hard time for all of us; markets were down, margins diminishing, whole product lines vanishing overnight. We needed to do something about this and fast. This was no longer a question of just profits; we had to find a way to survive.

There was hope for us though. I had an idea, a ghost from the past, something that we forgot about in our struggle for supremacy and market share. I had invited them over to convince them of it. It seemed like the only way to ensure our survival, but it was an ambitious plan, requiring cooperation at the highest level. As the last of the cars pulled in, I took in a last whiff of the cold night air, composed myself and went inside to greet my guests. Nobody was really in a mood for all the niceties and introductions, we knew each other well enough anyway and even if we didn't, such larger than life industrial barons were media magnets and as such, we knew *of* each other. They quickly settled down in the hall, some restlessly pacing the floor, others languidly relaxed on the sofas, outwardly very calm. I requested everyone to sit down, the restless pacing was too distracting. After many years of working in my field, I had gotten the hang of summing up people at a glance, but the faces of most of these people I couldn't read. That deadpan expression had been honed over the years, giving away nothing. Without further ado I launched into my speech.



Frankenstein's monster. Our future?

"The consumer is like cattle, very special cattle, their milk is priceless but they don't know their own strength, their true value. If we were to tether a calf, that's used to being free, to a stick, it will struggle. It will kick, it will scream, there will be sympathizers who will try to free it. Some calves may escape, there will be fights; it will be a hard time for all of us but we must persevere. Given enough time, enough distractions, the calf will grow up, it will forget that it was ever free and it will accept its situation. We will completely control it and it won't know any better!

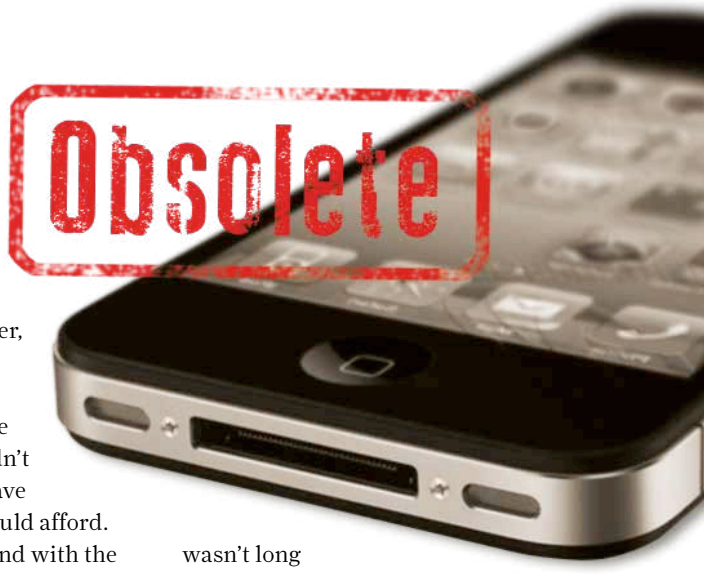
This plan was brilliant, it was ideal, the solution to all our problems and we would have had an infinite flow of gold with nothing to prevent us from doing what we liked and we had this in the 1930s.

What did we do wrong? What did we miss? We had started small, the Phoebus cartel had a stranglehold on light bulbs and we managed to bring down their life drastically. It seemed normal to them that a bulb would blow in a few weeks. It never occurred to them that NASA, for

example, has bulbs that last for years. I doubt they even knew what happened to the "space age" tech that was supposed to trickle down to them. With Apple's help, we brought down battery lives to barely a year. The Westley vs Apple case was a minor hitch in our plans, but we've managed to overcome even that now.

Our conditioning was working. Customers were accepting mediocrity. The scraps we fed the cattle were enough, they thought they were getting the very best and were happy. They didn't aspire for more. Now we could focus on the more important aspects, getting these cattle to fight amongst themselves, fighting for our favour. Those poor creatures couldn't look beyond the glistening trinkets we were throwing at them, each trinket a little bit larger, a little bit shinier, maybe a different colour. We told them that red was the new black and they wanted it. We always showed them what was coming next of course, something a little bit nicer and once in a while, slipped that very thing into the hands of a select few. They wanted it, they fought for it; they sold their very organs to own those products.

We have to work hard to please those creatures; they're finicky to a fault. They don't want any responsibilities; they just want to be happy, lost in the moment with not a care in the world. And it isn't just that, if they get that responsibility they might rise to that challenge, realise that they have a purpose in life. This cannot, *must not*, happen! We gave them the satisfaction of believing they were safe and happy, we even took the trouble to collect their waste and shipped it off to Africa as manure. Out of sight, out of mind, and it worked. They were content. We had a system that worked, how did we f*** it up? By letting our greed get the better of us, that's how. We started bickering amongst ourselves, fighting for the favor of those very same cattle that used to eat out of our hands. We lost our power, handed it back to the consumers. In our bid to outdo each other, we pampered the consumer too much. We didn't just dangle the carrot, we gave it to them, as many as we could afford. They were not ready for it and with the attention span that they currently have, it wasn't long before they got bored and wanted more. Like a child king whom everyone is trying to please. The little king was generous, he threw away his money on us but he also got bored very fast. We gave him everything before he was ready for it and when we were done, he wanted more. How could we provide them with that? We stretched ourselves to the limit and for what, a marginal increase in profits?



PHOEBUS CARTEL

This was a consortium of a group of manufacturers, including Philips and General Electric amongst others. Established in the 1920s, who decided that long-lasting bulbs were a detriment to the economy.

They very deliberately set about shortening the lifespan of all bulbs in the western world, finally managing to bring down product life from 2500 hours to below 1000 hours in the span of 20 years. They actively discouraged long-lasting bulbs and the cartel even bought out competitors just to maintain a stranglehold on bulb manufacture. A side-effect of this was that all bulbs were standardised by the 1940s.



The 100 year old lightbulb that has outlived three of those cameras

This has to stop. Those cattle aren't completely dumb, just too distracted to care and when the distractions stopped, they started wandering off looking for something else. Some of them got wind of what we were up to and started a resistance movement. They're getting wise to our methods now and we have to stop them. Oh there were always the few who were never smitten by our methods. The "intelligent" ones, like that Russian chap who figured out that we were putting kill chips in our printers (www.ssclg.com). Those were easy to deal with, label them conspiracy theorists, obfuscate our methods, but in the end, people will just believe what they want to believe so we didn't really have to work that hard. But



TIN WHISKERS

No, we are not talking about the Tin Man's mustach. Tin whiskers occur when not enough lead is used in solder. The ROHS standards will have you believe that lead is dangerous, and so it is, but a minimum of 3 per cent lead is required in all solder to prevent it from growing very fine "whiskers" over time. These can short out electronic circuits and considering that everything from cars and air-conditioners to camera lenses and motherboards use solder, this is a very serious issue indeed. Manufacturers are not too fastidious about this as not using lead, while also giving the illusion of being environmentally friendly, also guarantees that your product might short-circuit itself in about 7-10 years. If all goes as per plan, that is.



Kings or cattle? You decide

now, they've got nothing better to do, they're looking elsewhere, the masses gain some sort of morbid pleasure in seeing their idols fall and they are listening to these rebels. They are inexorably drifting away from us.

We need to get back control, we've gotten complacent and the cattle have gone unruly. When George Orwell wrote "1984", he wasn't too far off from the truth. That dystopian vision of the future is just what we need to ensure the survival of our race! Think about it, as someone once said, "A luxury once sampled, becomes a necessity." He was right, we went too far, gave these consumers too much. We must tone it down now, recondition them. They must not know that there is, or was, a possibility for a better life; a world where their car would last forever, a place where light bulbs will come with a 25 year warranty.

We must make them forget, the past didn't happen. The consumers themselves have made it easy for us. They want bigger, faster, better and all this without spending a rupee more than they feel like. We'll give them exactly that. They're not smart enough to care about what is really important. What do they care if a laptop doesn't have an efficient cooling system or that there isn't enough lead in the solder? Tin Whiskers? Probably sounds like a funny Broadway play's take on the Wizard of Oz to them.

All they care about are the specifications and the price and whether they're getting a good deal. We just slap on a dual-core logo along with an ROHS compliant sticker and they'll be happy. They won't give a damn if the product fails because of overheating or short-circuits a year later, we'll just give them something else. Their minds will be so warped by the desire for something new that many of them will actually be happy that their product failed. Oh they will end up as permanently discontented individuals, always vying for the "next best thing" but why should we bother about that? They think they're happy and the psychiatrists will be happy for the business. Hell, we can sell them the drugs claiming to cure their "anxiety" and they'll thank us for it! We need to bring back their ravenous hunger for new products. Those mile long queues outside stores are what we want to see again, that mindless passion for something new.

The Thailand floods were a nice starting point, at least we've managed to get hard disk prices under control. Give it a couple of years and they won't even remember the price hikes. We need something like these to kick start our sales and bring back the good old days. We still have the upper hand at the moment; those fools don't realise how much of their life we actually control. Almost every device they own is a ticking time bomb, just waiting to die. They don't wonder why aircraft don't fall out of the sky or why ATMs never stop working and we need to keep it that way. The market needs to be controlled, growth rate slowed down, we need to fix prices, postpone updates and refresh products that don't need to be refreshed. Give the consumers something new every year but always hint at something better to come. Entice them with the possibility of something seemingly spectacular. Tell them that the revolution is coming, that their life is going to change forever! We need to make backward compatibility a thing of the past. We must get back to our roots; planned obsolescence is the way to go. Let us resurrect the Phoebus cartel. They'll never understand anyway. Let them remain oblivious to the workings of their world. That is what they want, that is what we'll give them. F**k you, consumers; f**k you very much!"

[Standing ovation and cheers]

PRINTER WASTE COUNTERS

Some resourceful hackers discovered that many printer models have a "kill switch" embedded in them. A small chip that keeps track of the number of pages being printed and which terminates printer function when a certain number is hit, usually 18,000. The printer might still be perfectly functional, but the chip will ensure that the printer cannot print anymore. There are some web sites which will help you reset this counter, but most of them will charge you a nominal fee for the tool. Hint: Use Google or whatever your favourite search engine is to search for your printer's "Waste counter reset tool".



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Made for us, or made for US?

Stop buying fast, start buying smart

Abhishek Choudhary
readersletters@thinkdigit.com

India is not at the forefront of global technology. No matter how patriotic you think you are, or how offended you get, it's true. Understanding why the global giants design products for the US instead of us, is not exactly rocket science.

It's all just a question of economics, actually. Build a product for a first-worlder, and when enough third-worlders begin clamouring for it, sell it there as well... Nothing wrong with selling products, of course. What matters is when they push products on to countries that cannot really utilise a lot of the features that first-worlders can. Of course not everyone does this, but it happens enough to warrant a closer look.

The release date circus

Hollywood did it because they think of us as a bunch of pirates, manufacturers do it because there's a buck and a half to be made. Most enthusiasts grin from ear-to-ear when they hear about a product launch date in India being within a week or two of its international launch. And we pay premium for it!

Entertainment machines?

We don't get 400 HD channels here. Heck we barely get 4 worth watching. Still, we do get almost every big name brand selling their TVs here. We're out there blindly buying all the 'Smart', 'HD' and even '3D' models we can lay our hands on, never once wondering what we're going to use it for. If your wallet has a direct pipeline into a bank you can buy a lot of 3D Bluray content from abroad and have it shipped here, but if you're regular folk like us, depending on your neighbourhood rental store, best of luck finding something in 3D Bluray that you actually want to watch!

And don't even get us started on DTH HD – where else in the world will you find terms such as "asli HD" because loopholes allow people to make asses of you? As for the smart bit in smart TVs, we just don't have the requisite bandwidth for those to make any sense, but hey, go ahead and pay lakhs for one! Take even NetFlix and Hulu for example, manufacturers are busy pushing SMART TVs our way featuring theses very same services. The true facts? These services don't work in India. Oh you can find a way to bypass the region restrictions and all, but that is not the point. These services only make any real sense in the US.



We want you... to buy more

Game goodness

Licensing is a curse. And then they wonder why we're a country of software pirates. Many of the games we actually want may not come here, and those that do, will have severe DRM protection issues. Why should you need to be connected to the internet to play a single player game. Better yet, what is the point if you're suffering from server lag in that very same game (Diablo 3 for example). Take Free-2-Play games, they're quite good, give many paid games a run for their money and more importantly, are free! This looks like the perfect model for the Indian market but you're wrong. These Free-2-Play games come with a cost, not the optional cost of buying stuff in-game, the cost of requiring and maintaining a high-speed, low-latency internet connection. A rarity for most Indians and to top it off, we may not even find servers in our country and as any gamer would have found out, playing on Western servers is a very laggy experience.

Prices

Our mad craze to import the latest electronic devices from the West is mainly because of the subsidized prices that exist there. Here, you'd be lucky to get it at just double that

price. Our government's partly to blame, of course, but it's not like manufacturers aren't making a bucketload as well. And what happens if the device fails? Of course we don't care, our eyes are too blinded by the bling and the call of the Apple sirens.

It isn't just popular consumer products that are affected, have you thought about your precious PC? The 660Ti for example, NVIDIA's latest offering, sells for only $300 abroad (₹16,000), but the very same product is available, officially, for over ₹25,000!

Promised land in the clouds

The world is moving to the clouds. That is what everyone wants you to believe. From OSes to your pirated music, it's all there, somewhere. How do you get to it? Well, let's not worry about that right now, shall we? Let's sell cloud this and cloud that, and make full use of the buzzword. Makes total sense as a product, but in the US, not for most of us.

Newfangled communication

You see more and more people around you flaunting the latest mobiles. They're not shy to tell you exactly what the salesman did either. "This is the latest model, it has 3G and Near-Field-Communication – you know, to make mobile payments with". At this point we usually ask them to name one place where they've paid a bill by only waving their mobile, and the silence is deafening. If not, we get some chatter about 'future-proofing', this from a person that still prefers to invest in gold to keep in the *tijori*. 3G is another lie if every there was one. Some operators, and some metros, sure, it's a decent experience that's pretty expensive. Most of India though, you'd be lucky to get a signal, but every mobile shop you come across seems to be pushing the latest handsets.

Finding your way

GPS is pretty much standard for most people in developed countries. It makes absolute sense, too. Apart from massaging the male ego by never having to ask for directions, it also carries other awesome perks – like a sexy female voice telling you where to turn. Apart from that, it's usually just viewing a map, much like you can do with Google maps. With streets changing names often, the lack of street signs, and smaller roads not being mapped, GPS isn't all that it's cracked up to be. Where it does make sense is in the US, where you get live traffic updates, and can calculate alternate routes quickly. Heck even Google maps gives you street view for the west, here you only look at low res satellite images and hope for the best.

US not us

There is a very interesting parallel that someone cooked up the other day. This fascination of consuming for the sake of it, is not new. It is, in fact, really old. Ever since we fell behind the frontrunners of the global ecosystem, the few of us who had enough resources have been trying to enjoy the comforts of our foreign counterparts. Under the British rule, the Indian princes were exclusively exposed to western studies, philosophies, and even entertainment. While arguments for the issue can be made, our thinking is that this was essentially destructive as far as national ties are concerned. They embraced foreign ideals, when they were supposed to integrate with the Indian masses one day. While this latest incarnation of the trend isn't of similarly radical implications, the irony is just too strong to miss. So why does this happen? Young adults here, especially the ones with more moolah to blow, want to show-off to their mates here (because they don't have it), and feel or appear at par when they make mates there (because they have them too). Whatever it is, it's certainly not *"Buying Smart!"* Watch out for next month's issue, which will help you do just that, and also help you save a ton of cash. We just hope you won't go off and blow all your savings on silly things like these!

THE CORPORATE VIEWPOINT

Companies might seem to work on 'we-love-money' and 'no-other-darn-shall-be-given' approach. To be fair, it's not all their fault. For starters, the money spent on developing the tech that they sell is of the order of crazy. A genuinely multi-national company can expect to spend anywhere between 1 to 3 billion dollars (INR 1,65,00,00,00,000 - if it helps) in research and development of its products. While the sum might be lower for software and service providers, but the idea still holds. Such sums of money are spent to develop technology to keep pace with the best resources in the world. It's not their fault if everybody is not compliant with those standards. If they were to build new products from the ground up for each new market then this cost instantly doubles, at the very least. And the prohibitive taxes for imports existent in most of the concerned countries means that the big corps are almost powerless when it comes to either the tech, or the pricing issue. Sure, you could ask them to bite the bullet for either (or for both), but as much as it pales in comparison to their otherworldly incomes, 3 billion dollars is not pocket change by anybody's standards. "They're just doing what they can."



For the love (and not lust) of technology

How much does your gadget really cost? Not in simple Rupees terms, but in human terms...

Nash David
nash.david@thinkdigit.com

The next time you're heading out, cash or card in hand, determined to get your hands on that latest gadget... ask yourself one thing, so you really need this gadget that bad? Do you need it more than an orphan needs to be schooled? More than a widow in a village, who can't feed her children, and would give anything for just one buffalo, so that she could work and milk it to feed her kids? How about this: more than a poor old senior citizen, who has no home, no one to call for help, and has Alzheimers? Of course, we're not trying to push certain charities on you, we're trying to get you to understand the difference between an upgrade you need, and one that's just good to have. We've recommended a few things you could also do, instead of buying one of the top 10 gadgets on Digit reader's wishlists. See if it makes any sense: Besides, if you don't rush out and buy it right now, and wait for the prices to fall a little, maybe you could give the difference to a charity of your choice.

iPad

Should you get an iPad, or should you help UNICEF do some good in India? See what in excess of ₹30,000 can do for someone...
http://dgit.in/P9HhcQ



Audiophile grade system

If you really care about audio and enjoying the arts that much, why not sponsor hearing aids for 15 deaf children?
http://dgit.in/SBR4Nu



55-inch 3D TV

TVs take you to places as far away as distant galaxies. How about helping disabled people get some tricycles, so they can move about and be productive?
http://dgit.in/Oj0vAu



Galaxy Nexus smartphone



You like to show off the latest version of the Android OS? How about paying for one that you should have anyway? You can get 2 x Windows licenses for this one.

Luxury soundbar system



Do you need a cool looking soundbar? Hell yeah! More than old people need a place to live the rest of their days in peace?
http://dgit.in/TaE6E4

Alienware M17x



Now these are really cool laptops for gamers, we should know, we've tested them. Instead give 28 young women a chance in life by teaching them to sew (with machines).
http://dgit.in/RNxBMb

Gaming rig

We love our games, and so do you. However, instead of an upgrade, you could educate 15 orphans for 1 year!
http://dgit.in/NtwTfG



MacBook Pro (with Retina)

An Apple a day really does keep the doctor away! Instead of this, would you like to provide education and healthcare for an *entire village*?
http://dgit.in/NobSc6



Canon 5D Mark III

Before you go out looking for that perfect shot, would you like to give 120 people their eye-sight back courtesy cataract operations?
http://dgit.in/Oj0EnI



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13 ways you're getting scr**ed

And you thought you were treated like a King?

Mithun Mohandas
readersletters@thinkdigit.com

Everybody knows that economies need us consumers to spend; and in order to do so, we need to have products we desire. All companies have R&D departments that innovate in order to bring you the latest upgrades in technology, however, sometimes technology growth plateaus. It's in such lean growth periods where boardrooms full of men with sweaty palms, start worrying about shareholders, and how to afford their kid's next Ferrari. Mess with a trust fund, and a brainwave or six are born!

Although innovation is widely considered the best way to make a profit, there's still hard cash being made by creating hype, misleading the public and re-inventing the wheel. Then again, why wait for a slump in progress to do this? terms such as "all new", "v2.0", "one-of-a-kind", etc., are garnished with a billion dollar ad campaign and served cold to us ravenous consumers. Don't believe us? Consider the following ways in which you're being made as ass of here in India:

1. Geeks be damned

As a Digit reader, you're plumb out of luck. Because the very fact that you're not the average consumer plays against you. Although manufacturers are thrilled when their devices are capable of being modded in some way – by rooting and installing custom firmware, or over-clocking – they usually ensure that such actions void warranty. If something does go wrong, and it's your actions that have caused the hardware failure, then they're perfectly justified – for example, if you mod your device to run at a higher CPU clock speed than you should, which fries something important. However, very often, they escape providing warranty for hardware failures that would have occurred whether you had modded or not – such as memory corruption, or antenna failure, or for PCs, motherboard component failures, etc.
http://dgit.in/Rm1ZuE

2. After sales? lol ;-)

If you've bought something recently from a major retailer, you'll have noticed that they promise to give you a hassle free shopping experience, and for the most bit, they do. It's only when something goes wrong with your product that you get a first-hand lesson in playing the blame game. Although you expect them to take care of warranty claims, they only write down the address of an RMA centre and hand it to you. You're lucky if this is even in your city (if you don't live in a metro). We've heard that major retailers only offer proper service for items imported by them, or for their own brand.
http://dgit.in/MTFXyO

3. Premium

Thanks to digitization (SATA-III, HDMI 1.3, et al), the types of cables you have to know about these days has skyrocketed. You're told about the superior speeds / signal bandwidth so-and-so cable offers, and it's mostly hogwash.

New revisions in a protocol have little to do with a cable.Technically, there is no difference between, say, SATA-II and SATA-III cables. The protocol revision only affects the hardware and software on the system, the cable part was left the same for the sake of compatibility, but that doesn't stop people from branding a cable specifically for a particular port, changing a colour, and charging a premium for it. HDMI is a different story – the cables are actually different, but there are people offering connectors and weird cables – promising bandwidth that even HDMI hardware doesn't offer just yet.

If you're confused, just choose an HDMI cable with "High Speed with Ethernet" or basically the HDMI 1.4 standard. That's not all though. There are manufacturers who also use the "Premium" tag to market exactly the same product with just an upgraded firmware – factory overclocked GPUs with standard cooling, and entry-level DSLRs that can be flashed to give you features of more expensive models are some examples.
http://dgit.in/Qhps15

4. Monitors

Sometimes there is a bad batch of display panels manufactured, rather than dump that batch it is still put up for sale at a low price. Companies use these displays to come out with low-end monitors. These panels don't support standard resolutions out of the box so signals are converted to overcome the defect that these panels have. The signal from the GPU to the monitor's logic board is at a native resolution but it is then scaled up/down to suit whatever the resolution the monitor supports. What we get is a distorted image, with the same letters ending up with different widths and all sorts of weird anomalies on the display. What's not fine is that this fact is not declared by companies on the products. So if you're getting a monitor at a really cheap rate, then there is a good chance that there was something wrong with it.

http://dgit.in/ROLMRm

5. Choice for a higher price

Take the example of external HDDs. The difference in prices of the USB-SATA interface ICs for USB 2.0 and USB 3.0 is minimal, roughly 70-90 cents. Yet the cost of the finished product varies by a few hundred rupees.

Also many external HDDs come bundled with USB 2.0 interface, and opting for the USB 3.0 interface connectors costs as much as '1,700 more!

Maybe you fancy a FireWire interface instead, sure, you can have that too, '2,450 *only*! Then again, if you just have to have the latest in technology, a Thunderbolt adapter is yours for a mere '6600.

http://dgit.in/QFlmu5

6. Broken promises

Everybody was looking forward to the shiny new features of the PS3 when it launched, but it was also loved for its backwards compatibility. Here you had a brand new console with a completely revamped architecture that would still easily play all your old PS2 games as well. Then came the PS3 slim – and you could forget about PS2 game compatibility, as the "Graphics Synthesizer" GPU was removed. This was fine, after all it was preceeded by thorough market research.

What ticked off the consumers was when Sony with its 3.21 firmware update removed the ability to install another OS (usually a flavour of Linux) on to the console – all in the name of security. This was a feature which was well-marketed earlier, and many of us had bought PS3's for just this reason. Of course the firmware update was "optional", but it meant that you couldn't play any of the new games. Class action lawsuits soon followed, but Sony won.

http://dgit.in/Pgrhv8

7. Flagship woes

Going in for a flagship product makes you feel like you will be treated with a little more love than the rest of the commoners, doesn't it. You expect to have longer support as well, after all, you did pay top-dollar! Alas, if only all companies would do so.

Owners of Windows phone flagship devices such as the Nokia Lumia 900 and 800 – which people paid in excess of '40,000 for – were greatly disappointed when they heard the news that their devices would not support the upcoming Windows Phone 8 OS. Boo! The same goes for Apple users who bought the iPhone 4. Just over a year later, the iPhone 4S came with Siri, everyone's favourite girlfriend! Now it may have been over a year for early adopters in the West, but we know of many disgruntled Indians who waited months to get their hands on an iPhone 4, only to feel like idiots a few months later. Of course, some enterprising chaps have



Boo hoo no WP8 for you

TOTAL RECALL...

With all the competition and consumers demanding better products at low prices, the manufacturers have to make some compromise. Usually it's something that wouldn't catch the average joe's eye until something bad happens. So while your product may look all shiny and new, it might have low quality cheap components on the inside which are bound to fail.

Developed countries have government and private watchdogs which scrutinise each product before it enters the market, whereas in India it was only in November 2011 that the government started mulling over having having a watchdog for the food sector. The same for technology is ages away. Global trends about product recalls are appalling and in the recent years, the number of product recalls have shot through the roof. It is of utmost importance that we have a system in place for monitoring goods and laying down strict standards for everything.

http://dgit.in/OfgXjy



ported Siri to the iPhone 4, but the experience is sluggish.

8. Bells and whistles

The difference between a few closely performing models (GPUs or CPUs) is a multiplier lock. Companies produce a few chips (2-3) which are then binned (tested and categorised) according to performance. The good ones are stable at higher clock speeds and accordingly are labelled as High-end SKUs while the



Now with a brand new name!

not-so-good ones end up with a multiplier lock and are labelled as mid-range. Thus one or two chips make for the entire Mid-High range of SKUs. The same goes for Low-Mid range of SKUs. Sometimes there are absolutely no hardware differences, and purely software limitations. Lower-end GPU SKUs are mostly rebranded models of the previous architecture. The 6650M was a rebranded 5650 desktop chip, which was *again* recently rebranded as the 7650M. Same goes for NVIDIA's 675M whoch is a rebranded 580M. So the shiny "new" GPU that your new laptop came with isn't new at all. Intel had similarly come with its "Processor Power Upgrade" for $50 in the US to remove a software limitation put on their mobile processors. The idea didn't catch on (fortunately) and Intel canned the plan.
http://dgit.in/OkDPzQ

9. Marketing mumbo-jumbo

For years, people looking to buy audio systems were being suckered by an insane amount of wattage – PMPO (peak music power output). Eventually everyone and his uncle learnt to disregard that. Then it was monitors and TVs, with dynamic contrast ratios (DCR) that skyrocketed into the realm of sci-fi! You cannot compare two products by their rated PMPO or DCR. The DCR is dynamically adjusted backlight depending on what picture is displayed. So if the display has a dark image then the backlight is turned down a lot to get better black levels. The reverse is applied for bright images, and then the difference calculated. Obviously idiotic, because at any given time, your screen at any one setting would never be able to replicate those levels of black or white.
http://dgit.in/PRRONx

10. Wacky warranty

Not all products have their warranty period starting from the date of purchase, rather it starts from its date of import/production. Sometimes there is an offset period of 2-3 months post manufacturing. So if you end up purchasing something 1-2 years after it has been made, it's quite possible that it's not covered by warranty already! Another anomaly is the existence of dealer warranty and manufacturer warranty, the former being less reliable. If you get manufacturer warranty, it's because the product is imported legally by a distributor. If you're getting dealer warranty, it could be anything from smuggled goods not meant for India, or refurbished products.

11. Spare parts

When your product needs to be repaired, you'll rarely be told that it's a faulty component that needs to be replaced. Rather an entire module will be replaced and you'll be charged a bomb for that. LCD monitor's power boards and AC control boards are a common example. Even if all that has failed is a little capacitor, the technician will only offer to have a new PCB put in place, rather than replace the faulty component. The difference? A capacitor costs between ₹4 and ₹300. PCBs can cost a few thousand rupees. This is also why when your laptop gives way, and you ask the manufacturer to repair it, you always seem to get an estimate of ₹10,000 and above. Big brands are usually closer to ₹20,000. However, a reputed repairing firm in your city could do a pretty decent repair job for as little as ₹2,000. Sometimes with and without warranty, depending on the part that failed. Microcontrollers are a different story, and are often SMT(Surface Mount Technology). They need to be programmed before being placed on a board, and it's probably best to get PCB replacement in this case.

12. Planned obsolescence

Companies realised that better build quality would lead to consumers purchasing less in the long run. Thus came planned obsolescence wherein products were designed to fail deliberately after a certain amount of time.

Printers have kill switches which stops the printer from being able to utilise a cartridge after a certain period of time or makes the printer stop completely after a certain page count, even if it is still perfectly capable of working.

Read more about this on page 56.
http://dgit.in/QGN0qC

13. Metered unlimited?

Commonly done under the guise of a Fair Usage Policy which usually dictates that each customer is allowed to transfer a certain amount of data at the maximum bandwidth of the plan and once that limit is achieved, the speed is drastically brought down to roughly 1/8th of the actual bandwidth. This is done because you might "impair the experience of other users".



Technically this means that the plan is not unlimited, however, companies will rarely mention this before you opt-in. That agreement will clearly state that the plan is Unlimited and define its fair use policy too, but that isn't the definition of unlimited. Almost all major ISPs namely, Airtel, Idea, Tata, etc., in the country have implemented this system so far. If you are paying for an unlimited plan, then you have the right to download however much you want at the maximum speed stated in the agreement. Make sure you read your agreement, and avoid ISPs that have this policy.
http://dgit.in/OigwDx

Follow the provided dgit.in links for further reading. Also the following link bundle has all of the above links and more.
http://dgit.in/ROPt9B

Watch out for our next month's cover story, which will give you all the buying tips you need, across categories, to ensure you don't fall prey to these and more tricks that are being used to get you to part with your money.



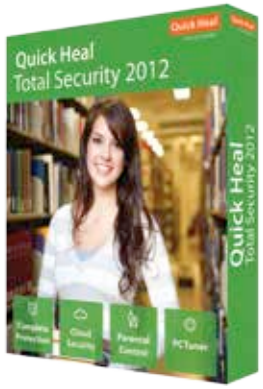
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76 **Projector Test**
We check out 10 popular projectors and tell you which ones you should get to grace your home entertainment system

82 **MFD Test**
Got a budget of ₹15,000 but don't know which of the myriad MFDs to get? Read on to find out



We get in the firing line so you don't have to

We face-off eight of the latest DSLRs to hit the market to tell you where you should focus your money

Swapnil Mathur
swapnil.mathur@thinkdigit.com

Ever been in a situation where you were the proud owner of a big fat stack of money, wanting to buy a DSLR but weren't sure of what to buy? Yeah, we neither, at least with respect to the cash-stacks.

Buying your first DSLR is a nerve-wracking decision. Since modern day DSLRs are advancing and becoming cheaper, the number of options has gone up monumentally. We know just how important it is to choose the right DSLR, not just to get the money's worth, but also to make sure you've chosen the right tool that would help you grow as a photographer. We got our hands on the most commonly available DSLRs in the market (save for a few) and put them through a rigorous testing phase. Obviously, it would be unfair to compare a basic DSLR with something a high-end fashion photographer would use, so we cordoned off our black beauties into groups. We decide to categorize them not on the basis of price, but their class, as defined by their feature set.

Entry Level DSLR Shootout

Trends show that the entry level DSLRs are the hottest selling of the DSLR bunch, being the favorite for photographers on a budget, people who just want to experiment or play around with photography and even those who want some control over their 'family snapshots.' This segment comprises of DSLRs which offer basic features in smaller bodies made of polycarbonate. They usually have a basic AF system with only a few focusing points and lack any kind of weather sealing. Their burst mode is limited to a very modest number and usually only have one memory card slot. However, the significantly lower price point on these bodies tends to make up for the lack of some of the features. In the entry level category, we threw the Nikon D5100, Nikon D3200, the Canon 650D and the Sony Alpha 57 into our testing pits and watched them duke it out.

Features and Design

The interesting thing about the entry-level DSLRs is that they pretty much have the same set of features, save for a few, that

HOW WE TESTED

Our test of a DSLR basically breaks down into two categories: Imaging/Video Performance and Ergonomics/Build. Most aspects such as AF performance, WB presets, etc., would come under Image Performance, while the Build and comfort of holding the camera is part of the latter.

Our image and video performance test further breaks down into "Outdoor/Real World shots" and "Studio Test." In the Real World Image and Video Test, we tested for Dynamic Range by shooting a scene that contained subjects that were well lit, in shadow and subjects that were black in color. We tested for color and contrast by shooting a scene of foliage, while making sure that the scene was well lit and also incorporated the right kind of subjects. We chose to shoot potted plants, to see what kind of contrast and colors the sensors will resolve for the leaves and the pots. For low light performance we cranked up the ISO for 6400 and shot a street that's littered with towering trees, cars and street lights. In our studio test, we measure the ISO performance and details using our standard test shot scene. We lit it evenly and shot at f/8 for optimum sharpness, depth of field and elimination of any other lens-related features that could impact the result. We shot all our shots with a 50mm lens at f/4 for outdoor shots and f/8 for studio shots.

Focus tracking was tested by getting an unwilling friend to drive our car right to left for a distance of 100 meters as we used the camera's tracking mode to shoot the images of the car in burst mode.

Ergonomics and build are a personal preference, but our goal was to see how much comfort remained in holding the camera after having used it for a couple of hours. We also gave higher points for how well our hands would fit around the grip of the camera, along with how much wiggle room our fingers had once they were wrapped around the grip.

set them apart. For example, the D3200 is the first entry level DSLR to sport a 24 megapixel count. The newly released Canon 650D sports the second highest pixel count in our test with an 18 megapixel sensor while the D5100 and the A57 were both pegged in at 16 megapixels.

Another important component of the feature set is the AF system. It's probably the most used feature on a DSLR, after the sensor itself. DSLRs have traditionally continued to use the contrast based detection system, due its high accuracy, but Sony has powered its A57 with a phase detect AF system. While it does help the Alpha lock focus quicker than contrast based AF's, it suffers quite a bit in low light. Then steps in Canon with their 650D, which rocks a bunch of never before seen features, including the world's first hybrid phase-contrast detect AF system in a DSLR. This sets the 650D apart from the rest of the contenders, as it combines best of both the worlds into one AF system, which performed quite well. Interestingly, the 650D offers the least amount of focus points (9), while the Nikon brothers have 11 points for AF selection and the Alpha has 19 of them. While this might seem like an impressive win for the Alpha, the kicker comes when you realize that the 650D's AF point system is right out of the 60D, that is, all the 9 focus points are cross type. Cross type AF points are sensitive to information in both the horizontal and vertical axes, allowing it to not only acquire focus, but even track. The Nikons have just one of these (the center point) and the Alpha 57 has 3. This is definitely a win for the 650D. In our assessment, the 650D topped the charts as far as features were considered, with the highest native ISO support, stereo mics for recording audio and once again a world first – a touchscreen on a DSLR. The touchscreen, which can control every aspect of the camera, along with having a touch-shutter, functions very smoothly, almost as good as any high end smartphone.

Ergonomics and Build

This is probably one of the most subjective aspects of a camera. If your hands are big, then entry level DSLRs won't fit well and if your hands are small, then the semi-professional and professional cameras might seem too bulky. Then there's the question of button placement's intuitiveness, etc.

We felt that again, the Canon 650D has the best build and ergonomics in this category, with the Alpha 57 and Nikon D5100 in a close second. Besides having a comfortable grip, the shutter button's placement follows the natural curve of the index finger, while on the rest, we needed to arch our finger a little higher to press the shutter button. We also felt that the 650D's minimal number of buttons was a major plus, probably because the touchscreen allows instant access to all the features. Whatever buttons were on the camera, for example, the ISO button was in easy reach, while on the D5100 and D3200, you need to first press a button



	Pro DSLR		Semi-Pro DSLR		Entry Level DSLR			
Brand	**Nikon**	**Canon**	**Nikon**	**Sony**	**Canon**	**Nikon**	**Nikon**	**Sony**
Model	**D800E**	**5D MarkIII**	**D7000**	**SLT-77**	**650D**	**D5100**	**D3200**	**SLT-57**
Price (Rupees)	1,84,950	2,06,095	64,450	69,990	55,995	34,450	32,250	45,990
Features (Out of 20)	11.84	12.32	11.31	11.11	10.37	9.76	9.96	8.14
Still Image Performance (Out of 40)	30.96	32.84	28.56	30.18	28.46	27.06	26.68	26.84
Video Performance (Out of 30)	24	24.375	23.25	23.25	21.75	19.875	21.375	21.375
Build Quality (Out of 5)	4	4.25	3.625	3.625	3	2.875	2.625	2.875
Ergonomics and usability (So 5)	3.825	4.375	3.7	3.7	3.725	3.45	3.075	3
Grand Total (Out of 100)	74.625	78.16	70.445	71.865	67.305	63.02	63.715	62.23
Specifications								
Sensor resolution (MegaPixel)	36	22	16	24	18	16	24	16
Sensor type	ff	ff	1.5	1.5	1.6	1.5	1.5	1.5
ISO (low)	100	100	100	100	100	100	100	100
ISO (high)	6400	25600	6400	16000	12800	6400	6400	16000
ISO (Hi Mode)	25600	102400	25600	25600	25600	25600	12800	25600
Shutter speed (fastest)	1/8000	1/8000	1/8000	1/8000	1/4000	1/4001	1/4002	1/4003
Shutter speed (slowest)	30	30	30	30	30	30	30	30
Auto Focus system	Contrast	Contrast	Contrast	Phase Detect	Hybrid Contrast-Phase Detect	Contrast	Contrast	Phase Detect
Total focus points	51	61	39	19	9	11	11	15
Number of Cross Type Focus points	15	41	9	11	9	1	1	3
External flash provision	Y	Y	Y	Y	Y	Y	Y	Y
Exposure compensation range	+/- 5EV	+/- 5EV	+/- 5EV	+/- 5EV	+/- 5EV	+/- 5EV	+/- 5EV	+/- 3EV
Continuous Drive (frames per second) (at max resolution)	4,6	6	6	12	5	4	4	12
LCD size (inches)	3.2	3.2	3	3	3	3	3	3
LCD Resolution (dots)	921,000	1040000	921000	921000	1040000	921000	921000	921000
LCD Articulated (Y/N)	N	N	N	Y	Y	Y	N	Y
LCD Touchscreen (Y/N)	N	N	N	N	Y	N	N	N
Microphone type	Mono	Mono	Mono	Stereo	Stereo	Mono	Mono	Stereo
Max Video capture resolution	1920x1080	1920x1080	1920x1080	1920x1080	1920x1080	1920x1080	1920x1080	1920x1080
Battery Life (Manuf rated no of shots)	900	950	1050	470	440	540	540	550
Memory card slots	2	2	2	1	1	1	1	1
Body dimensions (in mm)	146 x 123 x 82	152 x 116 x 76	132 x 105 x 77	143 x 104 x 81	133 x 100 x 79	128 x 97 x 79	125 x 96 x 77	132 x 98 x 81
Weight (in grams without battery)	900	950	780	732	575	560	505618	
Rated Shutter count	200000	150000	150000	150000	100000	100000	100000	100000
Image Performance (So 10)								
ISO 1600	9.00	9.00	8.50	8.50	7.50	7.50	7.00	7.50
ISO 3200	8.00	8.50	7.50	7.50	6.50	6.50	6.00	6.50
ISO 6400	7.00	7.50	6.50	6.00	6.00	6.50	6.00	6.00
ISO 12800	0.00	6.50	0.00	6.00	5.00	0.00	0.00	5.00
ISO 25600	0.00	5.00	0.00	5.00	4.00	0.00	0.00	0.00
Color Rendition	9.00	9.00	8.00	8.00	8.00	7.50	7.50	7.00
Contrast Rendition	9.00	8.50	8.00	8.00	7.50	7.50	7.50	7.00
Dynamic Range	9.00	8.00	7.50	7.50	7.00	7.50	7.50	7.00
Central region	9.00	9.00	8.50	9.00	8.00	8.00	8.00	8.00
Real World Low light	7.00	7.50	6.00	6.00	6.00	5.50	6.00	6.00
Focus tracking	7.00	8.00	7.00	7.00	7.00	5.50	5.50	6.00
Low Light Indoors	8	8	8	8	7.5	6.5	7	7



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labelled "I", which takes you to an information screen, where you scroll down to the ISO option and then switch the values. Same thing with the Sony. None of the entry level DSLRs have weather sealing, which is a little disappointing, but that's a given at this price point.

Performance

This is where things get exciting and a little tricky. When shooting outdoors, the 650D had the most pleasing colors of all, along with a very good contrast, numbers which are shared by the D5100 and the D3200 alike. The Alpha A57 was a pinch lower in the contrast department, but at par with the competition when it came to low light performance. Interestingly, due to a higher pixel count, the D3200 did show for the most detail-rich images. This we noticed even in the studio tests, where the D3200 surpassed all others in detail retention in the toy fibers and the bottle label.

Sharpness and detail is often a result of how well the camera sensor and the lens play together. Putting a crappy lens on a great sensor will get you the same results as putting a premium lens on a crappy sensor: BAD. Therefore, we used the standard 50mm primes to evaluate sharpness and detail resolution in our studio test. We used a stuffed teddy bear along with two books placed at different corners to gauge the sensor resolution. Also featured in our test shot is a page with intricate patterns, which also helps in gauging details. Here, the D3200 outshone all its competitors, with the Canon a somewhat distant second.

We shot off the cameras on their native ISOs (no expansion tested as all of them developed significant noise at their highest native ISO) under tungsten lighting (white balanced accordingly). While the initial three ISO stops (200, 400 and 800) yielded pretty much similar image quality (great!), its at ISOs higher than 1600 where we started seeing changes in the image quality. At ISO 1600, the D3200 showed slightly more chroma and luminance noise than its competitors, probably because of the large number of pixels packed into an APS-C sensor. ISO 3200 managed to get all the cameras, causing a stark dip in image quality. The Nikons topped out at ISO 6400, yielding images that we considered unusable, while the 650D and the Alpha 57 managed to crawl up to ISO 12800, where they stopped producing useable images.



Sony Alpha SLT-77



Canon 5D MarkIII

The video performance on all the DSLRs was at par, when recorded in broad daylight at 1080p. In low light, the Canon seemed to develop chroma noise much quicker than the Sony and Nikons. The audio on all four cameras was decent when there wasn't a lot of ambient noise, however, Canon and Sony both sport stereo-mics as against the mono-mics on the Nikons, allowing for a more 'realistic' audio experience.

Verdict

The winner for our **Best Buy** category here is the **Canon 650D.** While the 650D does offer many new, innovative (and effective) features, it is also the most expensive of the lot. The price of the 650D treads well into the territory of the 60D, Canon's semi-professional DSLR. Besides, the overall scores of our tests put the Nikons barely a few points behind and given their significantly lower price point, they could be a much better alternative. The Sony Alpha 57 does lack in high ISO performance, and has a slightly lower contrast rendition than the rest, however, it boasts of a burst speed of 12 frames per second, something that no other entry level camera in our test even comes close to. The video on all of them is at par for good lighting conditions, but in low light, the Nikons shine bright, especially if you are using a prime lens with a fast aperture.

Semi-Pro DSLRs

While the current focus seems to be on adding more and more versatile entry-level DSLRs, the serious hobbyist photographer isn't left hanging. These cameras come with better frame rates, an intelligent focusing system with a higher number

Google goes blue

Google's new favicon follows the continuing trend of the company's new adopted colour being implemented across major products.
http://dgit.in/NChBHz

of focusing points (cross and normal), are generally slightly bigger in size and offer some level of resilience against the weather. We would still not recommend dropping one, or gallivanting with it in the pouring rains.

We're looking at the D7000 from Nikon and the A77 from Sony here in our test and it's quite an exciting one. It's important to keep in mind that the two cameras we're comparing here come from two very different backgrounds and offer many distinct features and performance perks.

Features and Design

The Nikon D7000 is built on the long standing Nikon design that has been employed on cameras like the D300, D300s and even the D800. The Sony Alpha 77 on the other hand is a rogue entrant here, coming from an amalgamation of Sony and Konica Minolta. Nikon has always focused on squeezing every bit of performance out of their products, while Sony takes that formula and adds the glitter of "higher numbers" to it. For example, the A77 sported the world's first 24 megapixel APS-C sensor.

When looking at the two cameras straight on, the Nikon looks like a simpleton, while the Alpha looks like body builder with considerably raised curves on top (leading out of the hot shoe flash and onto the edges). It is even taller than the D7000, which is probably due to the semi-transparent mirror and phase detect sensor placed where the prism should be. The Alpha is a pure phase-detect focusing machine, while the D7000 uses the traditional contrast-detect AF method. The Alpha 77 sports 19 AF points, 11 of which are cross type while the D7000 has 39 focusing points with 9 being cross type.

The Alpha 77 comes with Sony's TruBlack tilt-swivel LCD, something the film makers (and we) will just love. It permits the camera to film at angles that previously required elaborate rigs and external monitors.

In our test, the D7000 surpassed the Alpha77 by just a few points. It's probably because the D7000 has dual SD card slots while the A77 has just one.

Build and Ergonomics

The D7000, in our opinion, looks just like a smaller D800. In fact, it doesn't look much different from the standard Nikon cameras, which have come to take on an established design formula (save for the D4). The Alpha is a new comer to the game, marking Sony's entry into the semi-pro DSLR market, and it is quite a contender.

The buttons on the Alpha 77 made us feel like not a lot of thought was given to what was placed and where. Despite spending a lot of time with the Alpha, we still had troubles accessing certain features such as changing the metering mode. It looks like the menu system on the DSLR is straight out of Sony's point and shoot cameras, something that we are not particularly fond of as it makes the menu look a little cluttered. It is, however, intuitive. The D7000 from Nikon is quite a treat to use in this regard, with clear button placement. The menu, however, it's quite a pain to traverse through. While the extent of weather sealing on the D7000 is not all that clear, Sony clearly states that the Alpha 77 is designed to withstand some light rain. The rubber seals on the ports feel sturdy and tight, the same as the Nikon so we wouldn't worry about any accidental water leakage.

Performance

The Alpha 77 is a 24-megapixel-12-fps shooting monster while the D7000 is a 16 megapixel shooter capable of 6 frames per second at best.

In our outdoors test, we found that both the cameras actually rendered colors and contrast equally well. We're guessing it has something to do with the fact that Sony's been making sensors for Nikon for quite some time, with the D7000 being no exception. Good job Sony! As for the color renditions and contrast levels, both the cameras gave a rather saturated image, along with a mild contrast. Needless to say, we shot plenty of RAW files, which we had absolutely no need to edit for color or contrast. With multi-segment metering enabled, the exposures seemed very well balanced, with an acceptable





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dynamic range. There was some clipping when shooting during clear sky conditions, but with overcast skies, the dynamic range was wide enough to allow for a good exposure of the foreground and background.

Moving into the studio, the ISO results didn't surprise us one bit. Up to ISO 1600, both the cameras render excellent noise free images and at ISO 3200, signs of luminance and chrominance start to creep in. At ISO 6400 is when we first see a difference in ISO performance, with the Alpha taking a larger hit in performance. Regardless, the images are still useable. Nikon D7000's native ISO tops out at 6400, but the Alpha 77 goes up to ISO 25600, with images at ISO 12800 being just barely useable.

Detail retention is definitely better on the Alpha 77 as compared to the D7000 thanks to the larger pixel count, however, the difference won't really show unless you're printing at poster size. The video on the two cameras, again is quite identical in quality in low light and otherwise, with excellent noise suppression and good dynamic range. However, we seem to lean in the favor of the Alpha because of the stereo mics and the tilt-swivel screen that makes shooting a whole lot easier. However, the lack of a secondary memory slot means either purchasing very high capacity cards or being judicious about video recording.

Verdict

The **Sony Alpha 77** wins our **Best Buy** award in the semi-professional DSLR segment, but by a very, very small margin. The two cameras share much of their imaging DNA and while Sony is a performance beast with its 12 fps burst mode and weather sealing. The **Nikon D7000**, however, is a camera that has delivered excellent results with every shot, so we award it our **Editor's Pick** award.

Pro DSLR

Cameras in this segment are infused with the best imaging and performance DNA cooked up by the geniuses hidden away in the R&D labs of the camera giants. We're not just talking about a higher pixel count, but also full frame sensors, yielding effectively larger pixel pitches, for better per-pixel quality.



Canon 650D

Features and Design

We're looking here at the Nikon D800E which boasts of the largest pixel count on a full frame camera so far, a whopping 36 megapixels. In the other corner of the ring is the Canon 5D MarkIII, which has a 22 megapixel sensor, which Canon claims is a completely novel design. While the Nikon gets an EXPEED 3 processing chip to handle the massive amounts of data coming from the 36 megapixel sensor, the 5D MarkIII is beefed up with Canon's latest DIGIC 5+ image processor. Both these chips allow the cameras to reach a peak shooting speed of 6 frames per second (6fps for the D800E with grip attached, else 4fps).

The 5D MarkIII also gains a silent shutter mode, which, is surprisingly quiet. Of course, when using the silent shutter mode, the maximum burst mode comes down to 3.5 fps.

Both the cameras have acquired an all new focusing and metering system. While the metering systems do just what they're supposed to do, it's the focusing systems here that are the real attraction. The D800E employs a 51-point AF system with 15 cross type focus points, the same as in the D4. It is capable of focusing in light levels as low as -2EV. While the focusing performance was a given with the D800E, the 5D MarkIII has a focus capability that has left many pleasantly surprised. The main gripe about the 5D MarkII was its severely crippled AF, which had a hard time with low light. Canon has fixed that by infusing the 5D MarkIII with the same AF assembly found in the 1DX. This means that now, we can wield the power of 61 focus points, 41 of which are cross type. In our focus tests, we found that the D800E's peripheral focus points had a difficult time locking focus in low light, but that was not the case with the 5D.

Build and Ergonomics

Both camera bodies are crafted from magnesium alloy and feature extensive weather sealing to withstand natural elements. Since the rain Gods are being generous these days, we tested the weather sealing on these two cameras by shooting in light rain with no adverse effects. While the D800E looks like a tank ready for battle, the 5D MarkIII's body is a lot more subtle, a lot more elegant.

Ergonomically, we favor the 5D MarkIII over the D800E. Canon, over the years has pretty much perfected the idea of ergonomic intuitiveness, that is, the layout of the buttons and dials on the 5D is minimal, requires minimal finger movement and provides instant one-hand-access to all the primary shooting settings such as WB, burst mode, shooting mode, aperture and shutter speed settings and ISO. We could access all these features using just one finger to push a button and then spinning a dial with our thumb, all while the camera was still stuck to our eye. Sadly, the D800E does not offer the same level of comfort.

Performance

We're talking about a camera that's the successor to a very successful studio and video camera (the 5D MarkII) and a camera that's shocked the world with an incredulous pixel count. In our outdoor test, the D800 rendered vibrant images, while the 5D MarkIII files were a little flat, as can be expected when shooting RAW.

The contrast was also better in the images from the D800E as compared to the 5D MarkIII, but not by a whole lot. The dynamic range was visibly much higher on the D800E, with a tendency to be more partial towards the shadows while the 5D MarkIII seemed more favorable towards the highlights. It seems that the 5D MarkIII has a tendency for slightly 'cooler' white balance while the Nikon leans towards warmer tones. While each of these can be fixed in several, non-time-consuming ways, these color tones are suited for special purposes. For example, the Nikon, with its warmer tones will be more suited for weddings and portraiture, whereas the cooler tones of the Canon makes it a great camera for studio work. Color tones aren't everything though, as the amount of detail each sensor can resolve also matters. The D800E, with a neutralized anti-aliasing filter along with the high pixel count is able to capture a very large amount of detail, in good sharpness. However, it also suffers from the fact that even the slightest of shake, or even a touch of bad focus will show on the image. Unfortunately, that's the price we pay for great quality, that it amplifies even the slightest of mistakes. Therefore, the D800E is best suited for studio use, where it would be mostly mounted on a tripod.

The 5D MarkIII on the other hand, does capture extremely detailed images, without a tendency to show the flaws as blatantly as the D800E. It is far more forgiving. Not to mention, with an amped up AF system and a higher fps, it can also double up as a casual sports camera.

When examining our studio shots, we noticed that both the cameras deliver excellent image quality up to ISO 1600, but at ISO 3200, the Nikon shows some chroma noise while the Canon shows just hints of some luminance noise, though nothing too bad. At ISO 6400 however, the Canon maintains its hold on the noise, but the D800E produces images rife with both chroma and luminance noise. The native ISO on the D800E is 6400, while the 5D MarkIII goes all the way up to 25600, and produces useable images even at ISO 12800. Some would consider that ISO 25600 files as useable as well, with a little post processing and noise reduction, but it's not to our taste.

The video on these two cameras is equally important as the imaging. The 5D MarkII had become pretty much the industry standard for DSLR filming while the D700, its competitor lacked any video capabilities. The 5D MarkIII doesn't have many video improvements, but does render clean footage



Nikon D7000

at ISOs as high as 6400. The D800E is no less either. Video from the D800E is tack sharp (provided the focus is accurate) and quite vibrant. While the 5D MarkIII provides a maximum 1080p recording resolution, the D800E is capable of offloading uncompressed footage (4:2:2 color sampling) onto an external recorder via the HDMI port. The 1080p footage from both these cameras is almost indistinguishable, save for the warm color tones of the D800E and the cooler tone of the 5D MarkIII.

Verdict

While both the cameras are excellent performers, the **Canon 5D MarkIII** wins our **Best Performer** award due to its better ISO performance, slightly better video dynamic range and excellent ergonomics. It's a camera that you can carry around all day and not feel tired, something we cannot say for the D800E. Did we mention the 5D MarkIII has an insanely amazing focusing system? However, to be clear, the D800E is no less of a performer. Comparing the two is like comparing a Ferrari to a Lamborghini, where one will beat the other, but that doesn't mean the latter is bad. D800E is far cheaper than the 5D MarkIII and an excellent choice if you're looking to go full frame.

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Beam it right

We pitch 10 popular projectors in the market against each other to tell you which one should fulfill your home entertainment needs

Jayesh Shinde
jayesh.shinde@thinkdigit.com

Mention projectors and often the first mental image most of us picture is that of a beam of light emerging from the back of a cinema hall and illuminating the large screen in front, while enjoying the latest movie, or dull and boring slideshow presentations from countless office boardroom meetings. We seldom think of projectors as the centrepiece of our home entertainment system, always desiring to invest in a big screen HDTV instead. Perhaps the deep-seated notion that projectors are expensive and mostly for commercial use is an added deterrent.

While having a projector setup in a household isn't the same as installing a large screen high-definition LCD TV – for instance, adequate space is an issue and how effectively can one close the blinds and be in a near-dark room in broad daylight? – there are some clear advantages the former enjoys over the latter. With a projector, any room can be a movie room – be it the living room or guest room, and the resulting image it throws can be bigger, better and larger than your HDTV. Most HDTVs measuring over 40-inches are priced between ₹50,000 to ₹1,00,000, so are most projectors in this comparison, while some are even more inexpensive. Given the right conditions, there's no reason why you shouldn't pick a projector for your home entertainment needs.

We received 10 projectors from brands such as BenQ, Casio, Dell, Epson, LG, Portronics and Viewsonic ranging from ₹23,000 to over ₹1,00,000, and they came in various shapes and sizes. Our attempt is to pit them against each other, weigh their pros and cons and help you decide where they stand in terms of their features, design and performance, so you're empowered to make an informed buying decision after reading this article.

A projector's goal is to throw light through its lens but the

technique it uses to achieve the task isn't always the same. Projectors use prominent display technologies ranging from Digital Light Processing (DLP), 3LCD and Liquid Crystal on Silicon (LCoS). Apart from the two Epson projectors which sports 3LCD, and Portronics which uses LCoS, all other projectors in this comparison test feature DLP technology.

Features and Specs

The smallest projector in the comparison is the Portronics POR 315 pico projector, a handheld projector that can be easily stowed away in a purse. The Portronics projector is really tiny and lightweight, trouncing every other projector under these two parameters in this comparative review. Weighing over 7 kg, the Epson EH-TW3600 represented the other end of the tipping scale, easily the largest and heaviest projector in the comparison – because of its form and weight, you have to use both hands to lift this projector off the ground.

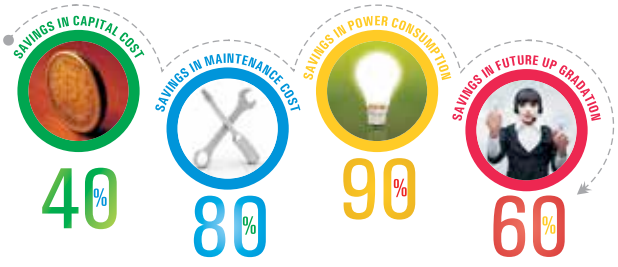
We had asked projector brands to send us projectors ideal for a home entertainment setup and multimedia use, setting the price cap around ₹1 lakh. What's really interesting to note is that only three out of the 10 projectors – the Epson EH-TW3600, EH-TW600, and Viewsonic pro8200 – support Full HD or 1080p native resolution, as the rest of the lot hit the wall much lower by natively supporting merely 1280x800 pixels resolution. While Full HD resolution support is almost a no brainer on HDTVs, seemingly the trend isn't so popular on most entertainment projectors. We noticed a similar pattern with projectors sporting 3D support, only three projectors – the BenQ W710ST, Casio XJ-M255, and Epson EH-TW6000 – have it. But both the BenQ and Casio projectors can only play 3D visuals from a PC, not through a compatible 3D-ready Blu-ray player.

In terms of connectivity options, most projectors either



Viewsonic Pro8200

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Win XP & Win 2003	Arm 1000 MHz / 512 MB Ram / 512 MB Flash	MIPS 533 MHz / 128 MB Ram/ 1288 MB Flash	Intel Atom 1.8 GHz / 1GB Ram / 1GB Flash
Max 30 Clients	Win 7 / Win 2008 / Linux	Win 7 / Win 2008 / Linux	Win 7 / Win 2003 & 2008 / Linux
2 PS/2, VGA, LAN, SPK	No Limitation in any OS	No Limitation in any OS	No Limitation in any OS
Linux	3 USB 2.0, VGA, LAN, SPK	4 USB 2.0, VGA, Lan, Mic	2 PS/2, 6 USB 2.0, 1 Serial, 1 Parallel
152mm(w)*25mm(H)*94mm(D)	Linux / Win CE 6.0* (Local OS)	Linux (Local OS)	Linux Embedded / Windows 7 Embedded*

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Brand	Viewsonic	Epson	BenQ	Casio	Epson	LG	Casio	Dell	Portronics	BenQ
Model	**Pro8200**	**EH-TW3600**	**W710ST**	**XJ-M255**	**EH-TW6000**	**HW300G**	**XJ-A240V**	**M110**	**POR 315 Pico**	**Joybee GP2**
Price (MRP) ₹	89,000	94,599	65,000	1,04,995	1,13,499	60,000	79,995	33,000	23,000	39,167
Grand Total (Out of 100)	70.96	65.96	62.75	61.60	71.57	53.52	50.19	54.80	50.67	49.54
Performance										
Brightness (lumens)	614	220	220	356	442	77.6	216	184	30.6	65.2
Contrast Ratio (White/ Black)	128:1	350:1	215:1	544:1	533:1	131:1	400:1	365:1	77:1	137:1
Time to Startup (sec)	17	64	26	6.6	43	10	13	16	9	13
Red (lumens)	130	70	40	40	140	18.33	43	25.66	8.7	6.93
Green (lumens)	280	180	116.66	280	490	61	230	65	40	38
Blue (lumens)	51.66	31	17	4.7	47.5	8.7	2.3	16	2.9	3.23
Colour triangle	4	4.5	3	3.5	4.5	4	2.5	4.5	3.5	4
Moire pattern	5	5	0	4.5	5	5	0	5	5	5
Rainbow effect	5	5	5	0	0	0	0	5	0	5
PixPerAn readibility test	10	9	11	10	12	9	10	7	6	7
Curved edges	Yes	No	No	No	No	No	Slight	No	No	No
Corner clarity	8	9	8	8	8.5	8	8	7.5	5	4
Temperature (Celsius)	39.5	36.8	41.7	28.8	41.5	42.7	32.7	34.8	28.4	28
Avatar 1080p	8	9	5	5	8.75	6	6	8	5	5.5
Up 1080p	8	9	6	6.5	8.5	7.25	6.5	7.25	5	5.5
Batman Begins 1080p	8	8.5	6	6	8.5	5.5	6.5	7	4	5
Quantum of Solace 1080p	8.5	9	6	6.5	8.75	7.5	6	7.5	3.5	5.5
Features										
Display type	DLP	3LCD	DLP	DLP	3LCD	DLP LED	DLP	DLP LED	LCoS	DLP
Native Resolution	1920x1080	1920x1080	1280x720	1280x800	1920x1080	1280x800	1280x800	1280x800	1024x600	1280x800
Eco Mode	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NA	Yes
Lamp Life (hours)	4000	4000	4000	6000	4000	30000	6000	20000	20000	20000
Power Consumption (W)	310	200	220	190	230	100	190	44	13	45
Rated Noise (dB)	31	28	31	NA	24	28	NA	36		29
3D ready	0	0	Yes	Yes	Yes	0	0	0	0	0
3D glasses	0	0	1	0	2	0	0	0	0	0
Wireless remote	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Onboard speakers	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Weight (in KG)	3.86	7.3	3.6	3.9	6	0.78	2.3	0.38	0.2	0.56
Warranty (years)	3	3	2	3	2	2	3	1	1	1
HDMI ports	2	2	2	1	2	1	1	1	1	1
VGA ports	2	1	1	1	1	1	1	1	1	0
USB port	1	0	1	1	1	1	0	1	1	1
Component	1	1	1	1	1	1	0	0	1	1
LAN port	0	0	0	1	1	0	0	0	0	0
Build Quality & Usage										
Body	3.5	3.5	3.5	4	4.5	3.5	3	3.5	3	3.5
Stand	3	3	3	3.5	4	3	3.5	NA	4	NA
Ease of setup	6	9	6	6	9	9	6	7.5	6	4
Navigating the interface	7	8	9	7	9	10	7	8	4	5
Keystone adjustment	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Password & Parental Lock	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No



BenQ W710ST

have a VGA or HDMI port for accepting video input; the better, more serious multimedia projectors have two HDMI and VGA ports like the Viewsonic pro8200, BenQ W710ST, Epson EH-TW3600 and EH-TW6000.

Apart from the usual bells and whistles, a few projectors have some unique features. The Dell M110 and Portronics POR 315, for example, come with a microSD and SD card slot on their respective exterior, while the Casio XJ-M255 is the only mainstream lampless projector in the comparison. Similarly, the BenQ Joybee GP2 has an iPod dock on its top panel, while the Portronics pico projector comes with a cute little adjustable tripod stand. Of the 10 projectors, only the Epson EH-TW6000 and Casio XJ-M255 came with an ethernet port onboard.

Design & Usability

When it comes to aesthetics, they aren't spectacularly different from one projector to the other as far as their looks are concerned, but designs keep evolving. Big or small, projectors are still designed as blocks; but what used to be dark and dull a few years ago, they have improved in the looks department considerably. In terms of looks alone, there were a few that really caught the eye – the Epson EH-TW6000, with its milky white piano finish exterior and curved edges; the palm-sized Dell M110 which resembles an elegant jewellery box; the Portronics POR 315 pico projector, of course. All the projectors in this test have a plastic exterior, so there isn't much difference between them in terms of build quality. Having said that, the Casio XJ-M255 is probably the best built among the crew – it is considerably compact and less bulky than the others, its stands are nice and sturdy as well.



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Epson EH-TW3600

While most of the featured projectors let you correct keystone values (Check *Jargon Explained* box ahead), few among them support automatic keystone correction. The Viewsonic pro8200 and BenQ W710ST has a very good automatic keystone correction ability, detecting the angle of the projector screen's plane and adjusting the displayed image within seconds. From unboxing to connecting them to the PC and having them fully operational, the two Epson projectors and LG's HW300G offer the best installation and ease of setup experience. Right from hooking these projectors up to the video source, figuring out their menu controls, exploring their respective remote controls, etc., everything is simplified and works like a breeze which is a testimony to the product designers.

To give an example of adjusting the projector lens' focus, the Epson EH-TW3600 is the only one which supports not only manual zoom and focus controls but also allows vertical and horizontal shifting of the displayed image by adjusting its lens without physically moving the projector from its place. Concerning the projectors' onscreen display or OSD, the LG HW300G has the most intuitive and user-friendly OSD of the bunch, comprising of large tiled icons with pictorial representations that tell you at a glance what controls they hide underneath. The LG HW300G is also the only projector whose OSD has five playable games with the help of its remote control – a very good accompaniment – and along with the Dell M110, the only projector to have a USB plug-n-play option.

Performance

The Viewsonic pro8200 is the brightest projector we tested and performed well. It reproduced warm images that were nice and bright with good contrast added in. Blues were slightly exaggerated and its color gradients weren't as great as the Epson TW3600. It suffers no visible ghosting or streaking while watching action sequences with fast moving frames. The Epson EH-TW3600 isn't the brightest projector nor does it have the best contrast ratio, but it's one of the sharpest projectors and absolutely aced the DisplayMate benchmarks. Not only that, the TW3600 was nothing short of fabulous while watching movies such as *Avatar*, *Up*, *Batman Begins*, *Transformers*, *Quantum Of Solace* and *Sin City*. Based on our tests, we have no doubt that the Epson projector's colour reproduction is the best of the bunch and it's one of those projectors which successfully recreates a theatre's movie experience in a small room. The BenQ W710ST displayed sharp visuals and good contrast levels, but was not very bright. It also displayed moire on every bright image (white) areas and suffered from rainbow effect regularly around fast switching coloured visuals. Casio's XJ-M255 is also sharp with good contrast levels, but its colour consistency is slightly off – e.g., in DisplayMate's Red, Blue and Green screen test, we noticed the hue of these three colours was of a slightly deeper shade and not optimal. While watching movies on the Casio XJ-M255, greens and yellows were very good, but reds and blues were off, overcompensating for greys and other darker shades. However, the projector was one of the quickest to boot up (10 seconds) from a cold start.

The second of the two Epson projectors, the EH-TW6000, is the second best projector in terms of visual display (movies) quality compared to the 3LCD Epson projector. It's large with the loudest and best onboard audio speakers we've heard in this test. In DisplayMate, the only thing that spoiled the


LG HW300G

Jargon Explained

While writing the text and forming the comparison table, we've tried to keep jargon at a bare minimum. However, the explanation of a few terms is needed for better understanding the phenomenon of light projection and its associated attributes.

- **Moire:** Projectors which can't display a closely packed grid of horizontal or vertical parallel lines effectively often suffer from moire. The phenomenon of moire takes place when either parallel lines overlap or are slightly curved with respect to each other. This results in a wavy, curved pattern clearly visible on lighter (or white) image backgrounds.
- **Rainbow effect:** When a projector's colour wheel fails to keep pace with the fast-moving coloured visuals being pumped out through its lens, the resulting image often has a rainbow tinge to it. This colour separation usually occurs due to slow pixel refresh rate and primarily witnessed among DLP projectors.
- **Ghosting:** This phenomenon manifests in the form of an unwanted image being wrongfully inserted near the wanted image. In most cases, ghosting usually occurs when a duplicate copy of the desired image is involuntarily projected very close to the desired image, exposing the flaw within the projector.
- **Banding:** This is mostly related to the various colours a projector displays and when it fails to transition between one colour to another, resulting in colour grouping or banding.
- **Throw distance:** It refers to the ideal distance between the lens of the projector and the screen on which the image is protected.
- **Keystone:** When the projecting screen isn't exactly perpendicular to the projector's lens, the projector has trouble displaying a perfect rectangular image. Keystone occurs when a projector beams a trapezoidal image on the screen, if its plane isn't perpendicular.

HOW WE TESTED

Since we deal with variable light sources on the different projectors, a bit of prep work is needed to ensure uniform test conditions. We tested the projectors in a dark room with no reflective surfaces (glass, mirrors, etc). A high gain white screen measuring 6-feet-by-4-feet (with a black background) was suspended 2 metres from where the projectors were kept on a table at a height of 3 feet from the floor. We used a Minolta autometer IV light meter to measure the light coming from the projectors – all testing was done after ensuring that there was next to no ambient light in the room (before firing up every projector, we ensured the meter showed E or Error, which means not enough light to register a reading).

Performance: We hooked up all the projectors to a standard rig with an HDMI port. The test projectors were connected to the rig via an HDMI cable to run video files and benchmarks off it. To ensure uniformity, all projectors were restored to factory settings before benchmarking their individual performance. Prime among the synthetic tests was DisplayMate's suite of industry standard display benchmark (for more info visit www.displaymate.com). The program lets you test a projector's image for various things such as distortion, sharpness, brightness, colour, pixel density, etc. It's a comprehensive test, used to test not only projectors but TVs and monitors, and we've included only a small snapshot of it in the comparison table.

Brightness was calculated by displaying a full white image and taking a reading at the screen's surface, with the light meter's sensitive bulb facing the full glow of the projector's uninterrupted light. We also ran PixPerAn's readability test to measure ghosting and text clarity.

Apart from these objective tests, we watched movies such as *Avatar*, *Batman Begins*, *Up*, *Transformers*, *Sin City* and *Quantum Of Solace* – all HD 1080p MKV files. We looked for ghosting, inconsistencies in colour, colour flashes and rainbow effects which usually occur while watching fast-paced, colourful cinematic visuals. For the projectors sporting onboard speakers, we tested their sound quality, too. We also checked each projector's startup time and its peak operating temperature (near its exhaust vent) through a digital thermometer.

Features and Design: Parameters to differentiate between the projectors – like type and number of connectivity ports, native resolution, warranty, etc., and specifications that didn't have a direct impact on their performance – were tabulated under Features. The projector's build quality, ease of setup, quality of on-screen interface, and other similar salient attributes were tabulated under Design. After applying our formula to determine winners, we came up with the Best Performer, Best Buy and Editor's Pick.

picture was a hint of moire and banding. Also, it isn't as sharp as the EH-TW3600 projector, but still sharper than most. The Epson EH-TW6000's display of colour reproduction, skin tones, hues and contrast levels was very good, though, and it performed best in our text readability tests.

First of a few portable LED projectors in this test, the LG HW300G isn't very bright, but reproduces colours well. However, colours appear a tad muted and toned down because of its lack of adequate brightness. The LG projector also suffers from moire patterns, especially on a predominantly white scene.

The second Casio projector, the XJ-A240V, has good onboard audio. But in terms of display performance, the projector lacked enough blue, compensating its loss by excess pink and green tinges in lighter scenes. Rainbow effects were revealed, too. For e.g., in *Avatar*, the Na'vis lacked blue and the surroundings were touched with a hint of pink. In *Batman Begins*, rainbows were openly visible. In *Up*, pinks were exaggerated, despite sharp and bright images and warm skin tones. The Dell M110 is surprisingly good and efficient in its performance, despite its portable and anorexic dimensions. The projector isn't very bright but it has a very good contrast ratio, not too mention a solid performance through our DisplayMate tests. When it comes to movie performance, the Dell isn't just better than any other portable projector but beats bigger and more expensive projectors in the lineup. It does exaggerate blues a bit, but also delivers sharp, crisp images with very good contrast.



Dell M110

The Portronics POR 315 and BenQ Joybee GP2 are strictly portable projectors and not strong contenders for your home multimedia setup, we found out in this test. Not only did these two projectors have the poorest brightness and DisplayMate scores, they just weren't good enough for watching movies – visuals were a mishmash of moire, rainbow effect, banding, and ghosting.

Winners

For its superior visual performance both in objective benchmarks and subjective tests, the **Epson EH-TW3600** bagged the **Best Perfomer** award –the Viewsonic pro8200 and Epson 6000 were second and third, respectively. Although it didn't come with a remote control and despite being a portable projector, the **Dell M110** bagged our **Best Buy** award for giving the best bang for your buck by delivering a combination of good performance and healthy features. For the lowest price, it meets our minimum standard of what a basic multimedia projector should provide. Finally, the **Viewsonic pro8200** rightly claimed the **Editor's Pick** award for being the brightest projector of the bunch, performing very well and supporting a plethora of features, it's a worthy recommendation for any home entertainment system.

Outlook.com
Microsoft recently unveiled Outlook.com, which is a modern email service based on the latest Windows 8 user interface. **http://outlook.com**

Micromax Funbook Pro
Micromax has officially the launched its brand new 10-inch Android tablet, the Micromax Funbook Pro, for ₹9,999.



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Nimish Sawant
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Not much has changed in the multi-functional devices space in the last year or so. Most of the MFDs these days come with all the major connectivity features with WiFi being the only network connectivity option in some cases though. Some of the MFDs we got this time around have also featured in our previous MFD comparison tests, and we included them as they are still selling in the market. Considering our price ceiling of ₹15,000, we got two types of MFDs, monochrome laser and colour inkjet. Out of the total of 13 MFDs that we received, there were 5 monochrome MFDs. In terms of colour inkjet MFDs, we got three from Canon, two each from HP and Brother and one from Epson and to represent monochrome laser MFDs, Ricoh sent us two printers while we got one each from Brother, Xerox and Samsung.

Build and Design

The Canon Pixma MG 3170 and E510 sport a similar minimalist design. The control panels on both comprise of 7-segment LED screens which just show a number with a "+" button to increase the number of copies being printed. Another switch allows you to toggle between paper sizes/types. The only differences between these two MFDs, apart from their colour, are that the MG 3170 has WiFi support and the type of cartridge used. We liked the fact that the scan bed hinge is flexible enough to take in books which are thick in size. The other Canon MFD, the Pixma MX 517, is completely different in terms of design having a comparatively larger footprint as compared to the MG 3170 and E 510. The MX 517 has larger input trays and it sports an automatic document feeder above the scan-bed. The sloped front face houses an exhaustive control panel which has a 2.5-inch colour LCD screen. The glossy body is a finger-print magnet though.

Brother MFDs have a very interesting design, in the sense that both the J625W and J430W have managed to keep their height low. The USB cord is connected internally, helping one manage the wire around the

HOW WE TESTED

We called in for MFDs under ₹15,000. We got a healthy mix of colour MFDs as well as monochrome laser MFDs. We don't think anyone at home or a SoHo setup will spend more than this on an MFD.

Our test setup was as follows:

- **Processor:** Intel Core i7-3770K @ 3.5GHz
- **RAM:** 2x4GB Kingston HyperX DDR3 RAM @ 1333 MHz
- **Motherboard:** ASRock Z77 Extreme 4
- **Power Supply:** Corsair HX620W
- **Monitor:** BenQ EW 2430V

We ran a few dry runs with the MFDs before actually starting off with our tests, so as to get the MFDs activated. We used standard A4 sized paper for normal print and copy tests, and Kodak Photo glossy paper for photo prints. The print tests were standard printer tests – quality of text printing, mixed document printing and photo printing. The text-only documents were reviewed for clarity of the smallest and largest fonts, and we looked for evenness of the text at different settings. We also used flourescent markers to check for smudging. In the mixed document tests we tested the prints against each other for clarity of text, merging colours, changing gradations of colours and white to black progressions. In our photo test, we printed an A4 size test photo, and checked the sharpness levels, colour output and also looked for flaws such as merging of colours or grain. For the mixed document and photo prints, we identified over five regions where printers usually struggle, and scored the outputs out of 10. The final quality score was an average of all the individual test scores. For the copy tests, we compared the output to the source and checked for noise, change in colour level, clarity, etc. Each test was timed, and that was also scored. Scanning speeds were also measured on all the MFDs. Features of MFDs often affect buying decisions, and we gave considerable importance to this. We tested the ease with which cartridges could be replaced, ease of WiFi setup wherever applicable, how easy was the MFD to setup, and of course how user friendly was the software interface. We also felt that build quality of MFDs is important, and scored it accordingly. We did not really test the fax functionality, as some MFDs lacked it, and anyway, who uses fax any more?

As always, we also calculated the total cost of ownership (TCO). We did this to ensure that those MFDs which were priced low, but had high running costs weren't given any undue advantage. We assumed that the user will print at least 1000 prints for inkjet MFDs and 2000 prints for laser MFDs in a year and accordingly calculated the cost of ownership, taking into consideration the pricing of the cartridges and toners. The TCO index we got was considered in the overall score for the MFDs compared.

body. The input trays are a bit inconvenient as you will have to remove them completely to add or remove paper. Ink cartridges are inserted via a section on the extreme right hand side. We quite like the rubberised feel on the buttons and even the matte-black finish. Overall a decent build quality.

The Epson Office 960FWD comes in the traditional all black body. This colour inkjet multifunction device comes with a 2.5-inch LCD screen bang in the middle of the operational panel, which is neatly divided into four sections: Photo, Scan, Fax and Copy. The operational panel is tiltable, making it easier to use while in a sitting or standing position.

The HP MFDs had some variety though. While the HP Deskjet 5525 was similar in aesthetics to the Brother MFDs, the Deskjet Ink Advantage 4615 was comparatively more bulky. The 5525 comes with a touchscreen control panel which is also a finger-print magnet. It has a nice matte-black finish throughout and barring the memory card slot on the bottom left hand corner, there isn't much in terms of design on the MFD. The input tray seems flimsy and the scanner bed has fixed hinges which won't bode well for books of larger thicknesses. The Deskjet Ink Advantage 4615 comes in a brown body and had a backlit monochrome display on the control panel with dedicated buttons. Despite its chocolate brown colour, it looks quite pleasing to the eye. The automatic document feeder and the input tray is well built.

When it comes to monochrome laser MFDs, barring the Samsung SCX-3206W and Ricoh SP 100SF, most of the other MFDs had a larger scan bed area than the input trays at the base, thereby giving the MFDs a slightly triangular shape. The Xerox Workcentre 3045 looks quite sturdy and has a neat, layered design with the input tray at the base having a dedicated opening for paper to come out and a scan bed at the top. The control panel on the 3045 is a backlit monochrome one with a four-way directional pad on the side. The Ricoh SP 120OS and Brother DCP 7060D have similar designs, with the 120OS sporting an automatic document feeder. The displays on the 7060D and 120OS weren't backlit and because they were at a slight angle, you would most likely have to stand up to operate them. The 7060D looks quite elegant though, thanks to a very nice, minimalistic design.



Brother MFC-J625DW

The Ricoh SP 100SF is the only MFD we tested that had its input tray on the back side and the front tray of the Samsung SCX-3206W is the largest in height as compared to the others. With a 7-segment LED on top and a minimal number of buttons, the SCX-3206W does not look as daunting at first sight as the SP 120OS. The Ricoh SP 100SF manages to keep its height lower despite sporting an ADF which opens up to hold the papers in the ADF tray. That is quite an achievement. Buttons on most of the monochrome MFDs are quite responsive, although the rubber ones on Brother 7060D need a long press to get a response at times.

	Inkjet Colour MFDs							
Brand	**Canon**	**Canon**	**Canon**	**HP**	**HP**	**Epson**	**Brother**	**Brother**
Model	**Pixma MG3170**	**Pixma E510**	**Pixma MX517**	**DeskJet 5525**	**DeskJet Ink Advantage 4615**	**ME Office 960FWD**	**MFC J625W**	**MFC J430W**
Price (₹)	5695.00	6780.00	9595.00	10299.00	9499.00	14999.00	11920.00	9390.00
Cost of Ownership for 1 year (₹)	11466.67	8173.75	15366.67	12070.45	11266.45	17855.00	13297.50	10767.50
Connectivity and Features (Out of 30)	9.30	4.50	24.30	14.02	3.00	21.05	20.30	8.21
Performance (Out of 50)	22.67	22.93	24.51	26.15	26.83	30.99	25.78	28.93
Build and Ease of Use (Out of 5)	3.45	3.45	3.66	3.56	3.55	3.63	3.73	3.73
Total Cost of Ownership (Out of 15)	9.62	13.50	7.18	9.14	9.79	6.18	8.29	10.24
Grand Total (Out of 100)	45.04	44.38	59.65	52.88	43.17	61.84	58.09	51.10
Connectivity								
PictBridge Support (Y/N)	N	N	Y	N	N	Y	Y	N
USB Flash Drive Support (Y/N)	N	N	Y	N	N	N	Y	N
LAN Cable connectivity (Y/N)	N	N	Y	N	N	Y	N	N
WiFi support (Y/N)	Y	N	Y	Y	N	Y	Y	Y
Memory Card support (Y/N)	N	N	Y	Y	N	Y	Y	N
Features								
Maximum print resolution (dpi)	4800x1200	4800x1200	4800x1200	4800x1200	4800x1200	5760x1440	6000x1200	6000x1200
Automatic Duplex printing (Y/N)	Y	N	Y	N	N	N	Y	N
Type of display on printer	7-segment LED	7-segment LED	2.5-inch	2.65-inch	2-inch mono graphic	3-inch LCD	1.9-inch LCD	1.9-inch screen
Number of Cartridges required	2	2	2	4	4	4	4	4
Cartridge types	Black, Colour	Black, Colour	Black, Colour	C,M,Y,K	C,M,Y,K	C,M,Y,K	C,M,Y,K	C,M,Y,K
Printer Memory	NA	NA	NA	64	32	NA	64	40
Total Paper Tray Capacity (Plain A4)	80	80	80	80	80	250	100	100
Web Apps (Y/N)	N	Y	N	Y	N	N	N	N
Performance								
Text print (Quality)	7.00	6.33	7.00	7.67	7.33	6.00	6.33	6.67
Text print (Time)	32.25	31.45	29.16	32.65	32.55	31.24	26.26	28.11
Mixed Document Print (Quality)	6.40	6.60	6.80	6.80	6.40	6.40	5.60	6.60
Mixed Document Print (Quality) (Time)	96.73	96.01	99.06	45.41	45.01	36.40	62.44	43.48
Mixed Document Print (Speed/ Eco) 5 copies (Time)	85.24	84.86	88.98	36.63	32.26	22.95	31.11	30.72
Photo (Quality)	7.00	7.40	6.90	7.30	7.20	7.20	7.00	7.20
Photo (Quality) (Time)	221.35	216.20	220.05	124.51	126.92	148.00	220.31	218.21
Copy Test (Quality)	6.83	7.00	6.83	6.75	6.08	7.17	5.67	5.50
Copy Test (Time)	40.71	46.15	30.09	22.17	31.36	31.52	28.45	23.81
Scan Test (Time)	18.62	16.98	24.30	26.56	23.56	22.60	23.53	18.23
Scan To USB/Memory card (Colour 300 dpi)(Time)	NA	NA	44.92	NA	NA	55.87	21.62	NA
Scan from ADF (5 Pages, Time)	NA	NA	93.84	NA	73.75	49.67	61.20	60.33
Smudging on using a marker (Y/N)	Y	Y	Y	Y	Y	N	N	Y
Ease of Use (So 10)								
Hardware Connections	8	8	8	8	8	8	7	7
Cartridge Installation	7	7	7	7	6	7	8	8
Paper loading	8	8	8	8	7	8	8	8
Software User Interface	7	7	7	7	7	8	7	7
Cost of Ownership								
Printer cost (in ₹)	5695.00	6780.00	9595.00	10299.00	9499.00	14999.00	11920.00	9390.00
Ink/Toner cost B&W(in ₹)	799.00	650.00	799.00	449.00	449.00	390.00	435.00	435.00
Ink/Toner cost Colour (in ₹)	1199.00	825.00	1199.00	900.00	897.00	1323.00	1305.00	1305.00
No of prints per B&W cartridge	180	800	180	550	550	250	600	600
No of prints per Colour cartridge	180	400	180	300	300	300	600	600
For Inkjet - 1000 prints (60% B&W, 40% Colour) For Laser Printers - 2000 prints (100% B&W) (in ₹)	5771.67	1393.75	5771.67	1771.45	1767.45	2856.00	1377.50	1377.50
TCO for 1 year (in ₹)	11466.67	8173.75	15366.67	12070.45	11266.45	17855.00	13297.50	10767.50
Miscellaneous								
Official Dimensions (W x D x H)(mm)	449x304 x152	449x304 x152	458x385 x200	444x545 x143	448x352 x207	NA	405x378 x180	405x378 x180
Weight (Kg)	5.50	5.30	8.80	5.05	6.27	NA	9.00	9.00
Build Quality (So 10)								
Body	7	7	7	7	8	8	8	8
Folding / Hinges	6	6	7	7	7	7	7	7
Tray Quality	6	6	7	6	7	6	7	7
Buttons	7	7	8	NA	6	8	7	7

Monochrome Laser MFDs				
Ricoh	Ricoh	Samsung	Xerox	Brother
SP 1200S	SP 100SF	SCX-3026W	3045	DCP-7060D
13500.00	12800.00	11999.00	10018.00	12600.00
17300.00	16700.00	16127.00	13061.48	13336.67
3.80	2.15	13.80	7.88	5.87
26.44	24.80	28.89	30.57	28.82
3.80	3.63	3.65	3.78	3.83
10.07	10.43	10.80	13.33	13.29
44.11	41.00	57.14	55.56	51.80
N	N	N	N	N
N	N	N	Y	N
N	N	Y	N	N
N	N	Y	N	N
N	N	N	N	N
2400x600	1200x600	1200x1200	1200x1200	2400x600
N	N	N	N	Y
2-line LCD	2-Line LCD	2-digit LED	2 lines x 16characters	2 lines x 16characters
1	1	1	1	1
Black	Black	Black	Black	NA
16	NA	128	128	32
250	50	150	160	250
N	N	N	N	N
7.50	7.50	7.50	7.50	7.50
12.15	13.43	9.66	9.86	11.10
6.00	6.00	5.75	6.75	6.25
13.20	15.43	12.46	11.47	11.41
22.69	25.43	27.05	21.03	20.23
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
6.80	6.80	7.40	7.40	6.60
23.06	24.34	8.89	23.56	10.33
29.84	23.33	15.40	19.78	17.72
NA	NA	NA	11.23	NA
127.00	NA	NA	NA	NA
N	N	N	N	N
8	8	8	8	8
7	7	7	6	7
8	8	8	8	7
8	8	7	7	7
13500.00	12800.00	11999.00	10018.00	12600.00
3800.00	3900.00	3096.00	3500.00	4420.00
NA	NA	NA	NA	NA
2000	2000	1500	2300	12000
NA	NA	NA	NA	NA
3800.00	3900.00	4128.00	3043.48	736.67
17300.00	16700.00	16127.00	13061.48	13336.67
428x397 x305	402x368.5 x205	388x299 x234	NA	405x398.5 x268
11.10	9.00	7.40	NA	10.10
8	8	8	8	8
8	7	7	8	8
7	6	6	8	8
6	7	7	8	7

We quite liked the ones on the Ricoh SP 100SF which has a plastic four-way pad to register quick responses. Installing the toners was quite straight-forward in all the MFDs. Only the Samsung SCX-3206W has a slightly different approach as compared to the others, in the sense that you do not have to lift the upper half of the MFD to install the toner as is the case with the others.



Xerox WorkCentre 3045

Features

We made sure that the participating MFDs supported the following functions: Print, Copy and Scan. Of course these are basic features and MFDs these days sport some really interesting extras as well.

The Canon Pixma MX 517 supports AirPrint, which allows you to easily print documents or photos from your iOS devices over the WiFi network without the need for any additional drivers. Also it has a multi-functional panel which will light up the keypad with numbers in the fax mode and directional keypad in the copy mode and so on. The other two MFDs from Canon don't really sport so many features, apart from the Pixma E510 supporting WiFi. The Epson Office 960FWD sports a lot of features that make more sense for home use. Features such as memory card and PictBridge slots. From the 2.5-inch colour screen, you can perform operations such as the scanning and cropping of the content to be printed out on a page. Setting up the WiFi on this MFD is alse explained quite well in the manual. It uses Durabrite Ultra ink which successfully resisted smudges when we used a fluorescent marker to highlight text from the test document that we printed. The dedicated sections for Copy, Scan, Photo, etc., make their operation a breeze. The Brother MFC J625W is slightly more feature rich as compared to the J430W. For starters, the LCD screen on the J625W can be tilted whereas the one on J430W is fixed. The J625W sports a memory card slot as well as PictBridge slot. Both these MFDs support the *iPrint and Scan* app which allows you to print documents from your iOS device as well as scan documents/pictures directly to them. It is very similar to the AirPrint support offered by the Canon MFDs. One peculiarity we did notice with the J625W was its inability to lift a single glossy sheet from the tray. When we placed some plain papers below it and gave a print command, those plain papers tended to stick to the glossy paper, an issue which we did not see in any other MFD. The manual feeder tray has an arrangement for adding 4x6 glossy papers as well.

The HP Deskjet 5525 supports WiFi and also has a touch-screen control panel which features web apps. This MFD also supports the e-Print facility which allows you to print content from anywhere by mailing

Official Android Blog
Google recently launched their official blog for Android. You can check it out at **http://dgit.in/NqOnJL**

Updated Gmail for iOS
Gmail recently updated their app for iOS. Now it automatically saves picture attachments to your photo library. **http://dgit.in/NkErRM**



Epson ME960FWD

it to an HP authorized email address. It also has support for a lot of web apps such as *Quick Forms* which can be used to print directly off the printer without the need for a PC. The Deskjet Ink Advantage 4615 on the other hand is a little more traditional when it comes to its feature set, offering only basic Print, Scan and Copy functionality. The 4615 seems perfect for an office setting whereas the 5525 looks good for home use. This is thanks to the monochrome display and limited tweaking on the 4615, vs the many options and colour touch screen on the 5525.

When it comes to monochrome MFDs, there isn't much in terms of unique features as were seen in colour MFDs. Only the Xerox WorkCentre 3045 provides a USB slot so that content can be scanned to and printed from a USB drive. Only the Brother 7060D provides the auto-duplex printing option, which was suprising as we were expecting most of the printers to do that. Manual duplexing is offered by the rest, where in you will have to feed the paper for the other side to be printed.

Verdict

The overall **Best Performer** award goes to the **Epson ME Office 960FWD** for its speedy prints and scans at very good quality and the feature-set offered. The only other inkjet MFD that comes close to the 960 FWD is the Brother MFC J430W. The **Best Buy** award is bagged by the **Canon Pixma E510** for its economical operation. It has the lowest cost of ownership amongst these competing MFDs.



Canon Pixma E510

Epson PictureMate PM 245

We had called for compact photo printers for this test, but only Epson was kind enough to send us one. On the outset, the Epson PM 245 looks like a picnic lunch box, thanks to its cuboidal design and the handle with which to lug it around. It comes in an all-white body having a matte finish on the sides and a glossy one on the top lid. The cartridge – T5852 is loaded from the rear side. It has a battery slot allowing you to make prints while you are on the move. The Output tray is present in the front and it houses the memory card slots – accepting SD as well as CF cards. On opening the lid you are greeted with a 2.5-inch screen with a list of buttons below it. The user interface of the PM 245 is quite intuitive and has some more tweaking options present in its Menu. On inserting a memory card you get to see the pictures on the screen in four different types of layouts. We noticed that the pictures visible on the screen appeared to be blurred initially but then became sharper after a couple of seconds. The screen is not extremely high res, so make sure you see the images on a larger screen if you are very concerned about the quality. You can even select multiple images from an SD card and then hit the print command instead of hitting print for single images. It took 61 seconds for a 4x6 inch colour print and three continuous prints took around 180 secs.



You can also connect the printer to your system which improves the speed of printing, giving colour prints in 44 seconds. The quality of the prints was top-notch. We didn't notice any unwanted artifacts and the solid areas were quite even - there was no banding. Colour reproduction was true to the original image with a slightly excess vividness which is acceptable when printing on glossy paper. Black and white images although good, are not able to resolve optimum details in the shadow areas.

This compact 4x6 printer comes for around ₹10,999 which is definitely on the higher side. The cartridge comes for ₹1,550 alongwith 150 sheets of glossy paper that equates to roughly ₹10 per print. For a 4x6 printer, that is quite a high a price. We would definitely recommend it for a pricing of under ₹8,000 especially if you are the kinds who wants instant printouts on their vacations.

Among the monochrome laser MFDs, the **Xerox WorkCentre 3045** wins the **Best Buy** for its supreme performance and at the same time, being economical. It not only gives speedy and good quality prints, but also manages to score high on our total cost of ownership index.

The **Editor's Pick** was a tough choice between the HP DeskJet 5525 and the Brother MFC J625W. Although the HP 5525 scores high when it comes to cost of ownership but slightly edges past in the performance scores, the Brother MFC J625W offers a lot more connectivity options. And for home use, that tilts the balance in the **Brother J625W's** favour thereby making it the **Editor's Pick**. The Canon Pixma MX517 only lost out becaue of its high cost of ownership.

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Sony DSC-RX100

Sony produces yet another game changer



With the DSC-RX100, Sony attempts the challenge of producing professional quality images from a compact, point and shoot camera.

The RX100 manages to house a 20.2 megapixel, 13.2x8.8mm CMOS sensor in a pocketable point and shoot body. As compared to regular point and shoot cameras that come with 1/2.3-inch sensors, the 1/1.6-inch sensor in the RX100 is a bit larger. Thus, allowing itself a a slight advantage in terms of capturing more light to keep the noise under control at comparatively high ISO settings, along with richer color output and superior dynamic range. Apart from this sensor, the RX100 also comes with a superior quality lens, the Carl Zeiss Vario-Sonnar T*, 3.6x (28-100mm), with an aperture range of f/1.8-4.9. At 28mm, the wide open f/1.8 aperture lends a significant advantage in low-light conditions along with capturing images with soft, defocused background (bokeh), similar to the results from good lenses on DSLR cameras.

Apart from the technical specs, the RX100 also scores high on design, the brushed aluminum body feels very solid and the overall construction of the camera is top notch. The control ring wrapped around the lens allows quick access to key settings depending on the mode that the unit is operating in. The back houses a large, 3-inch, high resolution (1,229k dots) LCD screen along with the usual four-button layout surrounding the control dial for quick access to settings. You also get a "movie" button placed on the top-right corner that allows instant video capture regardless of the mode the camera is set to. The RX100 supports 1080p video capture at 60fps along with dual recording, allowing you to capture video and shoot stills at the same time. The pop-up flash is housed at the extreme left corner along with a stereo microphone to its right, which ends up being almost at the center. The camera takes SD cards for storage and offers HDMI-out for direct connectivity with an HDTV. The battery charging happens inside the camera, via a micro USB connection, certainly not very convenient.

The camera is quick to power-up and very responsive and its focusing speed is blazing fast. Though, we did encounter occasional hiccups in a couple of low-light tests when the camera took longer than usual to achieve accurate focus. Its shutter response is excellent, almost in the same league as that of entry and mid-level DSLRs. The combination of fast focusing and almost zero shutter lag allowed us to capture moving subjects and freeze action without any blur in the results, well done Sony!

With its larger CMOS sensor, the overall image quality of RX100 is clearly head and shoulders above the average point and shoot cameras. The sensor delivers punchy colors with very good contrast. The large sensor combined with the fast lens allows for images with very good depth and separation, similar to the output from micro 4/3rd and DSLR cameras. The RX100 scored very high in the ISO tests; noise is well controlled upto ISO 3200, allowing you to capture hand-held shots in challenging low-light conditions without lowering the shutter speed.

The Canon Powershot G1X is the only point and shoot camera that has a slight edge over the RX100 in terms of pure image quality. Given the GIX's size and weight, it hardly qualifies as a compact camera. The RX100 beats its immediate competitors, namely the Canon Powershot S100 and the Olympus XZ-1 by a huge margin. In a bid to stay pocketable, the RX 100 does lose out on some features. The absence of an optical view finder and the lack of any significant grip might be a deal-breaker for some purists who'd still prefer the retro styling and ergonomics of the Fujifilm X10.

However, as a package, the Sony RX 100 is the best and only option today for anyone looking for professional quality images from a truly compact point and shoot camera.

Swapnil Mathur

Specifications

Sensor: 20.2MP, CMOS; **Lens:** Carl Zeiss Vario-Sonnar T*, 28-100mm (3.6x); **Aperture Range:** f/1.8-4.9; **ISO Range:** 80-6400; **Burst Mode:** 10fps; **Video Resolution:** 1920x1080, 60p

Contact

Sony India
Phone: 18001037799
Email: https://www.sony.co.in/section/contactus
Price: ₹34,990

8.0/10

Features	7.0
Performance	9.0
Build Quality	9.0
Value for Money	7.0

Samsung UA55ES8000RLXL Smart TV

Have money? Should buy!

There are a lot of shiny elements to this TV despite sporting a brushed finish. The TV features a split stand that's sturdy and looks brilliant. The bezel is also very slim and even manages to integrate a webcam.

The TV comes with two remotes: a conventional one and a touch sensitive remote as well. The latter is essentially a stripped down version of the primary remote, with only the very essential buttons on it, the major area being taken up by the touchpad.

Compared with say, LG, the Samsung Smart Hub offers a lot more variety in terms of apps. It also allows for network sharing so media can be directly streamed to the TV. This Samsung TV showcases its smartness via the unconventional control methods that it features. First up is voice control, which works surprisingly well. It did not seem to have any issues with accents or ambient noise and managed to understand our commands without any problem. The second method of control is via gestures. The webcam tracks your movements, we wouldn't recommend it though.



We found that its contrast ratio stood at 983:1, a decent score. Colour reproduction is nice and even and watching HD movies via Blu-ray is fantastic.

We played 3D content off a 3D Blu-ray disc and also tried 2D videos in 3D mode, converted via the TV. In both cases, the effect was quite good, even for non-3D content. Worth buying if you can afford it.

Vishal Mathur

Specifications

Size: 55-inches; **Panel type:** LED, with micro dimming; **Ports:** 3 HDMI, 3 USB ports, composite, component, Ethernet, integrated Wi-Fi, optical audio out; **Clear Motion Rate:** 800Hz; **Active 3D:** Yes

Contact

Samsung India
Phone: (City Code) 30308282
Email: http://www.samsung.com/in/support/erms1
Price: ₹2,67,000

8.0/10

Features	8.5
Performance	8.0
Build Quality	8.0
Value for Money	7.0

Android 4.0 Mini PC (KY-108)

Palm-sized device to smart-up your TV with ICS

Android 4.0 Mini PC KY-108 is a device that allows you to convert any display into an Android 4.0 OS based PC. Thanks to its connectivity options, this can be used as a media player, and so, can convert any display into a Smart TV as well. It has a mini HDMI port on the left hand side, a USB port and the power port on the right hand side. It comes with an in-built WiFi adapter and houses a powerful processor.

We tested this device on an LG 42LK430 TV using a USB keyboard and mouse connected to the device via a USB hub. Since Android is primarily a touch-based OS, navigation using a mouse feels alien. It will definitely take some getting used to. Also the responsiveness of the mouse pointer is not as smooth. The browsing experience however, was quite good. We noticed minor issues with scrolling on certain ad-heavy sites though.



It played most of the video formats we threw at it including .MKV and .MOV formats. The dual-core processor comfortably plays back even 1080p content smoothly. Since Android games are built around the touch interface and keeping in mind the slow response of the mouse, it is a nightmare to play games on the Mini PC.

Priced at around ₹4,500 this is one of the cheapest ways for you to get an Android ICS experience on your HDTV. Great for casual surfing and streaming videos. Works great as a second PC

Nimish Sawant

Specifications

Operating System: Android 4.0.1; **System-On-Chip:** Allwinner A10 Cortex A8 1.5GHz; **Memory:** 1 GB DDR3; **Internal Storage:** 4GB flash storage; **Audio format support:** AAC, AAC+, eAAC+, MP3, OGG, WMA, WAV, MIDI, M4A; **Video format Support:** WMV, AVI, DivX, MP4, MPEG-2, H.264

Contact

Koway Tech / **Email:** jason_shell@hotmail.com
Website: www.kowaytech.com
Price: ₹4,500

6.0/10

Features	7.0
Performance	5.0
Build Quality	4.0
Value for Money	7.5

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Asus Eee Pad Transformer Prime

The best Android tablet with a keyboard

This is the first Android tablet powered by a quad-core processor, specifically the Nvidia Tegra 3. While this has 4 cores, there is a 5th core (lovingly called "phantom core"), and a 12-core GeForce GPU that handles graphics!

The 10.1-inch Super IPS+ display is possibly the best we have seen on an Android tablet so far. What really gives the Transfomer Prime a boost is the Super IPS+ mode that bumps up the backlight for outdoor usage. The screen is reflective but has excellent crispness and colour reproduction is uniform.

With this kind of power under the hood, we expected the Prime to boot up the quickest. However, this one clocked a time of 34.1 seconds, while its predecessor, the Transformer took just 21 seconds! The likes of the iPad 2, the Galaxy Tab 750, the Sony Tablet S and even the Acer Iconia Tab A501 are quicker.



Once you get down to the benchmark tests, the Transformer Prime blitzes the competition. Its *Quadrant* score of 4096 is more than double that of the score we got from the Samsung Galaxy Tab 750.

Similarly, across all benchmarks, we have the Prime well ahead of the best of the previous generation tablets. Critically, in terms of gaming, only the Apple iPad 2 fares better.

The Transformer Prime really excels in terms of battery life. The tablet itself offers about 7 hours of backup, and the keyboard dock offers another 6 hours. It's expensive, no doubt, but worth it if you can afford it.

Vishal Mathur

Specifications

Platform: Android 4.0.3; **Processor:** 1.3GHz, quad core Tegra 3; **Display:** 10.1-inch, 1280 x 800 pixels; **Storage:** 64GB, micro SD slot, SD slot on dock; **Camera:** 8MP with 1080p videos

Contact

ASUS India
Phone: 18002090365
Email: http://vip.asus.com/eservice/techserv.aspx
Price: ₹49,999

7.5/10

Features	8.5
Performance	8.5
Build Quality	8.0
Value for Money	5.5

HTC Desire C

An eye candy Android smartphone

Specifications

Platform: Android 4.0.3 with HTC Sense; **Processor:** 600MHz; **RAM:** 512MB; **Display:** 3.5-inch, 480 x 320 pixels; **Camera:** 5MP; **Storage:** 4GB expandable upto 32GB via MicroSD card; **Battery:** 1230 mAh

Contact

HTC India
Phone: 1800-266-3566
E-mail: http://www.htc.com/in/contact
Price: ₹14,999

7.0/10

Features	6.0
Performance	6.0
Build Quality	8.0
Value for Money	6.0

This phone is really lightweight at just a 100gms. It has a 3.5-inch display, below-which are three touch sensitive buttons - back, home and multitasking. One disadvantage of these three buttons is that they aren't backlit. The device houses a 5MP camera without flash and there is no front facing camera. The performance of the camera is good if the lighting conditions are adequate. The rear of the device has a nice rubberized finish to it even though it is made up of plastic.

The device runs on Google's Android 4.0.3 ICS and has the HTC Sense UI v4.0. HTC has a tie-up with Dropbox that gives you 25GB of cloud storage which is a nice feature. The device doesn't come preloaded with any spectacular apps. However, its UI seems relatively smooth considering the limited power under its hood, and so is the onscreen keyboard. The HTC Explorer has one of the worst keyboards we've seem, but this one is way better.



Apps like *Angry Birds, office, Dropbox, YouTube,* etc. performed quite well. Songs and videos too ran well on the device.

While heavy multitasking the device did lag a bit but nothing that felt like a major setback.

If you desire a phone with better power under the hood, you can take a look at the Spice Stellar. If the OS isn't a big deal, you can take a look at the Nokia Lumia 710 or the Samsung Omnia W as well. But if you want to make a style stament with a good looking device that is an average performer, the HTC Desire C is the one for you.

Sameer Mitha

Zen Ultratab A100

An entry level budget tablet

The device has quite a slim form factor measuring just 10.5mm in thickness, and light too at 295gm. The rear of the device has a black matte finish which makes the device resistant to fingerprint and dust and also gives it a good grip.

On paper the specifications of the device are the same as the Micromax Funbook but the performance isn't at par. The device has good features and hardware but compromises on a SIM card slot, Bluetooth and GPS. Users can access 3G via a USB dongle though. The device also has a 2800mAh battery.

The Ultratab comes preloaded with apps such as *Astrology*, *BSE/NSE*, *documents to go*, *dictionary*, *horoscope*, *Bollywood*, *nexGTv*, and more.



Videos ran very smoothly everything from MP4 to MOV and even MKV files. No hiccups. Travelling on the timeline of the videos too was smooth and the device didn't have any lag. The performance of the onscreen keyboard was good to type on. The overall performance of the display wasn't the best though.

The viewing angles are off and it is very susceptible to glare. The preloaded skin on the device made the performance laggy. Games such as *Angry Birds Space*, *Temple Run* and *Amazing Alex* all ran quite well.

Browsing the Internet on the device was a mixed experience. The websites loaded quickly enough but the navigation was troublesome due to the laggy nature of the device. On continues video playback, the device lasted for 3.5 hours.

At the same price, the Micromax Funbook and iBerry Auxus AX02 are better options.

Sameer Mitha

Specifications

Display: 7-inch, 480x800 resolution; **OS**: Android 4.0.3 **CPU**: 1.2 GHz single-core; **RAM**: 512MB; **Storage**: 4 GB + microSD card; **Camera**: 1.3MP; **Wi-Fi**: Yes

Contact

Zen Mobile India
Phone: 1800-103-1936
E-mail: customercare@zenmobile.in
Price: ₹6,199

5.0/10

Features	6.0
Performance	5.0
Build Quality	7.0
Value for Money	5.0

Sony XPERIA Go

Rugged phone, cramped keyboard

Specifications

Platform: Android 2.3.7; **Processor:** 1GHz Dual-Core; **RAM:** 512MB; **Display:** 3.5-inch, 480 x 320 pixels; **Camera:** 5 MP; **Storage:** 4GB expandable up to 32GB via MicroSD card; **Battery:** 1305 mAh

Contact

Sony India
Phone: 1800-103-7799
E-mail: https://www.sony.co.in/section/contactus
Price: ₹18,999

7.0/10

Features	6.0
Performance	6.0
Build Quality	8.0
Value for Money	8.0

The phone is really slim at 9.8mm and really light weighing a mere 110gms. Even though the resolution is low, the Bravia engine makes it look crisp and vibrant. Below the display rest three touch sensitive buttons – back, home and menu. It runs on Android 2.3 Gingerbread but is upgradable to ICS.

All the ports, including the SIM Card slot, are covered sealing them from dust, a nice touch. The rear of the device feels like plastic but it's made of polycarbonate, which is actually quite sturdy.

It has a 5 MP camera with an LED flash. The camera on the device is quite good with great images even in low-light conditions. The Sony XPERIA Go comes with its own custom skin which isn't the best, but it isn't bad either. If you are one who is used to the TouchWiz UI or the HTC Sense UI, you may find the Sony skin to be a bit lacklustre.

The interface of the device is very smooth considering the RAM is just 512MB. Games and apps on the device were very smooth. Multitasking on the device worked well and the call quality was good. With our average use the device lasted for about a day and a half.

The keyboard was a disappointment. It feels cramped and even though predictive text helps, it isn't enough. We've seen far better layouts.



If you are looking for a phone that can take a beating and survive in dust and rain you can take a look at this device along with the Motorola Defy Plus.

Sameer Mitha



Receipts on the go?
Zebra RW Series of mobile printers are the ideal solution for printing delivery receipts and invoices. **http://dgit.in/PIJoUQ**



Touchy-feely
The Logitech M600 Touch Mouse is one of the best touch sensitive input device in the style of Apple's Magic Mouse. **http://dgit.in/N7ouQU**

Samsung Series 5 ultrabook

Samsung's ultrabook gets better

We have said it time and again, the Samsung Series 5 is an ultrabook, but offers a lot more. It is expected then that the device slightly thicker than the ultrabooks usually do. The matte aluminum finish looks sophisticated, and the same colour theme is carried throughout.



The new Series 5 ultrabook has an Intel Core i5 – 3317U (Ivy Bridge) chip and 6 GBs of RAM. Samsung also packs in discrete graphics with the Nvidia GeForce GT 620M graphics chipset. The ultrabook comes with 1TB HDD, and a 24GB flash drive, and an optical drive – unlike its competitors.

Not only does it score better than the more expensive Aspire S3 in most of the benchmarks, but feels quicker in real life usage as well.

The dedicated graphics card does lend it some bit of gaming potential to. Essentially, unlike the Ivy Bridge Aspire S3, this one does offer a much better gaming experience.

The real kicker is the battery life. This new version lasts a whopping 229 minutes under the heavy stress test benchmark. This is almost touching 4 hours, and you can essentially expect 5 hours plus in a normal usage scenario.

The Series 5 ultrabook has been updated with Ivy Bridge and it is better than ever. The dedicated graphics card, SSD and even the presence of an optical drive ensure that this device is a cut above the rest. A hybrid between an ultrabook and full-fledged laptop.

Vishal Mathur

Specifications

Processor: Intel Core i5 – 3317U @ 1.7GHz; **Display:** 14-inch, 1366 x 768 pixels; **Graphics:** Nvidia GeForce GT620M and Intel HD 4000; **RAM:** 6GB; **Storage:** 1TB HDD with 24GB flash for caching; **Ports:** 2 USB 3.0 and 1 USB 2.0, HDMI out; **Optical drive:** Yes

Contact

Samsung India
Phone: (City Code) 30308282
Email: http://www.samsung.com/in/support/erms1
Price: ₹56,990

7.5/10

Features	7.5
Performance	7.0
Build Quality	7.5
Value for Money	8.0

Dell Inspiron 14R SE

Excellent performance in a bulky package

With the Dell Inspiron 14R Special Edition, what immediately catches your eye is its anodized aluminum finish which is very similar to the look of the Dell XPS 13 ultrabook. Undoubtedly, the build quality feels premium and in is tune with the price tag that is slapped on it.



Powered by the Intel Core-i7 - 3612QM processor (Ivy Bridge), clocking in at 2.1 GHz. The 14R Special Edition features 6 GB of RAM, and the resulting benchmark scores put this clearly at the top of the laptop comparison list.

It is a bit unfortunate that the Inspiron 14R SE's display doesn't get the goodness of 1080p. Nevertheless, we really like the overall display quality. Let us get to the good things first - this display is quite bright, but is, unfortunately, very reflective, ruining the effect.

The dedicated GT640M is a nice bonus, allowing for a comfortable gaming experience. You won't be able to push boundaries but at least you'll be better off than most laptop users. The 3D Mark 11 scores of 3132 (Entry Mode), 1915 (Performance mode) and 592 (Extreme mode) aren't half bad considering the laptops we've tested in this price range so far.

In our battery test, we clocked it at 110 minutes from full charge to full discharge, which is quite good given the laptop's powerful hardware. Expect just over 3 hours if you're just browsing the Web. A premium laptop at a premium price, this is good value if you're looking for a powerful desktop replacement.

Vishal Mathur

Specifications

Processor: Intel Core-i7 - 3612QM @ 1.2GHz; **RAM:** 6GB; **Graphics:** Intel HD 4000 and Nvidia GeForce GT640M (2GB); **Display:** 14-inches, 1366 x 768 pixels; **Storage:** 1TB; **Ports:** Three USB 3.0; One USB 2.0; HDMI out, memory card reader; **OS:** Win 7 (64-bit)

Contact

Dell India
Phone: 080-25068026
Email: http://dgit.in/PEnQKX
Price: ₹65,228

8.0/10

Features	8.0
Performance	8.5
Build Quality	7.0
Value for Money	7.5

Sony Bravia 40HX850 3D TV

X-Reality engine sees the first major update

The Bravia 40HX850 is the elder sibling of theBravia 40HX750 we tested in the previous issue. While the previous TV's contrast ratio was at 1129:1, while the 40HX850 throws up a contrast ratio of 1081:1. Not as great, but still very good.

The HX850 comes with the *X-Reality Pro* engine, which is the next iteration of the X-Reality picture engine. To quote Sony's literature, "*X-Reality PRO*" is a combination of "*X-Reality*" and "*XCAT*", a specialized picture engine. Noise reduction is improved by "*X-Reality*", while "*XCAT*" improves super-resolution processing and gradation. Comparing the HX750 with the HX850, the colour reproduction remains the same, but the HX850 does benefit from a sharper image with lower edge noise to deal with, highly appreciated when viewing HD content.

This TV's 3D playback is slightly better than the HX750's. The crispness of the display means you don't need to push up the sharpness slider too far. Fast motion scenes are handled as well as the HX750. As expected, SD content playback is terrible, but this is something that is to be accepted from any such large screen displays.



This TV has a nice, bright, crisp display with delightful 3D performance, but priced a bit too high in our opinion.

Vishal Mathur

Specifications

TV Type: Dynamic EDGE LED; **size:** 40-inches with 3D; **Engine:** X-Reality Pro; **MotionFlow:** XR800; **Connectivity:** 4 HDMI, 2 USB, Composite, component, Ethernet and Wi-Fi

Contact

Sony India
Phone: 18001037799
Email: https://www.sony.co.in/section/contactus
Price: ₹93,900

7.0/10

Features	7.5
Performance	7.5
Build Quality	7.0
Value for Money	6.0

Samsung Galaxy Tab 2

The ideal 7-inch Android Tablet

The build of the device feels way better than any tablet that we have seen in this price range. It has a grey plastic, matte finish, which is nice. It is really slim at 10.5 mm and is relatively light at 344 gm. Its rear houses the 3.15MP camera without a flash and it takes surprisingly good images. The front of the device has a VGA camera for video calling.

The video playback and colour representation on the display is nice and vibrant, really good. We do wish its resolution was was higher, at around 1280x800. Although the device didn't play MOV files straight out of the box, MP4 files ran smoothly. The dual core processor adds to the smoothness of the device and multitasking is good. Games and apps ran very smoothly, too. The keyboard has sports QWERTY layout with the greatest addition being that the numbers 1 to 9 and 0 rest in the first line (finally!).



Transferring files between a Mac and the Tab 2 isn't easy though. Just a minor hiccup in an otherwise stellar user experience.

The device has a SIM card slot enabling it to make calls as well using it for 3G data transfer. Also, Samsung has gone the Apple way with a proprietary dock connector.

Overall, the Tab 2 hits the sweet spot between budget tablets and the iPad. The features and specifications are excellent value for money and it is an overall better performer than the Sony Tablet S and the Motorola Xoom. If you get past the screen's lower display resolution, this is a great tablet.

Sameer Mitha

Specifications

Display: 7-inch, 1024 x 600 resolution; **CPU**: 1 GHz dual core, **RAM**: 1GB; **Storage**: 8/16/32 GB internal storage + microSD card up to 32GB; **OS**: Android 4.0.3; **Wireless**: 3G capability with standard SIM card, Wi-Fi and Bluetooth; **Camera**: 3.15MP rear camera & VGA video call camera

Contact

Samsung India
Phone: 1800 3000 8282
E-mail: http://www.samsung.com/in/support/erms1
Price: ₹19,300

8.0/10

Features	8.0
Performance	8.0
Build Quality	7.0
Value for Money	8.0



Logitech B910 HD Webcam
Logitech announced its new B910HD Webcams. Check out the details at
http://dgit.in/NejxUE

Custom URLs for Google+
Google recently unveiled custom URLs for Google+ accounts. Read about it at
http://dgit.in/Phf70H

Bose Wave Music System III

Excellent audio quality, in a retro package

The design of this product is the same as the predecessor, which means the compact form factor is retained. The sheer simplicity of the design is rather appealing.

One update over the predecessor is the improved AM/FM tuner in th. The FM antenna runs within the power cord, which is something rather neat, and the device's reception is vastly improved.

Within its spec and size, the sound quality of the Wave III is brilliant. This one has more bass thump than the previous generation Wave Music System. Brilliant depth and clarity as well, and the tracks seem fuller than ever before.



However, there are times when you do feel the treble isn't enough, particularly when the volume is pushed above 50%. Having said that, even at high volumes, there is no jarring or audio distortion. And the volume is more than adequate for a medium sized room.

Unfortunately, you do feel shortchanged when you connect an AUX source. Instead of using the on-board sound processing, the Wave Music System III uses the audio processing directly from the source connected – MP3 player, smartphone, etc.

Recommending the Wave III is tricky as Bose fans will upgrade nevertheless, and those who think it is expensive can surely not be brought around! But do also consider the similarly priced B&W Zeppelin Air, which offers AirPlay streaming but also does away with Radio and CD playback.

Vishal Mathur

Specifications

Type: Audio system; **Speakers:** 2; **Audio sources:** AM/FM Radio, CD, Aux-in; **Ports:** Aux-in, Antenna-in; BoseLink-in; Headphone out

Contact

Bose India
Phone: 1800112673
Email: https://www.boseindia.com/corporate/bose-contact.aspx?cmd=Contact
Price: ₹34,763

7.0/10

Features	6.5
Performance	8.0
Build Quality	7.5
Value for Money	6.0

ZOTAC GTX 660Ti AMP

A fine replacement for the 560 Ti, performance wise...

With the GTX 660 Ti and the GTX 660 which will follow up soon, NVIDIA will have launched all cards in its high-end series. The 660 Ti uses the same GK107 chip as the 690. 680 and 670. The difference between the 670 and the 660 Ti is the fact that 8 ROPs have been fused out leading to a drop in memory bus width and a subsequent drop in bandwidth as well. There is a noticeable drop in rendering performance - 15% to be precise. Also, since the ROPs have been fused out there is no sense in crossflashing a 670's firmware onto the card.

Being an AMP Edition card, this card is clocked a 118 MHz higher than a reference card. The gaming performance is very similar to the 670. The card is quite small, 7.5 inches to be exact. And the heat-sink is as big as the card. Zotac has christened the entire cooling assembly "The dual-silencer". It is an open air cooler with dual 70mm fans mounted onto an aluminium heat sink with 3 copper heat pipes running out of the heat sink. The VRM chips have a separate aluminium block attached on top which is cooled by incidental air-flow from the fans.



When it comes to performance the AMP edition has bested the stock 670 in several games. Synthetic benchmarks, however, showed a narrow difference in performance. The regular 660 Ti is priced at ₹24,000, a tad too high. However, the price difference is justified given its performance when compared to a 670. For folks who'd like a good card in a small package, this one is perfect. Of course, the Borderlands 2 giveaway only serves to sweeten the deal a bit more.

Mithun Mohandas

Specifications

Core clock - 1033 MHz, **Memory clock** - 1652 MHz, **CUDA cores** - 1344, **Texture Units** - 112, ROPs 24, **Memory** - 2048 MB GDDR5, 2x6PIN power connectors required, **Rated Wattage** - 150W, **Connectors** - Dual Link DVI-D, Dual Link DVI-I, DisplayPort, HDMI

Contact

Aditya Infotech Ltd
Phone: 120-4555666
E-mail: sales@adityagroup.com
Website: http://www.zotac.com/
Price: ₹26,000

7.5/10

Features	7.0
Performance	8.0
Build Quality	8.0
Value for Money	7.0

Bazaar mini

QUICK INSIGHTS FROM INDEPTH TESTS

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 verdict. 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

1.0 - 3.0 - Extremely poor product. Keep away!
3.5 - 5.0 - Strictly OK. Not recommended
5.5 - 6.5 - Decent product. Go for it, but there may be better products out there.
7.0 - 8.5 - Very good product. Highly recommended.
9.0-10.0 - Ground-breaking product. We've never seen anything like it before. A definite must buy!





Apple vs Samsung

Jury selection process begins in the US federal court over the blockbuster patent case filed by Apple against Samsung. **http://dgit.in/PaCeIH**

EXTERNAL HARD DRIVE



Seagate Backup Plus 1 TB

Price: ₹7,700



Western Digital My Passport 2 TB

Price: ₹12,990

SPECIFICATIONS

Unformatted Capacity	932 GB
Interface	USB 3.0/2.0
Rotational Speed	NA
Dimensions(LxWxH)	81x14x123

Unformatted Capacity	1.83 TB
Interface	USB 3.0
Dimensions(LxWxH in mm)	111x21x82
Warranty	3 years

TEST CENTRE RATINGS (All Scores out of 10)

Features 8.0
Comes with the option to backup your photos and videos which you upload on social networking sites.

Performance 7.0
Sequential Read / Write (in MB/s): 103.87 / 103.69 and Assorted Read / Write (in MB/s): 110.7 / 81.92. It offers better speeds than the WD My Passport 2 TB drive.

Build Quality 6.5
Comes in a sturdy plastic body with a brush metal finish.

Value for money 7.0
At ₹8.6 per GB it is high but it has the social media Backup feature.

Features 6.5
The only 2 TB portable drive in the market. Comes with WD SmartWare for data backup.

Performance 6.5
It gave very good speeds, but not the fastest. Sequential Read / Write (MB/s): 101.23 / 85.3 and Assorted Read / Write (MB/s): 86.23 / 73.14

Build Quality 7.0
Textured design, is compact and light and has a very sturdy build.

Value for money 7.0
At ₹7.09 per GB, the drive offers decent value.

WE SAY

7.0

Seagate Backup Plus is a cool-looking drive and offers you the unique option of backing up your online life. After registering your Facebook, Flickr and YouTube account, you can auto-save media on your drive as it's uploaded. Transfer speeds are at par with competition and the cost per GB is also quite decent taking into consideration its social backup feature. Get this drive if you are paranoid about losing your online media and want a sexy looking drive. The GoFlex adapter makes this drive future-proof as you can add various interfaces to it.

6.5

If you are the kind who carries a lot of their data along, there never was a more portable way to do so. It is not really going to win any awards when it comes to speeds, but then with that much capacity, speed is secondary. Having said that speeds are quite decent for a USB 3.0 external drive. Considering the high prices of HDDs, the cost per GB offered by the WD 2TB drive is quite good. It would have been great to see more interface options like the ones offered by Seagate GoFlex drives.

Transcend Unveils 8GB aXeRam

Transcend Information announced the arrival of two additions to their 8GB aXeRam - DDR3-2400 and DDR3-2133. **http://dgit.in/R3KyuG**

Best Tablets for Gaming

Are you playing on a right tablet? Check this list before you buy one for gaming **http://dgit.in/SuIhOZ**

LAPTOP



Acer Aspire S3
Price: ₹66,949

SPECIFICATIONS

Processor. Intel Core i7 3517U, 1.9GHz
RAM..... 4GB
Graphics ..... Intel HD 4000
Storage .....500GB HDD + 20GB Flash

TEST CENTRE RATINGS (All scores out of 10)

Features..... 7.5
It sports two USB 3.0 ports and has an HDMI port on the side. Connectivity options are nice.

Performance 6.5
Performance isn't as blazing as expected from a Core i7. Battery life is around 150 minutes.

Build Quality..... 7.0
Plastic overall, but looks very sophisticated and sturdy.

Value for money.....6.0
For slightly less money, you get the powerful HP Envy 4-1002TX and the Samsung Series 5.

WE SAY

6.5

Seeing the specs on paper, you would have expected a faster ultrabook. But, what the Aspire S3 offers is stable performance along with the most critical element – good battery life. We would also recommend you consider options with a slightly bigger display, such as the HP Envy 4-1002TX and the Samsung Series 5. Both have been updated with Ivy Bridge and also offer very capable, dedicated graphics chips, and offer 14-inch displays, and are cheaper as well. A decent ultrabook, but the average performance mars the experience.

BLU-RAY PLAYER



Samsung BD-E6500
Price: ₹15,990

SPECIFICATIONS

Type..... Blu-ray player, 3D playback
HDMI Ports.....2 HDMI-in, 1 HDMI-out
Wi-Fi Ready ..... Yes
Formats ..... MKV, MPEG 2/4, AVCHD

TEST CENTRE RATINGS (All scores out of 10)

Features.....8.0
Two HDMI inputs i.e. it can act as a receiver, has AV pass-through from two devices. Supports 3D, doesn't skip a beat.

Performance 8.5
Crisp and smooth video with no noise, played back all codecs we threw at it flawlessly

Build quality 7.5
Looks better than most, and nice and compact. Build quality is pretty good.

Value for money..... 7.5
For this price, you get a very competent Blu-ray player.

WE SAY

8.0

For what is essentially the best performer in the affordable Blu-ray player category, there is no doubt that you should consider this for your next purchase if you own, or wish to own, a large blu-ray collection. You do have the very competent Philips BDP-5200 as a slightly lower priced alternative. Also, consider the Panasonic DMP-BD110, for it offers the unique 2D -> 3D upscale, but none have the robust codec playback capabilities that the BD-E6500 possesses. All things considered, this is one very good 3D Blu-ray player.

SMARTWATCH



Sony SmartWatch
Price: ₹6,299

SPECIFICATIONS

Type..... Bluetooth 3.0, range up to 10m
Display ..... 1.3-inch OLED
OS..... Android 2.1 and above
Charging port ..... Proprietary

TEST CENTRE RATINGS (All scores out of 10)

Features.....6.5
Reads mails, social updates and messages. A mini app ecosystem is building up, but nothing much.

Performance 6.0
Pairing is simple. Works well as a watch, only use it to read content when there is no alternative.

Build Quality..... 7.5
Built well, and is quite lightweight. The small display keeps the form factor compact.

Value for money.....6.0
More of a social status than any great benefit. Even the iPod Nano as a watch makes equal sense!

WE SAY

6.5

This is definitely a gadget that has a lot of flaunt value. But beyond that, it doesn't serve much of a purpose. At the moment it can only be used with Sony's Xperia range of phones, severely restricting its functionality as a SMART watch. It works brilliantly as a cool watch though. The app ecosystem has ensured that you can read mails, social network updates, as well as access the contacts list and dial people from there, but the call will be made from the phone, obviously! Lasts a week on a single charge.

SSD



Corsair Force GS 240GB
Price: ₹16,290

SPECIFICATIONS

Unformatted capacity.....223.57
Interface.....SATA 3
Controller..... SandForce 2281
TRIM Support.....Yes

TEST CENTRE RATINGS (All scores out of 10)

Features..... 7.0
It houses Toggle mode NAND modules as opposed to the syncronous NAND memory seen in Gorce GT series.

Performance 8.0
In the Crystal Disk Mark test, for compressible data, it gave seq read/write speeds of 486.5 / 530.5 MB/s.

Build Quality.....8.0
It has a sturdy build and it comes with a dedicated SSD tray.

Value for money..... 7.0
At ₹72.86 per GB it is competitively priced.

WE SAY

7.5

The Corsair Force GS 240GB SSD has definitely been a better performer than the Force GT 240GB. It performs supremely when it comes to 4K Random Reads and Write speeds, which is important for daily use. The 4K speeds are almost double that of Intel Series 520, Corsair Force GT and Kingston HyperX 240GB SSDs. It manages to do that with the cost per GB under ₹100 which is decent for someone looking at a high capacity, great performing SSD. The SSD tray is a nice addition and we are seeing it more often nowadays. A nice trend.

TREND MICRO TITANIUM
Stay Safe with Titanium

Who uses Muling?

Convert the answer into numbers (A=1, B=2, etc) and add the digits. Now subtract 76 from it to arrive at your next destination. (Hint: The other link in the board game).

PORTABLE SPEAKER



JBL Bugg
Price: ₹1,799

SPECIFICATIONS

Power rating 2.2W
Frequency Response ..... 150Hz - 20kHz
Dimensions ..... 80mm x 27.5mm
Battery Type ..... Li-ion

TEST CENTRE RATINGS (All scores out of 10)

Features 6.0
The portable speaker from JBL is small, has a pocketable shape, and can be daisy-chained.

Performance 6.5
It doesn't disappoint when it comes to audio clarity and volume, for a transducer that is this small.

Build Quality 7.0
Build seems sturdy and the strategically placed guard over the driver indeed works.

Value for money 6.0
The speaker is a tad bit expensive.

WE SAY

6.5

The Bugg is an eye catching device for sure. The compact form factor makes it perfect for carrying in your pocket. It'll definitely provide that extra punch to your portable music player or cell phone, but don't expect to shake things up. The lithium ion battery it runs on worked for the promised 6 hrs at 80 percent volume. Overall a good portable speaker but if you want to check out options the X-mini is worth a look. The Bugg is louder than the X-mini V1.1 but lacks the bass that the X-mini is able to deliver. Slightly expensive but worth a try.

IN-EAR HEADPHONE



Tekfusion Twinwoofers
Price: ₹1,550

SPECIFICATIONS

Frequency Response ..... 19 -21 kHz
Impedance ..... 16 Ohms
SPL ..... 113 dB
Cable length ..... 1.2 m

TEST CENTRE RATINGS (All scores out of 10)

Features 6.0
Comes bundled with a number of tips – different sizes and triple-flange.

Performance 7.0
True to their name the Twinwoofers are bass heavy and there is more emphasis on upper mids.

Build Quality 6.0
The fit and isolation could've been better but the build quality of the housing seems decent.

Value for money 7.0
These in-ears offer a good value for money option.

WE SAY

6.5

The performance of these in-ears is in the same league as those "value for money" discoveries like the MEElectronics M6 – earphones that come along once in awhile and give a complex to products that are twice the asking price. However, one major issue we had to find a workaround for was the problem of cable microphonics – noise getting transferred up the cable when touched – it's noticeably more than other in-ears. Go for these if you're a bass-head and highs are not your priority. A good, value product.

WIRELESS MOUSE



Genius DX-7100
Price: ₹1,500

SPECIFICATIONS

Resolution ..... 1200 dpi
Wireless band 2.4GHz
Buttons 5
Power ..... 1xAA battery

TEST CENTRE RATINGS (All scores out of 10)

Features 7.0
The 1200 dpi sensor and 2 extra thumb buttons set it apart from other basic wireless mice around.

Accessories 6.0
A stick-n-go mount which you can use to attach your mouse to a laptop for ease of transport and a bluetooth transmitter.

Build Quality 7.5
Good build. Feels a little cheap but there is no flex and the plastic is sturdy.

Value for money 6.0
At the current price, the mouse is a bit expensive.

WE SAY

6.5

This is a very decent wireless mouse, ergonomic to use if you're a right-handed, claw-grip user. Thumb buttons were comfortably placed. One complaint we do have about the mouse is with regards to the signal consistency. The mouse seems to lose its signal at times, where tracking and clicking won't register. This is intermittent and barely noticeable to the average user, but it makes a big difference in fast-paced games. This is a decent wireless mouse, but not meant for a gamer. The choppy connection is not at all what a gamer wants.

NAS SERVER



Synology DiskStation DS712+
Price: ₹46,500

SPECIFICATIONS

CPU Frequency 1.8GHz
Memory DDR3 1GB
USB 2.0 Port , eSATA Port X 1
LAN ..... Gigabit x2

TEST CENTRE RATINGS (All scores out of 10)

Features 9.0
Come with a complete web server. More features can be added through official packages.

Performance 8.0
Transfer over gigabit ethernet maintained a steady speed of 88 MB/s. The 1.8GHz CPU ensures seamless performance of the OS.

Build Quality 8.0
Composite metal and plastic body with locks to secure individual bays.

Value for money 8.0
Provides great value considering features and performance.

WE SAY

8.5

For small business and personal servers you couldn't go wrong with a Synology DiskStation. If you are up for it then Synology does provide for third party applications to be built and installed. Applications are available for all mobile platforms (iOS, Windows Mobile, Android, Symbian OS 9.1& S60 v3) to access the DiskStation. The Media Server package adds the functionality of DLNA to the device. It supports a maximum of 8 TB (2x4TB drives), for further storage space one can use the DX510 via the eSATA/ USB port on the rear.

100 **Price Watch**
Find out the latest prices of laptops, iPod docks and graphics cards

102 **Killer Rigs**
Want to build a new rig and confused about what components to get? Read on...



Which glass best suits your needs and your budget?

Agent 001
agent001@thinkdigit.com

It's happened very often, that when people look at an amazing photo, their first response/question is "Wow! You must have an awesome camera / Wow! What camera did you use?" Lenses get very little credit for the "awesome photograph" and I really do wish people would realize just how important these tubes of glass really are. They are the eye that let the camera see what it sees. If your eye is weak, you can't see well and just like that, the quality of the lens you're using makes a world of a difference. You could have the best camera on the planet, but if you're using a crap lens, you can expect to get VERY few optically perfect shots.

There are basically a few things to consider when you buy lenses

1) **Know What You're going to Shoot**
Time and again, people say "I want to shoot everything!" Well, that's not an option. There is no "one-lens-to-rule-them-all", meaning, that no one lens can appease every photographic need. Generally the 18-200 kind of superzoom lenses work as great walk-around lenses, but they won't give you much when it comes to fast apertures. The same way, you can't have a lens that has a fast aperture AND is a superzoom.

2) **How to choose the lens?**
If you're going to be shooting a lot of landscape, 18 mm is just not enough. A lens with a 10 or 12 mm focal length on the wide range is ideal. For portrait work lenses with a larger focal length and a smaller aperture number (like f/2.8 or f/1.8) work best. Fast aperture lenses also help a lot if you're ever caught off guard shooting in a low light situation.

3) **Front Element Matters**
One of the most overlooked fact about lenses is their front element. They are the primary collectors of light for the lens and thus, the bigger they are, the most light your lens will gather, effectively yielding faster shutter speeds. The shutter speeds get even better the wider the focal length on the lens becomes.

4) **To IS or NOT to IS?**
Image Stabilization helps produce images free from the blur caused by camera shake and as a feature it is becoming increasingly pervasive through the lens ecosystem. Recently, there was a 28 mm lens announced with IS and I just thought to myself "why?". The rule for avoiding camera shake is that your shutter speed should be equal to or greater than 1/focal length. So if you're shooting at 200 mm, your shutter speed should ideally be 1/200th of a second to avoid any camera shake. As long as you follow this rule, you won't need IS. However, I would strongly recommend buying lenses with IS If your focal length is 150 mm or higher.

5) **You Get What You Pay For**
Now that you know what you're going to shoot, and you've identified the more or less ideal lens for it, don't cheap out. The more expensive alternative of a lens is expensive because of the quality of the glass used along with the excellent coatings on them. This isn't to say that the cheaper lenses aren't good performers, but lenses are an investment and it makes sense to invest in something that is the best. Lenses can last forever, not your camera.

Xperia S or a Galaxy Note?

I am using a Sony Xperia Ray since the last two months. I am thinking of getting a new phone. I was planning to get an Xperia S but after reading your review on Xperia S and Samsung Galaxy Note I am quite confused as to which phone I should opt for. Can you please help me out?

Tarique Anwar

A Well, your shortlist does have two very different phones. Both have very different characteristics. Let us start with the Samsung Galaxy Note. It has a big display, essentially as a go-between the phone and the tablet. Very good performance, and the ICS update is out as well. Thanks to the bigger screen, it is extremely comfortable to use – typing messages without tripping over spelling mistakes etc. However, the flipside is that it is quite big.

As for the Sony Xperia S, it is a very capable phone, and the ICS update has sorted out the only real issue with the phone – battery life. This is a big screen phone, technically, but still remains controlled form factor wise. Excellent build quality though, but the camera in anything less than perfect lighting is disappointing. Buy this if you find the Galaxy Note a tad too big.

The Lens dilemma

I am a freelance photographer based in Mumbai. I shoot portraits, fashion, beauty and weddings too. This query is in regard to getting the best possible shots for my weddings. As we're aware, weddings can be quite tricky to shoot with low lighting situations and getting good shallow DOF shots.

My query is particularly in regards to lenses since I've just recently upgraded to Canon 5D Mark III, so I don't think I need to look further for camera body. Am currently using the kit lens 24 - 105 f/4, but I find f/4 too short on DOF and certain lighting situation, hence would like to upgrade to fast lenses. Now 70 - 200 f/2.8 IS being the ultimate lens but being out of budget as of now, can you recommend any prime lens for may be outdoor couple portraits or candid shots giving the best possbile shallow DOF and sharpness to the image.

Romesh Dhamija

A I understand that your style of photography is quite versatile and for that, the 24-104 f/4 IS lens is quite good. However, the lens does lose out in low light and the bokeh area.

While I would strongly recommend replacing the 24-105 with the 24-70 f/2.8, this might not be a feasible option as the 24-70 has become a hard lens to track down due to extremely low inventory.



Sigma 50mm f/1.4

Keeping that in mind and the fact that you require bokeh-rich images, and stellar low light performance, prime lenses are definitely the way to go. If you want wide framing on your images, the Sigma 50mm f/1.4 is a stellar lens. The Canon 50mm f/1.4 is a cheaper alternative, but you wont lose much in performance. For tightly framed shots, I cannot recommend the Canon 85mm f/1.8 enough. It is a beautiful lens with great bokeh, I'm not really sure what your budget is since you dont mention it, but the Canon 85mm f/1.8 is around ₹23,000 and the Canon 50mm f/1.4 is around ₹25,000. If you can, I suggest get both. Or invest in the Sigma 50mm and the Canon 85mm.

Laptop options?

I want to buy a laptop with a 13.3-inch screen size, an Intel Core i3 processor, at least 2 GB of DDR3 RAM, 320 GB hard disk drive or over and preferably a DVD writer.

Sthita Ra

A It would've been nice to know your budget for the laptop and the intended usage. If you can get your hands on a Dell Inspiron 13z, a laptop that Dell doesn't sell officially any more, it's still a good deal.

Unfortunately, getting a "cheap" (below 40k) 13-inch laptop is becoming a bit of a rarity these days. Since manufacturers are eyeing the 13-inch form factor for ultrabooks going forward, you will have to shell out at least 50k to 60k to get a good 13-inch ultraportable laptop. Considering that price bracket, we would recommend you to take a look at the Acer Aspire S3 or S5, Lenovo IdeaPad U310 or Samsung Series 5 ultrabooks.



Microsoft's new logo
It's been 25 years since Microsoft updated their logo.Here's the latest **http://dgit.in/MPUonx**



From Phone to Desktop
Isn't it cool to get all the notifications from your Android phone to your Windows desktop? **http://dgit.in/OzCy6N**

SPEND SMART

Updated prices of Laptops, iPod Docks and Graphics Cards



INTEL LAPTOPS

Brand	Model	Processor	Operating System	Screen Size (in Inches)	RAM (in GB)	HDD (in GB)	Price (in ₹)
Lenovo	Essential G580	Core i5-3210M	DOS	15.6	4	500	35,086
Lenovo	IdeaPad Z580	Core i3-2370M	Windows 7 Home Basic	15.6	4	750	36,134
Lenovo	IdeaPad Z570	Core i3-2350M	Windows 7 Home Basic	15.6	4	500	38,796
ASUS	K53SM-SX130D	Core i7-2670QM	DOS	15.6	8	1000	52,406
ASUS	K73SV-TY455D	Core i7-2670QM	DOS	17.3	4	1000	55,079
ASUS	K55VM-SX086D	Core i7-3610QM	DOS	15.6	8	1000	54,990
HP	Pavilion G6 2103TX	Core i3-2370M	Windows 7 Home Basic	15.6	2	500	35,379
HP	ProBook 4530s	Core i5-2450M	DOS	15.6	4	500	36,363
HP	Pavilion G6 2103TU	Core i5-3210M	Windows 7 Home Basic	15.6	4	500	38,594
HP	Envy 4-1023TU	Core i3-3217U	Windows 7 Home Basic	14	4	500	41,414
HP	Envy 6-1011TU	Core i3-3217U	Windows 7 Home Basic	15.6	4	500	42,054
HP	Pavilion G6-2016TX	Core i5-3210M	Windows 7 Home Basic	15.6	4	500	44,680
Dell	Inspiron 15	Core i5-2450M	DOS	15.6	4	500	35,581
Dell	Vostro 3550	Core i3-2310M	Windows 7 Home Basic	15.6	2	500	36,550
Dell	Inspiron 15R	Core i5-3210M	Linux	15.6	4	500	40,829
Dell	Inspiron 15RSE	Core i7-3612QM	Windows 7 Home Premium	15.6	8	1000	58,000
Acer	Aspire V5 571	Core i3-2367M	Windows 7 Home Basic	15.6	4	500	36,358
Acer	Aspire V3 571G	Core i5-2450M	Windows 7 Home Basic	15.6	4	500	44,577
Sony	VAIO VPCEH36EN	Core i3-2350M	Windows 7 Home Basic	15.5	4	500	35,954
Sony	VAIO VPCEH38FN	Core i5-2450M	Windows 7 Home Premium	15.5	4	500	43,990
Sony	VAIO SVE14A15FN	Core i5-2450M	Windows 7 Home Premium	14	4	640	54,900
Sony	VAIO VPCSB36FN	Core i5-2430M	Windows 7 Home Premium	13.3	4	500	56,990
Toshiba	Satellite C850-X5212	Core i5-2450M	Windows 7 Home Basic	15.6	4	500	43,850
Toshiba	Satellite L750-X531B	Core i5-2450M	Windows 7 Home Premium	15.6	6	750	50,801
Toshiba	Satellite U840-X4310	Core i5-3317U	Windows 7 Home Premium	14	4	500 +32 (SSD)	54,438
Samsung	NP300V5A-S0LIN	Core i3-2350M	Windows 7 Home Basic	15.6	4	750	40,038
Samsung	NP350V5C-S02IN	Core i3-2370M	Windows 7 Home Premium	15.6	4	750	45,050
Samsung	NP300V5A-S0CIN	Core i7-2670QM	Windows 7 Home Premium	15.6	6	1000	52,138
Samsung	NP530U4C-S01IN	Core i5-3317U	Windows 7 Home Premium	14	6	1000	54,590



AMD LAPTOPS

Brand	Model	Processor	Operating System	Screen Size (in Inches)	RAM (in GB)	HDD (in GB)	Price (in ₹)
HP	Pavilion G6 1319AU	A4-3305M	Windows 7 Home Basic	15.6	2	320	25,642
HP	Pavilion G6 2005AX	A8-4500M	Windows 7 Home Basic	15.6	4	500	33,990
Samsung	NP355V5C-A02IN	A6-4400M	Windows 7 Home Premium	15.6	4	500	29,680
Samsung	NP305E5A-A03	A4-3305MX	Windows 7 Home Premium	15.6	4	750	26,738
Samsung	NP305E5A-A03IN	A4-3305M	Windows 7 Home Premium	15.6	4	750	27,486
Samsung	NP305E5A-S01IN	A6-3420M	Windows 7 Home Premium	15.6	4	1000	31,270
Acer	Aspire 5560	A6-3420M	Windows 7 Home Basic	15.6	4	500	31,270



Dell Inspiron 17R SE
Dell Inspiron 17R SE sports a quad-core Core i7 processor, a big 1080p screen and much more. **http://dgit.in/OcE3sY**



Google's "Red Army"
Google is building a "red team" with the help of dedicated people to solving privacy issues problems. **http://dgit.in/OaByUv**



IPOD DOCKS

Brand	Model	Power Rating (RMS Watts)	Rated Frequency (Hz)	Bluetooth (Y/N)	iPad Support (Y/N)	Price (in ₹)
Philips	DS1100	4	NA	N	N	4,999
Philips	DS7550/12	10	NA	N	N	8,999
Philips	DS9000/12	100	NA	N	Y	38,999
Logitech	Bedside Dock for iPad	6	20-20,000	N	Y	5,699
Logitech	S715i	10	75-20,000	N	N	12,944
F&D	i224	4	140-20,000	N	N	2,999
Yamaha	PDX-11	8	NA	N	N	8,490
B&W	Zepellin Mini	36	38-20,000	N	Y	30,000
Onkyo	SBX-200(B)	40	40-20,000	Y	Y	19,500
Onkyo	ABX-100	10	40-20,000	N	N	15,000
Croma	iPod T Speaker	60	40-20,000	N	N	9,000
Creative	ZiiSound D5	NA	NA	Y	Y	19,999
JBL	OnBeat Xtreme	120	47-22,000	Y	Y	24,990
Bang & Olufsen	BeoSound 8	NA	NA	N	Y	85,000



GRAPHICS CARDS

Model	Chipset	Engine Clock (MHz)	Stream Proc/ Shaders	Memory	ROPs	Power Connector	Price (in ₹)
Galaxy GT610	GF119	810	48	2048	8	NA	2,775
Galaxy GT640	GK107	902	384	1024	16	NA	6,000
Galaxy GT640	GK107	902	384	2048	16	NA	6,600
Galaxy GTX 680	GK104	1006	1536	2048	32	2 x 6-pin	35,500
ZOTAC GT620	GK108	700	96	1024	8	NA	3,900
ZOTAC GT630	GF108	810	96	2048	4	NA	4,400
ZOTAC GT 640	GK107	902	384	2048	16	NA	78,000
ZOTAC GTX 670	GK104	915	1344	2048	32	2 x 6-pin	29,999
ZOTAC GTX 680	GK104	1006	1536	2048	32	2 x 6-pin	35,500
MSI R7770	Cape Verde XT	1100	640	1024	16	6-pin	12,350
MSI R7950 Twin Frozr	Tahiti Pro	880	1792	3072	32	2 x 6-pin	41,500
ASUS HD7750	Cape Verde Pro	820	512	1024	16	6-pin	10,500
ASUS HD7770 OC	Cape Verde XT	1020	640	1024	16	6-pin	12,500
ASUS HD7870	Pitcairn XT	1100	1280	2048	32	2 x 6-pin	25,500
ASUS HD7970	Tahiti XT	925	3096	3072	32	8-pin + 6-pin	37,000
ASUS DirectCU II GTX 670	GK104	1059	1344	2048	32	2 x 6-pin	32,000
ASUS DirectCU II HD7970	Tahiti XT	1000	3096	3072	32	2 x 8-pin	38,000
ASUS HD7970	Tahiti XT	925	3096	3072	32	2 x 8-pin	37,700
ASUS DirectCU II GTX 680	GK104	11370	1536	4096	32	8-pin + 6-pin	40,500
XFX HD7950	Tahiti	800	1792	3072	32	2 x 6-pin	31,400
XFX HD7970	Tahiti XT	925	3096	3072	32	2 x 8-pin	40,280
Sapphire HD7750	Cape Verde Pro	800	512	1024	16	NA	7,500
Sapphire HD7770	Cape Verde XT	1000	640	1024	16	6-pin	10,521
Sapphire HD7850	Pitcairn	860	1024	2048	32	6-pin	16,750
Sapphire HD7970	Tahiti XT	925	3096	3072	32	2 x 8-pin	36,750
HIS HD7750	Cape Verde Pro	800	512	1024	16	NA	8,120
HIS HD7770	Cape Verde XT	1000	640	1024	16	6-pin	10,192
HIS HD7950	Tahiti	800	1792	3072	32	2 x 6-pin	31,270
EVGA GTX 680	GK104	1006	1536	2048	32	2 x 6-pin	37,100

digit KILLER RIGS

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

Basic rig = ₹20,390 | HTPC = ₹22,700 | Entry-level gaming = ₹34,340 | Mid-range gaming = ₹55,575 | Ultra high-end = ₹1,56,699

BASIC RIG

Processor	Intel Pentium G620	3300
Motherboard	ASRock H61M-PS2	2750
RAM	Corsair Desktop RAM 2GB DDR3 1333MHz	650
HDD	Seagate 500GB 7200.12	3575
Monitor	BenQ G610HDAL	3900
Graphics Card	None	0
Cabinet	Cooler Master Elite 310	1600
PSU	FSP Saga II 400W	2000
Speaker (2.1)	Altec Classic Audio BXR1221	1200
Mouse	Zebronics Judwaa 5 (Bundle)	0
Optical Drive	LG 22x SATA DVD Writer	950
Keyboard	Zebronics Judwaa 5 (Bundle)	465
Sound Card	None	0
Total		**20,390**

HTPC

Processor	AMD A6-3650	5900
Motherboard	ASRock A75M	4300
RAM	Corsair 2GB DDR3 1333MHz	650
HDD	Seagate Barracuda 2 TB	6150
Monitor	None (your TV)	0
Graphics Card	None (HD6530D onboard)	0
Cabinet	Zebronics Tambi	2000
PSU	Bundled (150W)	0
Speaker	None	0
Mouse	MS Wireless laser Combo XVA-00020	2750
Keyboard	Bundled	0
Optical Drive	LG 22x SATA DVD Writer	950
Sound Card	None	0
Total		**22,700**

ENTRY-LEVEL GAMING

Processor	AMD Phenom II x4 840	5500
Motherboard	GIGABYTE GA-MA78LMT-S2	2600
RAM	G-skill F3-10600CL9S-4GBNT	1100
HDD	Seagate 500GB 7200.12	3575
Monitor	BenQ G2222HD	7000
Graphics Card	Zotac 550Ti	7400
Cabinet	Cooler Master Elite 310	1600
PSU	Corsair CX430	2300
Speaker	Altec Lansing V2621	1850
Mouse	Zebronics Judwaa 5 (Bundle)	0
Optical Drive	LG 22x SATA DVD Writer	950
Keyboard	Zebronics Judwaa 5 (Bundle)	465
Sound Card	None	0
Total		**34,340**

MID-RANGE GAMING

Processor	Intel Core i5-3450	11800
Motherboard	Intel DB75EN	5800
RAM	G-skill F3-10600CL9S-4GBNT	1200
HDD	Seagate 500GB 7200.12	3575
Monitor	Samsung P2350	10800
Graphics Card	Radeon HD 6870	11300
Cabinet	Cooler Master Elite 130	1600
PSU	Corsair GS 600	4000
Speaker	Altec Lansing V2621	1850
Mouse	Razer Abyssus (bundled)	0
Optical Drive	LG 22x SATA DVD Writer	950
Keyboard	Razer Cyclosa (Bundled)	2700
Sound Card	None	0
Total		**55,575**

ULTRA HIGH-END GAMING

Processor	Intel Core i7-3770K	21400
Motherboard	Gigabyte Z77X-UD5H/WB	20700
RAM	Gskill F3-12800CL9D-8GBXL	3150
HDD	Seagate 2 TB + Intel 520 120GB	17949
Monitor	BenQ XL2420T	21000
Graphics Card	ASUS AMD Radeon HD7970	31100
Cabinet	Cooler Master HAF922	7200
PSU	Seasonic X850 (80+ Gold)	10000
Speaker	F&D F680	3500
Mouse	Logitech G9x	4200
Optical Drive	LG Blu-ray WH14NS40 RW	7000
Keyboard	Logitech G510	4800
Sound Card	ASUS Xonar DX 7.1	4700
Total		**1,56,699**

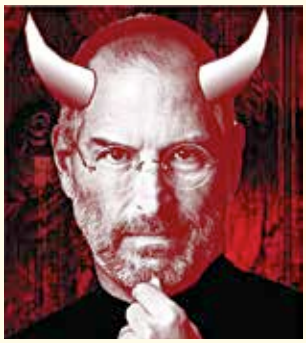
OPTIONAL ACCESSORIES

Speakers (5.1)	Logitech Z5500	18500
Controller	Xbox360 Controller (wired)	1350
Controller	Logitech G25 Racing Wheel	17000
Webcam	Microsoft LifeCam HD	2000
Headset	Creative Tactic Sigma	4000
System Fans	Noctua NF-P12-1300 120mm Case Fan	950
External DVD-Writer	Asus/Toshiba/Buffalo	1950
Sound Card	ASUS Xonar Essence STX	7300
USB Hub	Belkin 7 port USB HUB	1000
Wireless router	TP-Link WR740N	1100
CPU Cooler	Noctua NH-D14	5250
CPU Cooler	Coolermaster Hyper TX3	1200
Thermal Paste	Arctic Cooling MX2	400

worldview

OUR PICK OF THE BEST TECH ARTICLES FROM AROUND THE GLOBE

(MUST READS)



THE REAL STEVE JOBS

In an extraordinary investigative feature, Wired Magazine tries to find out if the story of Steve Jobs should serve as an inspiration or a cautionary tale. After reading this you'll wonder if you really want to be like the great icon.

http://dgit.in/QM43ba

KIDS REACT TO COMMODORE 64

On the 30th anniversary of the iconic (and now ancient) computing device with 64 kilobytes of memory, BBC asks school kids to play with it. The video and article that ensues is guaranteed to bring a smile :-)

http://dgit.in/PlAvEO

MAP OF THE INTERNET

No this is not the xkcd map which you may have already seen. This is in fact one of the most massive, mind boggling data visualisations you'll ever see. The bubbly map of the internet encompasses over 350 thousand websites from 196 countries and all domain zones. Information about more than 2 million links between the websites has joined some of them together into topical clusters.

http://internet-map.net/

(The Verge Corner)

CYBORG AMERICA: INSIDE THE STRANGE NEW WORLD OF BASEMENT BODY HACKERS



Delve into the secret world of body-hackers who are willing to endure extreme pain and risk to augment their bodies with ability enhancing electronics. Sensors that detect magnetic fields, prosthetic limbs, and much more to accelerate human evolution. http://dgit.in/N4UuJp



Apple vs. Samsung
After over a year of drama, the patent battle between Apple and Samsung went to trial in California recently. Here is the complete guide to the billion-dollar legal battle
http://dgit.in/OvS3tE



What is a nerd?
Popular opinion states that a nerd is the combination of intelligence, obsession, and social ineptitude while being a "geek" involves only the first two attributes. Is this all there is to it?
http://dgit.in/R8tnfB



Befriending the rule-breakers
Def Con now in its 20th year is a conference in Las Vegas where hackers put on a show for the world with impunity. Read on for an insight into twenty years of hacker evolution.
http://dgit.in/OlwLhW

SHORTS

EMPTY3

There was once a time when songs existed as downloadable files, when voracious music consumers hoarded files and showed off their "collections". Sadly, that time has since passed. With the rise of streaming music, this article laments the loss of the ever popular file format - the MP3. http://dgit.in/OoJOSM

THE PC IS NOT GOING AWAY



Intel CEO Paul Otellini has focused on pushing Intel beyond the PC. In this interview he talks about the high-stakes chip-making game and the company's push into mobile devices. http://dgit.in/R8OJcI

APPLE'S BIGGEST MARKETING SECRET

Have you noticed how Apple doesn't really engage in much advertising? Marketing chief Phil Schiller testified recently that the company relies on rave reviews in the media and product placement in movies and TV shows. Mactards rejoice? http://dgit.in/PvDgB6

HOW THE INTERNET IS RESHAPING CHINA

China's internet industry is at a fascinating juncture, emerging from the shadows of its copycat past and catapulting itself into a mobile future, one in which it will likely innovate in parallel alongside the best from Silicon Valley. Read more: http://dgit.in/QNeVW9

Browser Wars

You can hardly go wrong when choosing a browser these days, but that doesn't mean you shouldn't consider each one's unique features and properties to guide your choice

- By Michael Muchmore

PCMAG DIGITAL NETWORK

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Web browsers just refuse to sit still. They just keep evolving to offer new speed and standards support, all moving towards the ultimate goal—enabling websites to do everything that native applications can. Case in point? The HTML5 getUserMedia draft specification. This new spec allows a webpage to access a user's webcam and microphone, dispensing with the need for a plugin such as Adobe Flash or Microsoft SilverLight to achieve this feat.

Opera 12 debuted this streaming media capability, with Google Chrome following quickly on its heels (Google is the driving force behind the WebRTC, or real-time communications, of which getUserMedia is a part). Opera's exploding camera demo gives you an idea of the potential of getUserMedia. It is still just a working draft, and competing browser makers will want to implement it in differing ways, but in the end, it's clearly coming.

In order to create app-like websites, however, browsers need not just the functions available to installed apps, but also need to equal the speed that straight-to-the metal apps can achieve. A concept introduced by Microsoft with Internet Explorer 9 was to use the PC's graphics processor to speed up screen drawing and other activities. This technique takes advantage of a PC's hardware to practically eliminate any advantage of native apps.

It's an idea that's been taken on by all of the major browser makers, at varying rates. Firefox has pretty much equaled IE9 here, and Chrome isn't far behind. Opera's maker has said that its goal is to hardware accelerate the whole browser's functioning, not just webpage rendering. Again, hardware acceleration isn't something that most of today's websites will benefit from. But those of tomorrow? Definitely.

So what about today? What do you want in a Web browser? You want it to be fast, able to correctly present any website you throw at it, and get out of the way. All of the current crop of software comes close to achieving this goal, while a couple of the lesser known players, Opera and Maxthon, add unique extras on top of this: Opera offers Turbo to speed up slow connections and a built-in BitTorrent client, and Maxthon offers screen and video capture, along with a raft of other power-browsing tools.

For a look at how each of today's top Web browsers for Windows stacks up in speed, new standards support, and interface sleekness, delve into the short reviews linked below. (Follow the link at the end for in-depth reviews)

Chrome 21

Chrome Instant means your Web page is ready to read before you finish typing the address. This, its speed and minimalist design have deservedly been attracting more and more users to the browser. Leading HTML5 support means it will be ready for the future, application-like Web, and hardware acceleration makes Chrome a speed maven at any task. Hardware acceleration adds even more speed, but Google still hasn't implemented Do Not Track privacy protection, which every other browser here supports.

Firefox 14

Firefox versions keep coming at a fast clip, now that Mozilla hews to a Chrome-like rapid release schedule. These frequent versions haven't brought the kind of earth-shattering changes we used to see in new full-number Firefox updates, but the development teams have tackled issues of importance to a lot of Web users—startup time,

IS PRINT REALLY DYING?



An interesting commentary on a topic that - being in the publishing business - is close to our hearts. Pandodaily argues that simply going from paper to digital distribution is not the obstacle. Read on: http://dgit.in/TNvOE9

PAKISTAN'S CONTRIBUTION

Our friendly neighbours gave the world something other than Kasab but just as deadly - the world its first free reign computer virus! Here is the story of Basit and Amjad Alvi of Lahore, Pakistan and how they created the Brain computer virus: http://dgit.in/Pw7kyt

SAMSUNG'S GALAXY-SIZED MISTAKE

The company's new Galaxy Note 10.1 tablet has everything. Front and back cameras, a removable memory slot and even a digital stylus. The tablet is supposed to go head to head with Apple's iPad. Here is why ReadWriteWeb believes it will not win: http://dgit.in/S8OCOp

BATTLE OF THE INTERACTIVE ASSISTANTS

Few months ago we shot a video comparison of Siri vs Aisha (Micromax) and were pleasantly surprised with how well the desi girl performed. Now we have Roy Paul from Ars Technica saying Android's "Google Now" can teach Siri a few tricks. Read the review for more: http://dgit.in/SEir6J



memory use, and of course security. This lean, fast, customizable browser can hold its own against any competitor, and it offers graphics hardware acceleration and good HTML5 support.

Internet Explorer 9 (IE9)

●●●●○

Microsoft's latest browser is faster, trimmer, more compliant with HTML5—a major improvement over its predecessor. It also brings some unique capabilities like tab-pinning and hardware acceleration, but it's falling behind after a long period since its release, and only Windows 7 and Vista users need apply.



Maxthon 3.4

●●●●○

Maxthon is the browser in this roundup known and used by the fewest people, but it offers the most in tools, and surprisingly good performance and HTML5 support. If the idea of being able to take a screen capture of a webpage, download video, or switch to a dark view for night viewing, give Maxthon a download. Site compatibility is guaranteed, since Maxthon uses both Chrome and IE's webpage rendering engines. And remarkably, Maxthon beat Chrome on Google's own



JavaScript speed benchmark. But don't look for hardware acceleration—yet.

Opera 12

●●●◐○

Like the other current browsers Opera is fast, compliant with HTML5, and spare of interface. Long an innovator, recently it's added support for HTML5 getUserMedia, which lets webpages access your webcam (with your permission, of course). Opera's Turbo speeds up the Web on slow connections through caching. Extension support actually followed other browsers, but Oslo still impresses with tab stacking, visual mouse gestures, a built-in Bittorrent client, and live Speed Dial tile apps.



Safari 5.1.7

●●●○○

Windows users may be losing Apple's browser as an option, since the company didn't update it to version 6, as it did the Mac version. Safari is a fast, beautiful browser, and the Reader view and Reading List makes it even more enticing—though the former is equaled in Maxthon. Good support for HTML 5 features will also be important. Safari's gorgeous styling, strong bookmarking, RSS reader, and vivid new-tab page will also appeal to many, but it's falling behind in speed tests, offers no hardware acceleration under Windows, and starts up the slowest among the software we tested.

More: http://dgit.in/QQaCJT



QUIRKOLOGY

Psychologist and magician Professor Richard Wiseman creates magic



with science on his YouTube channel. Among other things, he has been a consultant on shows like The MythBusters and The Mentalist. Must watch videos on the channel include "10 bets you'll never lose" and "10 amazing practical jokes".
http://dgit.in/NN0fYo

(QR Code)

For a list of all the links from this section, head over to http://dgit.in/WorldViewSep2012
Or point your phone to the QR code above

(PRODUCT LAUNCHES)

GALAXY NOTE 10.1



1.4GHz quad-core processor, 2GB of RAM, a 10.1 inch 1280x800 display, 5MP rear and 1.9 MP front camera, USB 2.0, MicroSD expandable memory and of course Android 4.0Ice Cream Sandwich. Can it take on the iPad? You'll have to spend close to ₹32,000 to find out.

CANON EOS M



Canon's firs t mirrorless compact, the EOS M has an 18-megapixel APS-C sensor. The magnesium body houses a DIGIC 5 processor, and the camera can shoot upto up to ISO 12,800 and 1080p video at 24, 25, or 30 frames per second. The camera will set you back by approx ₹45,000

SAMSUNG GALAXY S DUOS



Featuring a 4-inch screen TFT (480 x 800) and powered by a 1 GHz processor the latest Duos has the ability to run two SIMs at once. Use data on one and answer calls on the other for instance. It's got a 1500 mAh battery and 4 GB of internal memory. No word on pricing though.

WORDJUMBLE

ABSOLUTE TIMEPASS

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

There are just six tech terms in this checkerboard (over three letters). Find them all.

Top 3 YouTube Picks

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



Extreme skiing with a Lica
Duration 03 min, 08 sec
Photographing extreme skiing at the foot of Mont Blanc, using the Leica S2
http://dgit.in/Rwl4g4



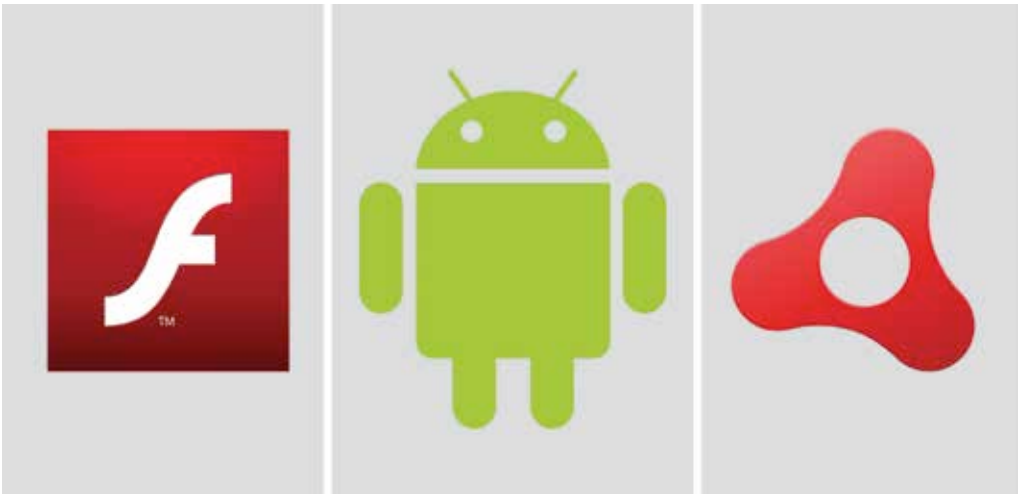
Street View with a twist
Duration 01 min, 01 sec
Explore Kennedy Space Center with Street View as Google documents amazing places
http://dgit.in/PrgfSo



The scale of things
Duration 01 min, 18 sec
Planets viewed from Earth as if they were at the distance of our moon.
http://dgit.in/NX8yPT



Interview with Jitender Verma, CIO, PVR.
For the complete interview visit:
dvwx.in/P9EO67



Flash on Android is axed

In an interview with Danny Winokur, VP and GM, Platforms at Adobe (dvwx.in/O6XqCZ), we discussed how Adobe felt it was in its own strategic interest to focus on Flash for desktop browsers and aid in delivering a richer experience with extreme graphics and premium video. Similarly, it outlined the plan to stop focus on Flash for mobile devices and instead make best use of the AIR runtime environment.

In June this year, with the announcement of Jellybean by Google, Adobe had set out a deadline of August 15, as the date when it would cease support for Flash for mobile devices. As expected, developer circles are reacting in all sorts of ways over it. Going forward, new devices that are not shipped with Flash will not be able to install it anymore. According to Adobe, Flash Player will not be certified for any device OS beyond Android 4.0.x.

These developments hint at a more standards-driven environment which would also be conducive for open web platforms such as HTML5, and enable web apps dominate mobile devices. Besides, there are also projects such Mozilla's Firefox OS (dvwx.in/MctirA) that is built entirely around web technologies. >

Read the entire article at http://dvwx.in/MyWN5V share your comments.

*footer

*Future of mobile - VoIP and video

>> Voice over IP also known VoIP, is a transmission technique involved in the delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks. Joel Evans, based on his personal experience crowns VoIP and video as the future of mobile calls:

http://dvwx.in/TP7r9f



*Windows Phone to overtake BlackBerry?

>>As per figures reported by StatCounter, Windows Phone could overtake BlackBerry in the US, later this year. To read the complete story, go to:

http://dvwx.in/TPuhgQ

*Develop Your First iOS App – Planning to get there

>> Developing your own iPhone or iPad app can be cool and tricky at the same time. It takes time and patience to develop an app. But once you've decided to go ahead with it, things get easier and interesting! In a series planned, author Rahul Mehra aims to focus on the nitty gritties of putting together your first iOS app. Read the first part of this series:

http://dvwx.in/Pa40un

*side panel



*How Curiosity Streams from Mars

>>The historic landing of Mars rover Curiosity, which JPL streamed to millions of concurrent viewers was enabled by Adobe Media Server and Amazon Web Services (AWS) and Cloud (Amazon EC2) instances. Read more:

http://dvwx.in/PtcrO6

*JavaScript fundamentals for beginners

>> JavaScript is the language that drives the web. Bob Tabor shares concepts in 21 episodes.

http://dvwx.in/TP7mm0



*Twitter updates API policy

>>The API and Twitter's guidelines for using them are becoming increasingly rigid and locked down. Read more at:

http://dvwx.in/OMK8IG

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Understanding HTML5 Canvas

>Canvas was one of the foremost elements proposed in HTML5, along with video and audio. Here's a closer look at the Flash-killer feature > by Kshitij Sobti

Canvas is a new HTML element. As the term suggests, it forms a canvas on which a developer can paint anything. It is one of the few—perhaps only—HTML elements that is rendered useless without JavaScript. Using JavaScript, a developer can draw shapes, and render images on the canvas. If JavaScript is disabled in a browser however, the canvas element will show its fallback content i.e. the content inside the tag instead of the tag itself.

Since the canvas gives developers an open area to play with, it can be quite useful to draw custom interfaces such as games. It can also be used to build complex image editors. An image can be rendered on a canvas, modified, and finally passed on to the user who can save it as a file. If that didn't get you excited, a developer can even pull content from a video source, apply transformations, and render it on a canvas to have a video editor or filter of sorts.

We're stressing on the term developer, because the canvas tag is entirely operated via a JavaScript API. This also means that the canvas tag is impenetrable to anyone who doesn't know JavaScript. Without using third-party libraries or tools, a designer cannot create content that will show up on a canvas.

The canvas tag has been around for a while now, it has been supported since Firefox 1.5, Chrome 1.0, Opera 9.0, Safari 2.0, and is even supported in Internet Explorer since 9.0.

The Canvas Tag

It's a simple tag. All it needs to do is display content. So it just defines a width and height, and leaves the rest to the user. Here is how you would define a canvas in an HTML document:

```
<canvas id="mycanvas" width="800" height="600">
        The text that is displayed if the canvas tag is not supported, or if JavaScript is disabled.
</canvas>
```

That's all to it. Even these are optional; by default a canvas has a width of 300 pixels and a height of 150 pixels. Next we move to using this tag in code.

Verifying Canvas Support

Although modern browsers may support it, canvas is still missing from older yet widespread browsers such as IE 7.0 and 8.0. It is wise to first check if the canvas tag is supported.

Let us take the above canvas tag as example and see how we would detect the presence of canvas functionality:

```
var canvas = document.getElementById('mycanvas');
if (canvas.getContext){
  // Canvas is supported
} else {
  // canvas is not supported
}
```

In our examples, we will leave out this bit of code to save space, but do use it in real applications.

The Canvas Context

You might have noticed the getContext bit above, and wondered what it is. Fact is, the canvas has multiple "contexts" which use different rendering systems. The context we will concern ourselves with in this article, is called simply "2d" and is used for 2d rendering. The other context is "webgl" which can be used for 3D hardware accelerated content in the browser; all in the canvas. The WebGL context is not well supported as of now.

We can obtain the "2d" context quite simply as follows:

```
var canvas = document.getElementById('mycanvas');
var canvas2d = canvas.getContext('2d');
```

Replace the '2d' bit in getContext with "webgl" and you have the WebGL context, but that is beyond the scope of this article. Now that we have the 2d context, we can begin drawing on it.

Drawing shapes on the canvas

The canvas has a bare minimum API for drawing stuff. In fact, the only primitive you can draw is a rectangle! So let's look at how you would draw that first:

```
var canvas = document.getElementById('mycanvas');
var ctx = canvas.getContext('2d');
ctx.strokeRect(20, 10, 30, 15);
```

This above code will draw a rectangle 20 pixels from the left, 10 pixels from the top, with a width of 30 pixels and a height of 15 pixels. The strokeRect method draws an empty rectangular area. If you want a filled rectangle, or if you want to clear out an existing rectangular area, the API is quite similar. Here are these three methods together:

```
strokeRect(x, y, width, height);
fillRect(x, y, width, height);
clearRect(x, y, width, height);
```

For more complex shapes, or even simple shapes such as circles, you have a powerful API for creating any kind of path.

Paths

Creating a path is simple, and has only three basic steps, you begin the path, you draw a number of lines, or curves, and you stroke or fill the path.The simplest path that you can draw is a line. All that needs is two parameters, the x and y ordinates of the points to which you want to draw the line:

```
beginPath();  // begin a new path
lineTo(x, y); // add a line to the specified location
stroke();     // stroke the path
```

You may wonder, where does this line start! To which the answer is, whatever the final location after the previous operation. If you have a specific location in mind, you can use the moveTo method. Here is how you would draw a line from (10, 15) to (25, 45):

```
ctx.beginPath();
ctx.moveTo(10, 15);
ctx.lineTo(25, 45);
```

If now you wanted to draw a line from this point to (50, 90), all you would need to do is another lineTo call, no need for moveTo again since it will continue from there.

In these examples, until you call stoke, nothing will be displayed on screen. It is important to note that stroke will only outline your path, if you want to fill the shape you have created, you can use the fill method instead. If you use the fill method, it will automatically close an open shape. If you are building a complex shape, and in the end just want to connect the starting and ending points, you can use closePath().

We glossed over moveTo before but it is actually quite important. It is a way to move the pointer on the canvas without drawing anything – like lifting your pen. You can use it to create complex disconnected shapes that are part of one path.

Curved paths

Straight paths can only take you so far. You will probably need to create curves, or there is little point to a drawing surface. Luckily the canvas has some powerful methods for creating all kids of curves.There are essentially three kinds of curves that you can create on the canvas, each more complex than the last.

The first is the simple arc, or part of a circle. The simplest way to draw one is using the arc method: `arc(x, y, radius, startingAngle, endingAngle, anticlockwise)`

The x, and y specify the centre of the circle as expected, while the starting and ending angle specify what part of the circle to draw, and the last parameter specifies whether the arc is to be drawn clockwise or anticlockwise. The angles here are in radians, not degrees, so to draw an entire circle you can set the starting angle to 0, and the ending angle to 2℗ or in JavaScript Math.PI * 2.

Other than arc we have quadraticCurveTo and bezierCurveTo. There is also arcTo which is a little confusing unless you know exactly how it works.

While the arc method is simple enough to explain here—and so we have—the other methods aren't that simple. All we can say is that if you have used an application like Photoshop or Illustrator you will find those concepts easier to understand. They allow you to create more complex curves than just circles. The point is, if you are looking to create curves in the canvas, you have some research to do.

Strokes and Fills

Till now our strokes and fills have been dull and black. You will be pleased to know that you do have a lot of control over these things.

For setting the width of the stroke you have lineWidth, while for setting the stroke style you have strokeStyle. For setting the fillStyle you have fillStyle. Both strokeStyle and fillStyle work in similar ways. You can provide it a colour just like you would in CSS:

```
fillStyle = "red";
fillStyle = "#FFFF00"; // yellow
fillStyle = "rgb(128, 0, 128)"; // purple
fillStyle = "rgba(255, 255, 255, 0.4)";  // 40% transparent white
```

It is also possible to use linear or radial gradients with strokes and fills, however that is beyond the scope of this article. Remember to set these values before you call the fill or stroke method.

Conclusion

As you can see the canvas has a basic but functional and powerful API for manipulating content that isn't restricted by HTML rules and hierarchy. Everything you do on the canvas in in your control.

Read that again, "everything you do on canvas is under your control", this is also a disadvantage. You cannot easily create clickable buttons or controls on canvas, nor are they accessible or tabable. All that has to be done by you. Canvas is best for multimedia content and animations.There is still a lot about the Canvas API that you should learn about, such as drawing images on the canvas, using transforms, accessing the canvas data etc. Of course there is the whole 3D aspect of the canvas that requires some knowledge of WebGL. Consider this your starting point. >

Read the original article online on devworx. Visit www.devworx.in

*pointers

>>Nuggets of cool code at work



*QuakeCon 2012 Panel - Virtual Insanity

>>John Carmack (id Software), Michael Abrash (Valve), and Palmer Luckey (Oculus).

Duration > 1:02:17

http://dvwx.in/OSh4Fc



*Google Drive SDK: write your first Drive app in Python

>>During this Google Developer session, you'll learn how to build command line Python apps for Google Drive.

Duration > 23:41

http://dvwx.in/NVC1LF



*A view of Windows Phone 8

>>Here's a look at the initial impressions of Microsoft's new Windows Phone 8 operating system.

Duration > 09:47

http://dvwx.in/OtlsaE



*The Google ADK and Android

>> Ben Heck checks out the Google ADK, a device that connects your Android phone to an Ardunio MCU and plans a project with it.

Duration > 15:28

http://dvwx.in/PORX61



>>"We needed gesture control and AR features in the app">>

>>Jitender Verma, CIO, PVR on its app strategy

What are your plans with iOS? Also, how confident are you of BlackBerry?

Our current app supports iOS, and was the first platform for which we released our application. iOS users are a niche target audience for PVR Cinemas. We released our Blackberry App in April this year. We have not seen a huge penetration on app downloads, but the numbers are still as per our expectations. Our target user for BlackBerry platform is the corporate user.

Is India ready for payment via mobile devices?

No, customers are still reluctant to share credit card details over mobile devices. To overcome this challenge, we have introduced a "Pay Later" option alongside as well, wherein customers who book under the "Pay Later" option, can pickup tickets from the Box office by paying cash.

Why did you opt for a dedicated mobile app, and not an optimised mobile site?

We wanted to exploit native app features such as gesture control and AR, which will be showcased in future releases.

Was this app developed by an in-house team or was this outsourced?

The development was outsourced.

How has the response been for the app? Any negatives?

Positive. We have seen good number of users using our app for ticket purchases. >

Read the entire interview online, at **dvwx.in/P9E067** and share your comments.

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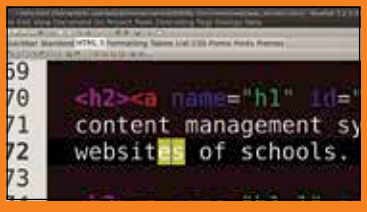
*open source



Google Project Hosting

>>Project Hosting on Google Code provides a free collaborative development environment for open source projects. Each project comes with its own member controls, Subversion/Mercurial/Git repository, issue tracker, and wiki, so you can focus on your own open source development.

http://dvwx.in/PP3pyn



Bluefish

>>Bluefish is a powerful editor targeted towards programmers and web developers, with many options to write websites, scripts and programming code. Bluefish supports many programming and markup languages, and runs on Linux, MacOS X, Windows, etc.

http://dvwx.in/NCwpFo

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112 **Tools for entreprenuers**
We shortlist a few tools on the web which will not only make you an entrepreneur but a smart one at that

114 **3D Printing**
We take a look at some plausible real-world applications of the emerging field of 3D printing

Memory Matters

One-on-One with Scott Thirlwell from Corsair Memory on the state of DRAM and SSDs in India and globally

Nimish Sawant
nimish.sawant@thinkdigit.com

Corsair is a popular name when it comes to DRAM modules and SSDs. We had a free-wheeling conversation with Scott Thirlwell, Director of Sales APAC – Corsair Memory where we discussed the current state of the SSD market, the testing procedure of DRAM modules, among other things. Read on...

Majority of the Indian consumers are quite clueless when it comes to DRAM and generally go by what the counter guy is suggesting. How do you plan to educate the Indian consumers about DRAM?

Our main aim is to educate our channel partners and retailers about DRAM. We want to make them aware of our offerings and which type of memory is targetted at which segment. We have carried out roadshows where we involve retailers and train them about the various types of Corsair DRAM modules and whom they are meant for. Ultimately they are the ones who influence consumers on what memory to purchase, if the consumers are not well informed. So we make sure that we highlight strong aspects of our offering to the retailers.

For consumers, we are not directly training them. But we have experts who are present on various technology forums, who are there to answer queries.

How do you perceive your SSD market in India?

Frankly speaking India being a price conscious market, we still are not seeing numbers which we are seeing in say Europe or China, but they are slowly picking up. With SSDs we manage to sell anywhere between 700 to 900 units/month which is in line with our expectations. In the last 9 months prices have fallen considerably and in the next couple of months, we are expecting SSD prices to fall even further, which will see a boost in that sales number.



Scott Thirlwell, Director of Sales - APAC
Corsair Memory

Why do you think that the SSD prices will drop?

Well the NAND chip manufacturing technology is improving. So now we will be able to pack in more NAND chips per wafer than what we were doing before. Due to this the volumes will increase and this will lead to a definite reduction in prices.

What kind of testing process does a DRAM module go through?

It is quite fascinating actually to see how the memory chips are selected. NAND memory chips are produced on a wafer. The wafer has to be graded for 1333 MHz and has to be graded based on the farthest chip. This grading may vary as we approach the centre of the wafer, which may be capable of higher speeds. The chip maker will not cut off individual chips from the wafer and grade them, entire wafers have to be graded. So the chip maker can claim stuff like 'the worst performing chip on this wafer is 1333 MHz'. You can't take the chips at the centre, run them through tests and say that if they are capable of going to 2400 MHz, then the entire wafer will have all the chips going to those speeds. In some other wafer the chips in the centre may only be capable of going upto 1600 MHz. These speeds may vary from wafer to wafer. So we at Corsair, have to check each individual chip.

So after the chips have been cut out from the wafer, we pass them through the functionality test.

Each chip is carefully sorted and then passed through the tests. We have world class equipment that runs stress tests on these memory chips. So for instance if we have to include a chip in a 2133MHz RAM module, then that chip has to undergo stress tests for every speed rating starting from 1333MHz onwards.

When you observe a RAM stick, you will notice a number of memory chips on it, so while testing the RAM, we have a stick that has existing chips rated for the timing for which the chip has to be tested. In it you place the chip you want to test. If it succeeds that test, then it is tested for a higher timing. And so on. So if a chip does not clear the test for the 2133MHz module, it is used in the module which has slightly slower speeds, leaving apart some headroom for slight bit of overclocking as well.

How do you decide on which controller to choose for the SSD?

Testing. What we do is we take into consideration all the SSD controllers out there and our R&D team will test out each controller with the NAND memory that we have. Based on the results we decide upon which ones to use and which ones to discard.

READ MORE AT: dgit.in/corsair_d12

RSS Feeds for Google Search
How about monitoring Google search results for a particular query in your favorite RSS News Reader?
http://dgit.in/MQgFBB

TV not on the cards
According to an Apple executive, Eddy Cue, Apple may not enter the TV space till they created a great user experience and fix existing issues

Top Digital Tools For Entrepreneurs



Whether you're a brick and mortar startup or a cutting edge web technology idea waiting to become the next best thing, these tools will get you off the ground in no time

Siddharth Parwatay
siddharth.parwatay@thinkdigit.com

Have you noticed the number of new websites you keep hearing of these days? Whether it's a quirky service that'll deliver essentials to your doorstep in the wee hours or a niche shopping site that only sells bags – ideas and in turn budding entrepreneurs are cropping up faster than err mould on damp bread. Gross analogies aside, you must've sensed the startup culture in the air (unless of course you've been hiding under the proverbial rock). The atmosphere is almost palpable and more and more entrepreneurs are being driven to do their own thing. If you too have had an idea buzzing in your cranium and want to do something about it, but don't know where to start, here are some tools to get you on your way.

1. The basics

For any business, the basics need to be taken care of at the outset. What do you need? You need a domain for your idea. Whether if only to host an "under construction" board or simply to get yourself an @yourbusiness.com email idea, buying a domain name is essential. It gives a digital identity to your venture. Perhaps the best way to get yourself a domain is through Google Apps. You can register a new domain starting from $8 a year and with it you get Google Apps support for upto 10 users - that means Email, Calendar and Google Docs all bundled. Of course you could register a domain name from anywhere, but doing it with Google, just get's you preconfigured email in a format that you're probably familiar with. Head over to http://goo.gl/Xokl5 to get started.

2. Create your presence

Once your identity is established, you need a presence. The digital personality equivalent of your business in the virtual world is a website. To get your website up you need two things –space to host the website and the website itself. Space can be bought from re-sellers such as http://www.bigrock.in/ and http://www.hostgator.in/ have attractive offers going on. If you have questions about hosting, they have toll-free numbers and live-chat help to clear your doubts. While choosing a hosting service choose one that has maximum data uptime guarantee. Also things to keep in mind include, bandwidth restrictions (if any) payment options, take a demo of the control panel, and check for Fantastico support.

Now comes the part of making a website. "Coding, webdesigners, hassles" is what you're thinking right? You needn't fret. Services such as www.moonfruit.com and www.weebly.com allow you to build websites with drag and drop ease for free. Some amount of website design and deployment is even offered by hosting services for a small premium.

Think you can get your hands dirty? Wordpress is the way to go. Wordpress is easy to deploy (many hosting services such as BigRock provide one click installation) and while initially intended as a blogging platform it's a great way to build no fuss, ultra-cool websites even for businesses. Not only creation, management too is a breeze – creating a new page, new menu item, integrating analytics, translating your page into different languages basically anything you can think of, is made available to you through the dashboard and wordpress plugin repository. So creating an about page, services page, etc., is quite easy. Here are some nice free business themes to get you started – http://dgit.in/NitWi5

3. Get funding

Getting funding until recently meant sucking up to that rich uncle or pandering to a bunch of angel investors who eventually turn out to be not so angelic. With the ushering of crowdfunding the game has changed. Kickstarter.com (and few clones) allow you to present your business idea, expansion plan, or service to regular folks who buy into it. Backers to your idea can pledge anywhere between $5 to literally thousands of dollars. And why would people do that? Be warned these pledges are not necessarily donations, they're more like pre-bookings in most cases. You need to obviously offer people a hook to buy into your idea. This can be an acknowledgement in the form of a mention in the product sheet, a thank you note, a visit to your facility, something named after them (for high-value pledgers), a limited edition product SKU or even a free T-shirt!

To start a project on Kickstarter you need a clear pitch, an explanatory video and incentive plan for investors. Does the Indian regulatory framework allow you to source funds from the crowd? The concept is pretty new and we all know the breakneck speed with which regulators react to change. But fear not we saw a few



A screenshot of project management tool Asana

successful Indian crowdfunded projects on Kickstarter right now that have met their targets, so if they can do it so can you. If you don't have an idea yet this could be it – start a Kickstarter clone for India. And if you're feeling super-adventurous you could even post this project on Kickstarter itself.

4. Making sense of social media

Once your venture / startup is off the ground there's no escaping social media. You'll need a presence on the popular social platforms. That's easy – a Twitter account and a Facebook page and you're set. But how do you manage them effectively? That's where tools like http://hootsuite.com come in. HootSuite let's you manage multiple social profiles, schedule messages and tweets, track brand mentions, analyze social media traffic.

5. Manage stuff like a boss

Project management or task tracking tools help you focus on the work at hand rather than do tedious operations such as sending status emails, checking up on subordinates and attending non-productive meetings. Asana is one such management tool that lets you quickly capture, organize, track and communicate everything you and your team are working on. It is free for a team size of 30 members. There are other tools out there that have other functionalities integrated such as version control, document management and other collaboration tools such as shared whiteboards. Most of these have free trials. You can take a dip and see which one suits your needs. Some names to give a spin are Basecamp, Trello, TeamBox and Freedcamp.

6. Other tools to help you get by

During the course of your day-to-day business, you'll need certain tools handy to help you get all sorts of functional tasks done. Below are some:

• Surveys

There are times when getting feedback from customers is critical. You may even need to look for responses from other target audiences for service improvement or some kind of quick market research. For such times www.surveymonkey.com is a good option. In the free plan it offers 10 questions per survey and the ability to collect a 100 responses per survey. For more sophisticated needs there are other plans starting approximately at ₹500.

• Jazzy presentations

Sometimes plain old powerpoint presentations just don't cut it when it comes to impressing clients. In such cases use www.prezi.com to come up with fluid, large-scale motion-oriented presentations that are guaranteed to leave your audience spellbound.

• Mass Mailers

Reaching out to your customers is good for business. You may have some product update, some new offer, or maybe you just want to spam their inboxes so that they remember you every now and then. Whatever the reason http://mailchimp.com is your weapon of choice. MailChimp helps you design email newsletters, share them on social networks, integrate with services you already use and track your results. The free plan lets you mass-mail 2,000 subscribers and you can send up to 12,000 emails per month absolutely free.

• Accounting

Do you really need Tally for keeping those simple in/out records? Maybe not. To fullfill your simple bookkeeping needs try out www.manager.io a free opensource software for Linux, Windows and Mac. You can create all sorts of invoices, charts from data, and even call up reports from time to time. Online tools such as http://outright.com may work just as well but be warned, these are designed for overseas bookkeeping standards.



Powered By Panasonic LASER MULTI-FUNCTION

3D Printing

Printing in three dimensions has applications for everyone, from a foodie to an engineer and from our future scientists to our present-day doctors

Raj Saxena
readersletters@thinkdigit.com

3D printing is also also known as additive manufacturing. It is a process of making solid objects from a digital model. This digital model is made by using a specialised software provided by the manufacturer of the printer or by using a 3D modelling software. Here are some implementations.

Prototyping

Prototyping is used in nearly every form of construction to get hold of the problems that the engineered design may face in the future. It is a fundamental step in the development process of any design that takes a lot of time and energy to produce. With new 3D printers, this cycle of development and testing of prototypes become much shorter resulting into better designs in shorter time spans as all you need to do is make the required design in the 3D modelling software and press print. Something that used to take weeks in development will now take not more than a few hours. Plus a modification in the original design doesn't take weeks like it used to in the past, just make changes in the 3D model and press print again!



Industrial design needs 3D prints

Airbus plans to come up with planes that use parts printed by a 3D printer. The technology has not reached the required level of complexity, and research is ongoing. But Airbus promises to invest enough money to develop a technology that is safe to print high quality material that can be used in the aviation industry. Not only will this decrease the labour costs, but also reduce the time to deliver finished products by more than half.

One for the expecting parents

Reasearch is on to use a 3D printer to "Print" a model of the foetus. By using a 4D scan to capture the image of the foetus and after some processing in the proprietary software, the printer prints a model of the young one who is still months away from being born. This is a breakthrough technique as it gives the doctors a better view of the baby, so in case the foetus requires surgery, it can be planned so that the doctors don't get any surprises in the middle of the surgery.



Fancy taking your baby prints?

No more closed chemist shops

When Professor Lee Cronin of Glasgow University learned what 3D printers could do, he thought of converting it into a drugstore, literally! Professor Lee's research has given meaning to terms such as "downloadable chemistry". The idea (although in its initial stages) is to be able to "print " drugs from the convenience of your home. The team is currently looking at ways in which simple drugs such as Ibuprofen can be successfully produced, using a 3D printer.

"If that principle can be established, then the possibilities suddenly seem endless. Imagine your printer like a refrigerator that is full of all the ingredients you might require to make any dish in Jamie Oliver's new book," Cronin was quoted as saying in British newspaper *The Guardian*. Plans are also in place to make an App



that can be used to "download" the code and print any new drug in that comes in the market. For our junkies, no, you will not have an endless supply of "Your Favourite medicine"(if you know what we mean) as there will be some restrictions as to what can and cannot be printed.

Print your food

Imagine your mom 'printing' chicken and then putting it in the oven to cook! The technology hasn't reached that far, but is surprisingly close. Don't be surprised if you see bio-printed labels on the meat that you buy in the supermarket. A company called Modern Meadow is gearing up to do just that, starting with a slightly less controversial animal product: leather. It's not as frightening as it might seem, and it's not really instant "Star-Trek" style.

Bio-printing uses 3D printing technology, inspired by the common inkjet printer, refined to handle delicate cells and other laboratory substances. Since the recent development of ways to produce vascular structures (blood vessels) in bio-printed tissue, a simple, juicy steak containing types of muscle cells, fat and related structures won't be that hard to create. But the question here is that will it be tasty enough to eat? If yes, then consumers may start seeing meat produced this way as a true meat-substitute.

The process to create it is straightforward. Cells are cultured and grown in quantity in the laboratory. They're combined in a tissue pattern and herded together into a three dimensional structure by a bio-printer. Special techniques are used to provide structure and support while the cells link up naturally into the final product.

How would you order a steak using this process? A special software provides a vision of the final product, from the fat and marbling to the type of meat required. The bioprinter combines the materials under computer's direction. The process of individual cells joining up into meat still takes a few weeks, but after that the job is done, and the meat can be prepared and turned over to the chef. Bon appétit!



Print your food and eat it

3D Printing in space

NASA has come up with a plan to print buildings on the moon. Obviously, there are some technical issues to address, the first being, the size of the presently available printers needs to be scaled so as to be able to print buildings. Research is underway as you read this sentence. CAD/CAM, an automated method of design and manufacturing, is already used to produce most consumer goods, such as clothing, electronics, and some cars.



Mars Rovers

Professor Khoshnevis aims to apply similar methodology to the archaic method of constructing houses and he's already built and tested a system that can print a hollow concrete wall that can withstand 10,000 psi, compared to the 3,000 of a traditionally built wall of the same size that takes more materials and time. Additionally, more complex structures and molding could be printed for less. That is, your house could have domes, arches and hexagonal honeycomb rooms for the same cost as a plain square box house and every house on the block could be custom made.

Back on Mars, Desert RATS (Research and Technology Studies) a NASA division is working on a prototype made up of 70 basic parts (all additive manufactured) and the size of a Hummer that can support two humans in a pressurised cabin. The rovers must be strong and light, durable production-grade thermoplastics that can withstand the harsh environment of other worlds.



The most famous cyphers

CTC IV is a big deal for us this month, and since everyone is in a mood for some "cryptanalysis", we thought we'd compile a list of some of the world's greatest cyphers and the stories behind them. Read on to learn more...



The Voynich manuscript

This 600 year old manuscript has been the source of much controversy. Containing a large number of drawings of various plants and tiny humans, the actual purpose of this manuscript is unknown. There are many people in who now believe that this script is unsolvable. Do you disagree? Try your hand at it and find out.

The Zodiac killer

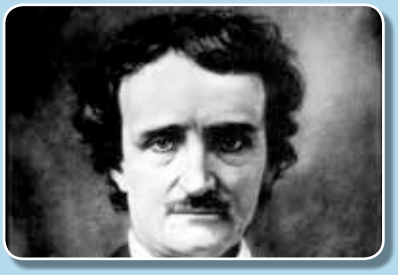
A killer who claims that he kills people so as to have slaves in the afterlife, not to mention his own pleasure, must have had a really twisted mind. This man was a maniac but he might have been a brilliant one at that. The only clues to his real identity were the encrypted messages he left behind. Only one has been deciphered so far!





Kyrptos

This is the name of a sculpture that was placed outside the CIA headquarters in Langley. Embedded in this sculpture are four separate clues, only three of which have been solved so far. The best minds at the CIA, not to mention the mathematicians around the world, have tried to solve it and failed. Can you do any better? Go on. Make your country proud.



Edgar Allan Poe

A famous author, and now in the spotlight for the recent movie, Raven, Edgar Allan Poe was mad about cryptology. He challenged readers to send him cyphers, offering rewards and subscriptions to those who could send him unsolvable ones. Before he died however, he left behind two cyphers, these took the world 150 years to solve.

The Cyrillic projector

This was a cypher created by Jim Sanborn, the same guy who created the Kryptos cypher. Seemingly impossible to solve, this cypher was finally solved in 2003 with help from the guys from the kryptos project. Though the cypher has been cracked, you can still try your hand at it just for kicks. Hint: Just make sure you speak Russian.





The Oak Island treasure

A bottomless pit filled with treasure, that's what this is. Or people think it is. A group of kids stumbled across a pit on Oak island, Nova Scotia, and when they started digging, uncovered a encrypted message that seemed to indicate the presence of gold! 200 years later, no one has been able to reach the bottom of that pit, and it isn't just because it's deep.

How we unwind



The Newsroom

We have been hooked onto The Newsroom - an American newsroom drama series written by Aaron Sorkin (Google him). A very well written show which explores the madness that goes inside the TV newsroom. Also, the way Siddharth goes all starry-eyed when he sees Emily Mortimer is a sight to behold. The presence of Olivia Munn, is an added incentive.

The Wire

Described by many critics as the greatest TV series ever made, The Wire brilliantly depicts crime and law enforcement in the city of Baltimore. A myriad of characters ably backed by a well-written script forms the backbone of this exciting crime drama series. If you've had your fill of comedy and action, you owe it to yourself to give The Wire a try.





EPL's back!

Some of us literally don't know what to do on weekends between mid-May to late August, every single year. That's when European league football goes on hiatus. But no more. The thrill of English, Spanish, German and Italian club football is back and weekends couldn't be more exciting! Particularly the English game, with last season's epic finish. One wonders what new twists and turns await.



Jeu de paume

This was a form of indoor tennis where you used your hand instead of a racket. We tried our own hand (sorry) at the sport but there was a slight accident. One of Big Daddy's energetic swipes sent the ball hurtling into Vijay's nether regions and he was forced to sit down for a while. A hazardous sport indeed. Play with caution.



Race Walking

A very noble sport it might be, but the first time we saw it, we burst into gales of laughter, it just looked so ridiculous. But (straight face), we understand that it is a tough sport, requiring a lot of discipline and practice, but we geeks, armchair Olympians that we are, just cannot appreciate the mere physical demands of a sport.



Googalympics

You remember the Google doodles at the time of the Olympics? Well, we decided to give them a go and inadvertantly, started our own office olympics. Mr. Patange was in the lead in the hurdles, pretty smug about it, when Mithun, completely unfazed, fired up AHK, created a script, and then proceeded to lay waste to Tanmay's records!

digit DIARY

Testing projectors can be a lot of fun, but watching the best scenes from our favourite movies a dozen times over can get tedious. However, being drones for your favourite mag, we persevere, such hardships we will face just to ensure that you get your recommendations. Jayesh "Big Daddy" Shinde even went to the extent of sliding under a table, mattress in tow, and watched an entire movie (Up) to check out how the "movie watching" experience was! The "gentle" snoring we heard a couple of hours later is testament to how tired he was. More Tribes news, Nimish is now a convert, our endless Tribes sessions have gotten his blood pumping and he is now itching to try it out. We also have some sad news, we lost one of our interns, Raj Saxena, to the charms of the Orient, where he is going on a quest to learn something new. It was a teary-eyed farewell but before he left, Siddharth and Jayesh coralled him into a corner and proceeded to advise him on the ways of the Chinese. We weren't sure whether Raj's goggle-eyed expression after the talk was because he was excited, or terrified out of his life.



Gravity gone bad

Sameer 'Psycho Mantis' Mitha
feedback@skoar.com

Inversion is a third-person cover-based shooter with a difference. It boasts of mechanics where gravity comes into play. Is gravity enough to distinguish this game from the crowd, or are you better off grounding your money in the tried and tested?

The story is pretty predictable. The city (Vanguard) is under threat from an alien race called the *Lutadore*. You don the role of a city cop named *Davis Russel* who has been taken captive by the Lutadore's and his sole motive for escaping and taking out the bad guys is his daughter, who is missing. Along the journey, his partner assists him, so the game isn't a one-man army showdown.

The manner in which *Gears of War* has been copied is not even funny. From the way the character sprints from one point to another, hides behind cover and moves between cover – the resemblance is uncanny. Even the HUD that displays your weapons is almost the same as Gears of War.

The game has a very linear structure with cover-based shooting mechanics. It is the tried and tested mechanic of getting from point A to B with no room for exploration. The only roadblock comes in the form of obstructions that can be taken care of with the "gravity gun". The game has some interesting zero-gravity moments where the ceiling becomes the floor or you are walking on the side of a building taking out the guys on the road. These moments are fun, give you a sense of disorientation, that the world has gone upside down, but will always leave you wishing there was more.

There is the occasional boss fight thrown into the mix, but it's more of a roadblock than an interesting twist in gameplay. The worst part is that the same boss is cycled throughout the game at various points adding to the repetitive nature of the game.

The graphics of the game aren't the best, but they aren't bad either. The character models look extremely stiff and this is reflected a lot more when they try to deliver an emotional expression. The city looks destroyed and very is reminiscent of Gears of War, which looks far better.

The same enemies are cycled more often than we like. But all isnot lost. The way the glass shatters and the rubble falls when the gravity elements come into play is nicely done, only lacking in polish.

The audio in inversion is probably the weakest link. The voice acting is decent but the story progression kills it. The background score is pleasant but drowns out the on-screen gunfire, which is average.

Verdict

Inversion isn't a bad game. It's a copy of Gears of War 3 with some new gameplay mechanics but it lacks polish. The gravity elements are interesting but aren't explored to their fullest potential. The overall experience is average and lacks the bangs and adrenalin rush provided by a true AAA gaming title. If you like third-person action games then you can give this one a glance. It may not be worthy of a position in your 'elite games' collection but you can definitely try it out for a weekend. You won't be missing on much if you let this game slip under your radar though.

MOAR!

- **Developer:** Saber Interactive
- **Publisher:** Namco Bandai
- **Platforms:** PS3 and XBOX 360: ₹2,499, PC: ₹1,299
- **Tested on:** PS3





Behold! It's a remake!

Anirudh "Mad Zombie" Regidi
anirudh.regidi@skoar.com

Before we begin, a disclaimer – This preview is written from the point-of-view of a DOTA n00b, someone who has just dabbled on the fringes of DOTA's allure, but was never quite smitten by the game.

Keeping that in mind, let's begin. Overall, the largest changes to the game seem to be from an aesthetic and functional stand-point. The first thing that you notice about DOTA 2 is the completely revamped interface. The game was primarily designed by IceFrog, the same dude who maintains DotA and is now working for Valve. The game also has an online marketplace where you can purchase various fancy looking items that have only a cosmetic effect on your character so far, which is good, as it still leaves the game balanced for non-paying members. Even so, paying $12 (₹670) for a courier that looks like a frog instead of a donkey does seem a bit silly. Other items are not so expensive though and it might be worth spending a few dollars if you just want to set your character apart from the others.

Character selection

The new character portraits are a nice visual touch and we really liked the playing card feel to the character selection menu. You can revert to a grid view any time you like and unlike DotA which had separate taverns for hero types, DOTA 2 combines all heroes on one page. Each hero has a nice improved 3D portrait, along with helpful information regarding what sort of hero you've chosen and even mini-tutorial videos demonstrating the hero's special abilities and skills. Very n00b-friendly we say!

Shopping

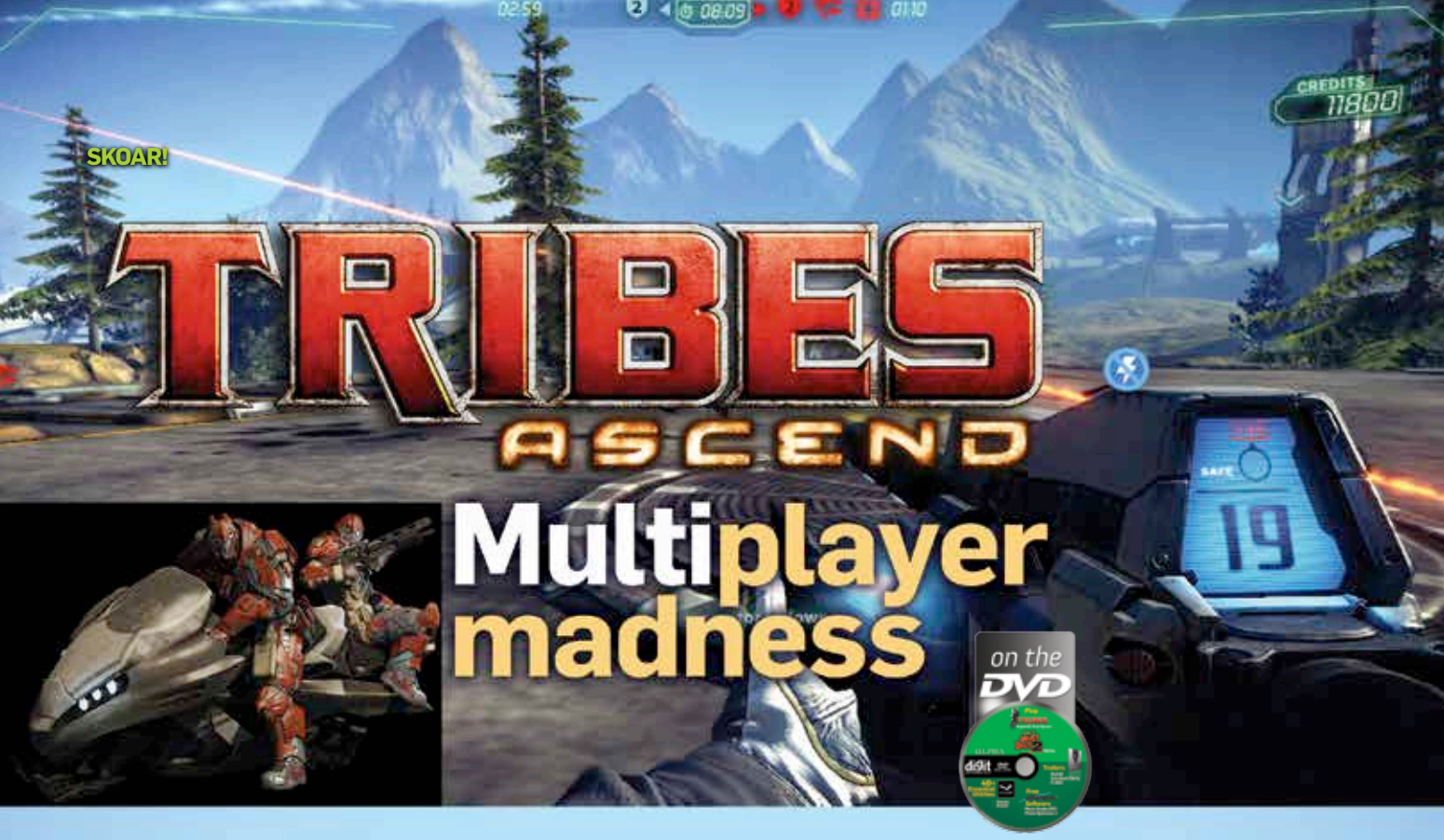
The shopping process has been vastly simplified in the game. There is now only one shop in your base (the secret shops and side shops are still present) and the shop can also be accessed any time by just hitting the "Shop" button any time within a game. The new interface for the shop is way better than the original. Clicking on any item will show you the entire recipe tree you can refer to and right-clicking on an item will purchase it outright, including all other items you may require, if you have the gold for it and if the shop you're at sells them. There is also a search bar as well as a "suggested items" box which contains recommended items for your character and also allows you to drag and drop items into it to customize your build. Other small changes, like the ability to resell within 10 seconds of purchase for full price are a nice addition.

Gameplay

The core gameplay doesn't seem to be affected in anyway and as mentioned in the beginning, the changes are largely cosmetic. Many of the in-game sounds are actually recycled from Valve's trademark sound effects, such as the button presses in Half-Life or the sound made by a recharge station. The characters also seem to have an entirely new repertoire of dialogue and are fun to listen to. Many of them are more tongue-in-cheek than in the original and are actually fun to listen to, you might just want to try out something new and whacky just to hear what your hero has to say.

Final thoughts

This remake of DOTA 2 by Valve is definitely one to watch out for. There are some things that detract from the experience, such as the sound effects associated with skill animations. Blizzard games tend toward the epic and Valve, well, has a dark and twisted sense of humour. This is most probably a result of the design philosophy of both studios and of course, players will have their own preferences and you will have fanboys and haters on both sides. The game is still in closed beta and needs a lot of work with regards to finishing touches and with the open beta scheduled to release soon, let us see where Valve intends to go with this cult-classic. *



Anirudh "Mad Zombie" Regidi
anirudh.regidi@skoar.com

The match is tied with only one flag cap to victory, your flag capper has just barely managed to bring the enemy flag back to your base and just as he is about to capture the enemy flag, a bolt from a Blood Eagle Pathfinder finds him and blows him to smithereens just as the enemy Pathfinder comes hurtling down from nowhere, recovers his own flag and grabs yours at over 200 km/hr, all in one, smooth, expertly choreographed motion. In the space of a second, your hopes of victory have turned to dust.

You're a Juggernaut who has just finished clearing out the generator room of pesky Raiders and as you stare at the receding figure of the enemy Pathfinder from the generator tower, your team-mates are trying to chase down the enemy. You see the blue streaks of the spinfusors in the distance, the occasional explosion of an explosive bolt and as the enemy weaves left and right amidst the chaos, narrowly but inexorably drawing further and further away, you know it won't be enough, you know that it has to be you.

You take a deep breath, indulge in mental mathematics that you never knew you were capable of, triangulate the position of the enemy, calculate his possible trajectory, point your gun at a 45 degree angle and pull the trigger. The muted "whump" of the launch shakes your screen. The world seems to move in slow motion as you watch the mortar shell arc its way through the sky, trailing a jet of green plasma behind it. The enemy disappears behind a hillock half a kilometer away and you desperately keep your fingers crossed as the mortar follows suit, a heart-stopping moment later, WHAMMO! A massive green explosion and debris from the enemy's body gently descends to the ground as your teammates glide up to your flag and return it to its stand. You can't help but let rip a shout of pure exultation and relief amid the "Woohoos" of your teammates. Being the true soldier that you are, you collect your wits, pat down your ruffled hair and smugly enter an unruffled "pwned!" in the chat box.

It is moments like these that make this free-to-play game what it is. It gives you a sense of achievement like few other titles ever have (Quake III comes to mind). Every kill, every flag capture feels good, you played the odds and came out victorious. Tribes: Ascend is not a game to be superficially glanced at and dismissed. It must be played, mastered; it is a game that demands that you sacrifice hours of your life, every single day, just to stay in shape. This isn't even drudgery, every moment is fun and the better you get at the game, the more you realize how much there is to learn. *

Verdict

To those new to the series, the gameplay is unlike anything you've ever experienced before. We won't spoil it by describing it to you, try out the game for yourself and make up your mind. It might seem tough at first, but if you persevere, you will be well rewarded. There are still issues with the game, random bugs, balance problems; but these are just small blemishes on an already well-polished title. It is testament to the quality of gameplay that we haven't even touched Quake III in these past 2 months!
NOTE: We've provided the game on our DVD; don't forget to head over to http://dgit.in/cOntest for claiming special in-game freebies.

MOAR!

»Developer: Hi-Rez Studios
»Game Engine: Unreal Engine 3
»Platforms: PC
»Genre: Multiplayer FPS

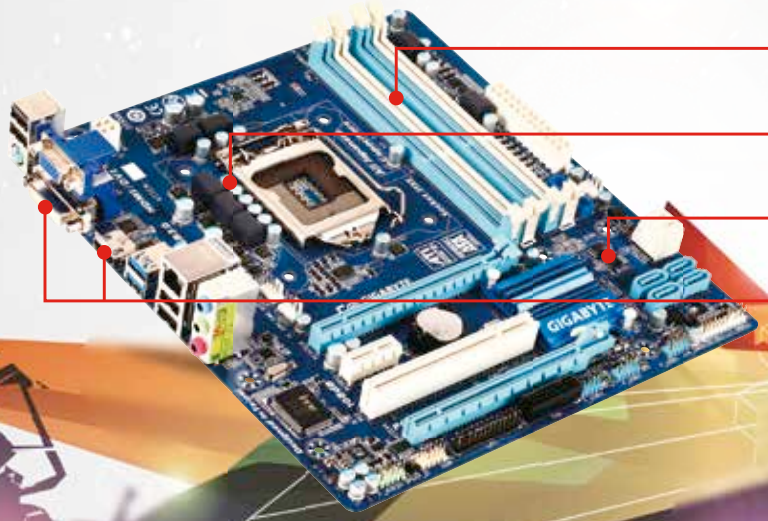


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India's Top Techies

digit SQUAD

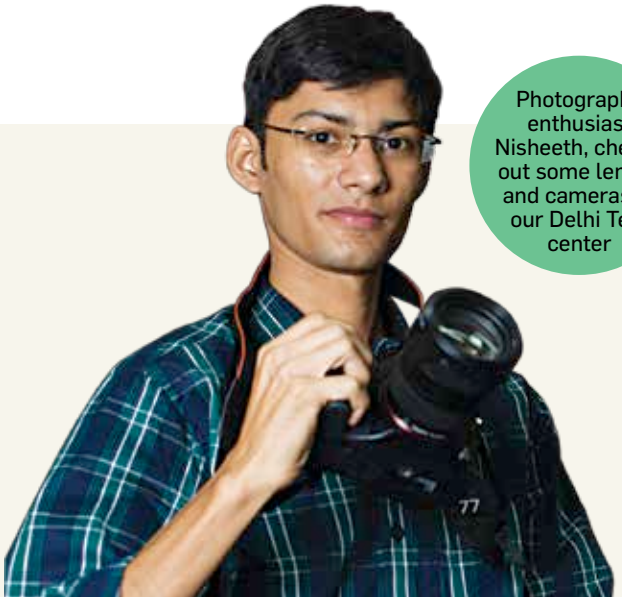
Digit Squad is our quest to recognize, interact and engage with technology enthusiasts of India. After scanning 450+ applicants, we have finalized the first batch of Digit Squad members. Some of the selected members also made it to our test labs to check-out the latest gadgets and how they are tested.



Mohit seems impressed with the quad-core LG optimus 4x

Digit Squad Member Name: Mohit Chabra

Mohit is an engineering student at Delhi Institute of Engineering and Management (DITM). Being a Microsoft student partner and Mozilla student representative, mohit is deeply engaged with many Indian tech communities. "I try my best to stay updated about new technologies and gadgets, getting an opportunity to become a part of the elite Digit community was a chance that I'd certainly won't miss" says mohit. Currently, cloud computing and augmented-reality are his favorite topics to discuss over a cup of coffee. He also enjoys coding and developing mobile applications, "My favorite mobile platforms are Windows Phone and Android"



Photography enthusiast Nisheeth, checks out some lenses and cameras at our Delhi Test center

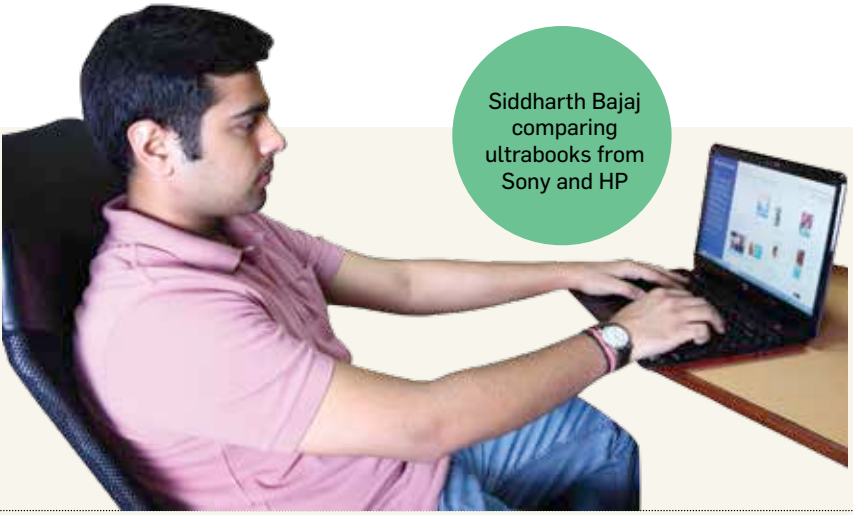
Digit Squad Member Name: Nisheeth Barthwal

Primarily a software programmer spanning multiple environments of Windows, Linux, embedded, web and mobile, his childhood passion for art grew into a hobby for graphic designing. He soon went on a rampage to develop a plethora of applications and thus authored various open source projects in languages ranging from C# to PHP to Python to Android. "I really look forward to my stint as a member of the Digit Squad, for it's the playground that can provide me the freedom and the opportunity to learn, the opportunity to satisfy the curiosity of fiddling with unknown objects (even breaking some), and in the process learning how these things work", he says. He hopes to learn about many things, such as the rigidity of an Android phone, the finesse involved in manipulating an SLR, and many more such things from the Digit Test Lab.



Who doesn't like movie trivia?
We're pretty sure this app could become your guilty pleasure. Download Movie Challenge Lite for iOS now: **http://dgit.in/PHkjLM**

Throw your old Nokia!
Not in the trash but in an event, which a Finnish teenager won by hurling his phone 101.46 meters
http://dgit.in/QhWPR8



Siddharth Bajaj comparing ultrabooks from Sony and HP

Digit Squad Member Name: **Siddharth Bajaj**

Siddharth Bajaj enjoys the attention and respect he gets as the "go to guy" for all things tech, amongst his friends and family. "The opportunity to experience latest tech in the flesh and learning the tricks of how to bring the fastest hardware to its knees, yes that is "Digit Squad" for me.", he expresses. Fresh out of an engineering college, siddharth has just landed a job with a software firm. He plans to develop a schedule by which he can spend atleast 2-3 hours every week at the Digit Test Labs.

Digit Squad Privileges:

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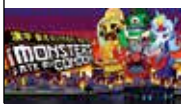
What is Digit Squad?

Digit Squad is an exclusive group of premier technology enthusiasts in India, who practically live and breathe all things technology. So do you have what it takes to be in the Digit Squad? If you answer 'yes' to all of the following questions, you need to send in your application right away:

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The madness begins again

What is CTC ?

In its fourth edition CTC, or Crack The Code is a radical treasure hunt that takes Digit Readers on an adventure of epic proportions from the pages of the Magzine to the far reaches of the web. Participants in this ever evolving game end up, solving puzzles and matching wits with the Digit Team over a period of a month. The game gets tougher as you go ahead and some sleepless nights will follow. Disclaimer: We take no responsibility for CTC addiction and resulting frustration...

How to play ?

Unlike previous editions, this year CTC begins online. To begin playing you need to go to http://www.thinkdigit.com/ctc and register before you start playing. The objective is simple - follow one clue to the next till you reach the end.
Here's what you need to do:

- Register on http://www.thinkdigit.com/ctc to get your first clue
- Once you figure out the answer enter it in the following format : http://www.thinkdigit.com/ctc/iv/answer.html without the brackets<>
- There will be checkpoints after few clues to give you a breather
- Keep an eye out for cheatsheets and hints to help you get to the finish line faster
- To interact and get help from other players head over to the official forum thread here - http://dgit.in/forumCTC

The page number you came from plus 80 leads you to another page that contains something you need to find. Use this to find it: **d1 b2 b6 d6**
Once you find it put the page number you came from and what you found in the standard url format to reveal the path further

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- Editor's decision final and binding on all participants. • Registration compulsory and qualifying factor to be eligible for prizes.
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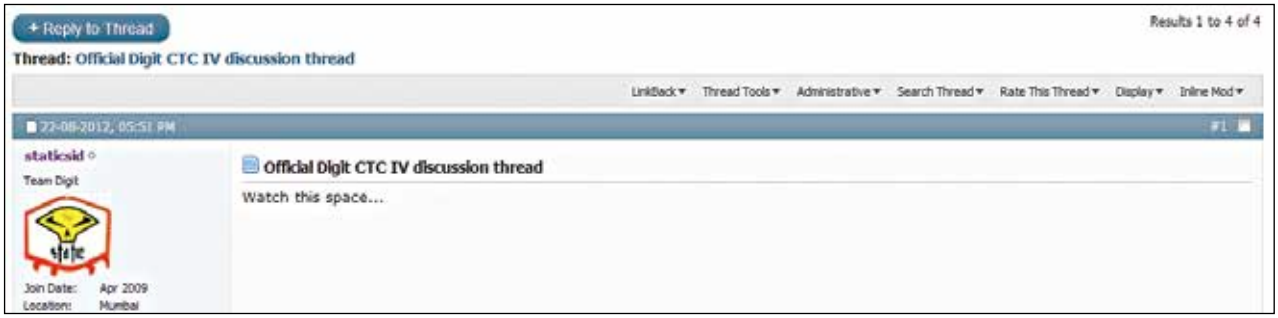
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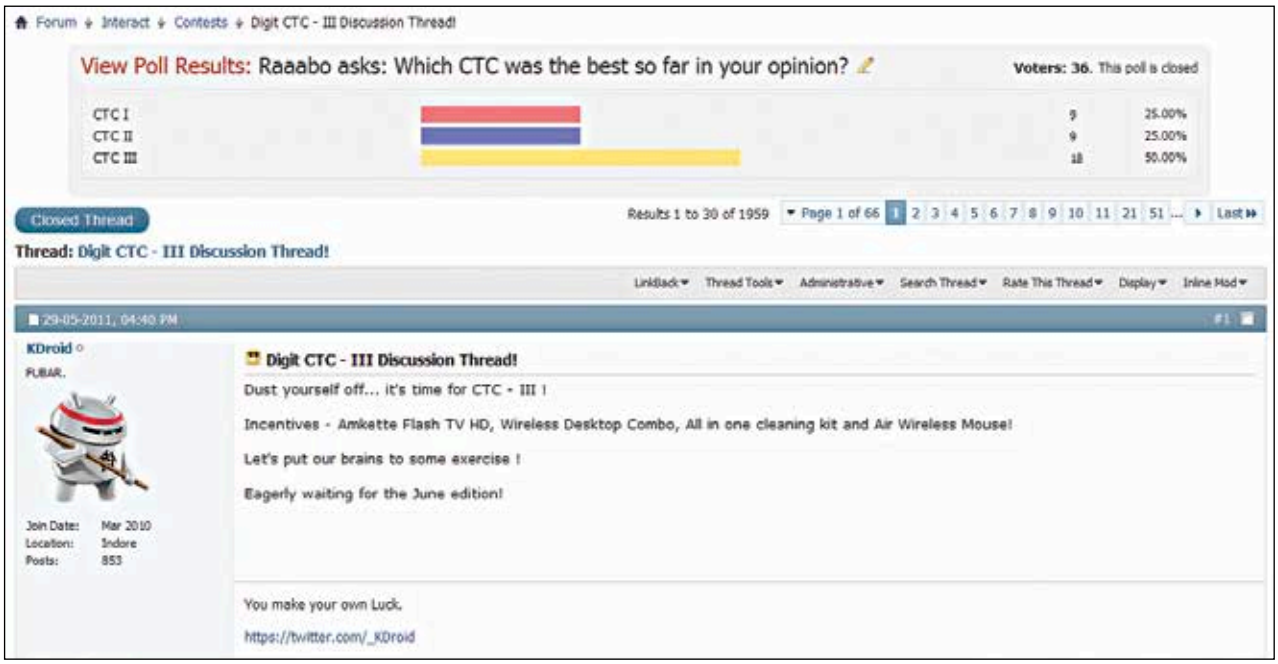
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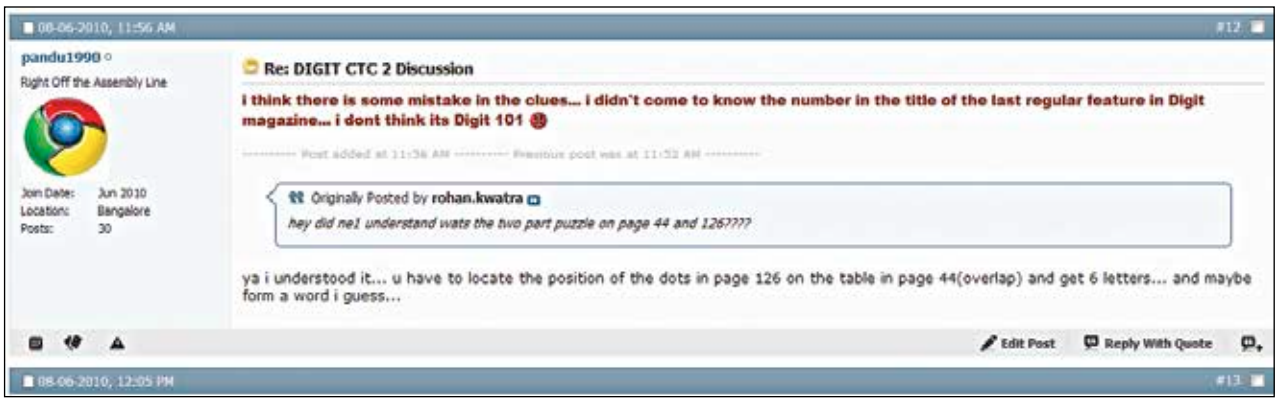
CTC fever has hit us this month. Head over to our online communities to discuss, hatch plots and finally, crack the code! The official thread for CTC IV is at http://dgit.in/forumCTC. Let's get cracking.



What did you think of the previous CTCs?



Help each other out, curse each other, beg for help and gloat at your awesomeness! Here is a sample of what to expect...



Verdict in Apple's favour
The much-watched Apple vs Samsung legal battle had a winner – Apple. Samsung was asked to pay Apple $1.049 billion

Unreal Engine 3 on Linux
It has been found that Chrome 21 has support for Flash for Linux and have implemented hardware support for Stage 3D to play UE3 based games

Display tech

Display panels, big and small are popping up wherever they can be placed. Here is a little know-how about all the technologies behind these panels

CRT

Cathode Ray Tube is the oldest of all display technologies that relies on a vacuum tube in which an electron gun fires electrons onto a fluorescent screen to project the image. They are bulky and expensive to produce compared to more popular technologies used today. CRTs were produced with the use of multi-coloured phosphorous colour.

LCD/TFT

They are one and the same and utilize thin transistors which align whenever electricity is passed across them. This lets light pass through the screen. The backlight for these panels may be provided by CFL tubes or LEDs. LEDs have better black levels and low energy consumption. There are multiple types of LCD/TFT panels:

- **TN**

Twisted Nematic Film – one of the earliest and cheapest type of LCD panels out there. Each pixel has a helical arrangement of electrodes between two panels which passes light when switched off. When on, it blocks all light. They are characterised by restricted viewing angles, reduced colour gamut, 6-bit colour depth and fast response times.

- **IPS**

In Plane Switching – developed to overcome the drawbacks of TN panels, IPS panels had all electrodes parallel to the plane rather than in a helical format. They are characterized by wider viewing angles, increased colour gamut, 8-bit colour depth and reduced response time.

- **VA**

Vertical Alignment – It was brought out as a compromise between IPS and TN. Thus taking a hit in response time and colour-depth while having a wider viewing angle.

- **PLS**

Plane Line Switching – a recent development which would fit in between VA and e-IPS. It boasts of better viewing angles, low response time and comes with low contrast ratio.

- **Blue Phase**

Blue Phase Mode LCDs have very high refresh rates and subsequently low response time (1 microsecond is the least so far). Panels with refresh rates of 240 Hz have been manufactured.

Plasma

Plasma displays consist of miniature cubes filled with inert gases and mercury that when struck by electricity light up the respective phosphorous coated cube to light up a pixel. Since there is no light when the cells are off, the blacks produced by plasmas were considered to be the best. A major disadvantage to plasma displays are that if an image is displayed for long durations on the screen then it'll create a "burn", i.e. a watermark like appearance will permanently be present on the screen.

OLED

Organic Light Emitting Diode – these are organic semiconductors which give off light when a charge is passed across them. They are less power consuming, can be printed onto substrates. Subsequently they are used to create flexible displays with a response time as low as 0.1 microsecond. Also, they have wider viewing angles.

- **AMOLED**

Active Matrix OLED – are used more commonly to create panels for mobile displays but can be scaled up easily to produce large format displays. Active matrix displays have the ability to switch on individual elements for each pixel.

- **Super AMOLED**

This term is more of a marketing jargon for AMOLED panels which have a digitiser built into them rather than being an overlay.

e-paper

- **Gyricon**

These displays consist of individual charged particles which are dark on one side and light on the other, suspended in oil. They are embedded into a thin plastic sheet sandwiched between a pair of electrodes. When an electric charge is applied to electrodes on either side of the particle, it aligns itself. The charge need only be applied once and the particles will stay that way till realigned.

- **Electrophorectic**

Similar to gyricon, electrophoretic displays have small capsules filled with ink and titanium dioxide particles, which are similarly embedded in a plastic substrate. The smaller the capsule, the better the resolution. Most e-book readers in the market today use this technology.

Foldable displays

When implemented as a screen, the display surface is tracked by an infrared camera to map out the surface. Once done, visible light is projected onto the surface to create the image.

Then there are panels which are made out of organic TFT which allow for thin displays that can be rolled up or laid out on any surface to make it a display.

DLP

Digital Light Processing – uses a matrix of microscopic mirrors laid across a semiconductor chip (Digital Micromirror Device). Each individual mirror is triggered to reflect light through the projector lens or onto a light dump. Each mirror or each pixel can produce 1024 shades of grey. This DMD is then synchronized with a colour wheel which rotates really fast in front of the DMD. Hence, each shade of grey is converted into a shade of colour.

Parameters

- **Response time**

The time taken for a pixel to change from one state to another. Measured commonly as (Tr+Tf) where it's the total time taken for a pixel to change from black->white->black. The lesser the better.

- **Pixel pitch**

Refers to the distance between pixels. The lesser the PP, the smaller and sharper the image.

- **Colour Gamut**

Refers to the range of colours a display can produce, this has more to do with the backlight of the panel.

- **Refresh rate**

Tells you how fast the screen can draw an image. On a CRT monitor, it says how fast the cathode ray gun can refresh the entire image.

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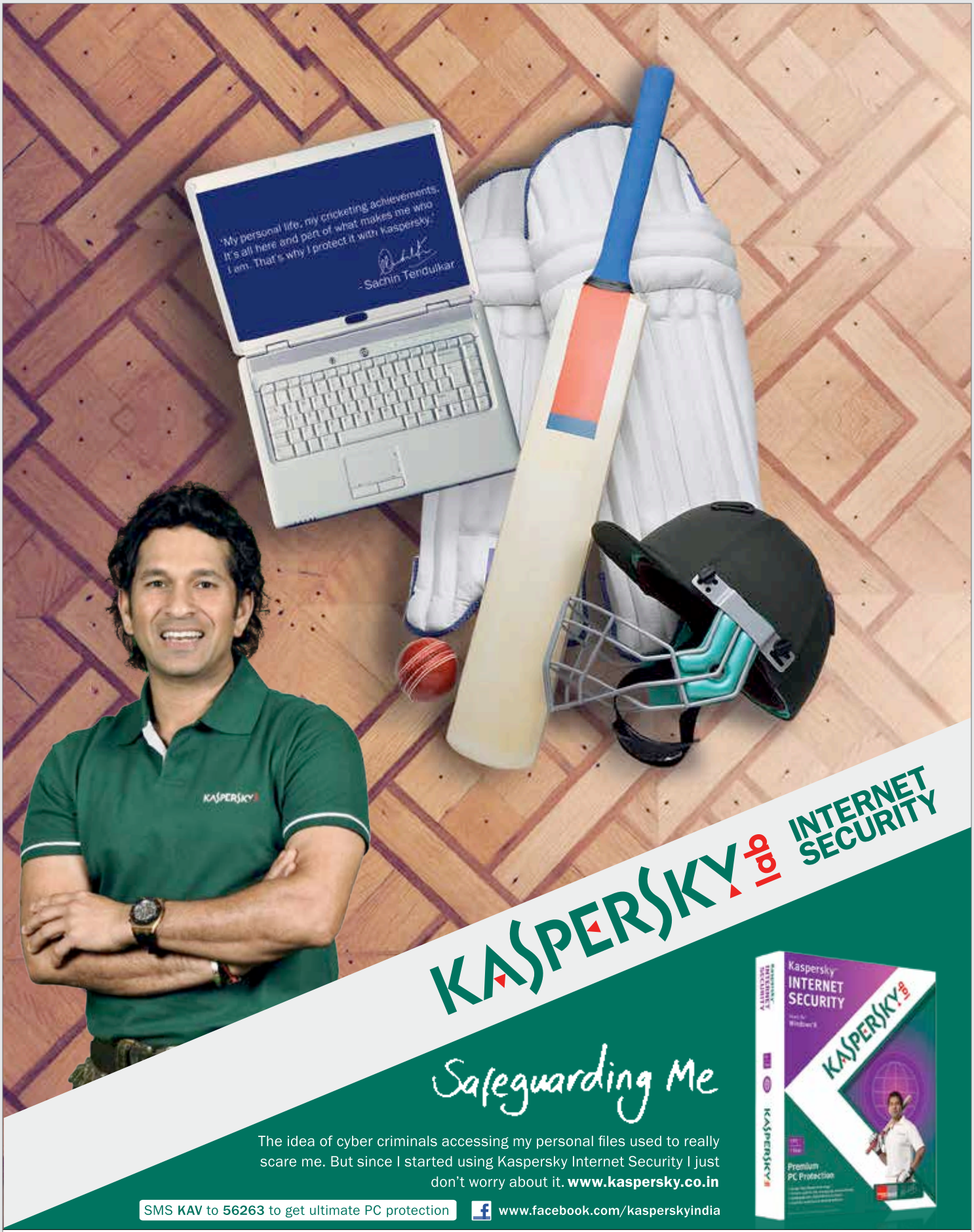
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