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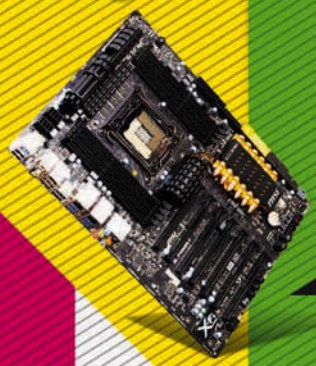
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Improvement vs innovation

In the course of speaking to readers, arguing with other team Digit members, and friends, I'm a little tired of the way we all tend to over-use words and phrases such as "innovation", "out of the box", "pioneers" etc. If anything, we need someone to innovate and come up with a new word. Apple came up with a pretty catchy one... The new iPad is advertised as "Resolutionary", because of the "Retina Display" it features.

It's a great display (built by Samsung), with a resolution of 2048 x 1536 – that's double the size of the older model's 1024 x 768 screen (or 4 times the area). Games and apps will eventually look amazing, but it will take some time for app makers to catch up. In fact, there were initial complaints about the Apple-limited 3G download size (20 MB) for Apps (later increased to 50 MB), since developers needed to double the resolution of images included in their apps for the new screen. Some early adopters also complained about the device getting too hot with prolonged use... but we'll reserve our judgements for when we review it ourselves.

Anyway, I didn't bring that up to bash Apple, because I'm sure it will eventually turn out to be a great device, once developers learn to exploit the potential of all that's new.

However, I did bring it up to illustrate the point that, much like our desktop and laptop screens, tablet screens were bound to increase pixel density and quality – that's exactly why display manufacturers spend billions on R&D. There's a difference between the simple improvement of technology and innovation.

I'm not trying to say that fitting 3.1 million pixels into a 9.7-inch screen was not tremendously hard work for Samsung, because it obviously was. Rumours have it that LG and Sharp were also in the running, but failed to deliver a suitable display. Apple's designers have also probably spent inordinate amounts of time to fit in a much more powerful battery in almost the same volume of space.

However, forgive me for sounding a little jaded, but that's not real innovation. Steve Jobs' undivided insistence for usability and sleekness of products was innovative. In fact you could perhaps use all the superlatives you like, because the results he achieved are phenomenal.

Technology innovation is not just being stymied at a product level, actually, it's more a case of it happening at the company level as well. A recent article in Inc., titled "Have Tech Start-ups Lost Their Sense of Fun?" speaks about this worrying trend. People somehow have forgotten to try and make something innovative, crazy, and tremendously fun. Instead, it's all about becoming a huge success. "There was a time when people building things on the Internet didn't have a dream to be one of the biggest companies out there; their goal was not to be the next General Motors," writes Erik Sherman in the article.

Actually, that's exactly what big companies such as Microsoft, Google, Facebook and Apple have going against them – they're too big to try out things, or take the silly yet fun route. Yes, even Google, despite having "Innovation Time Off" 20 per cent of the time! Smaller companies, or startups have the liberty to try new things, but don't necessarily do so. It can't always be fun and games, of course, but crazy innovators could certainly do with a wider berth.

Instead of being allowed to go wild with code, or try out innovative features, developers these days seem to focus more on enticing you to part with as much user data as possible – as we discussed in last month's cover story, your data is a gold mine to everyone running an online business these days.

Even the adult industry seems to have gone cold – surprising, because they used to be amongst the most innovative businesses at one time. HD-DVD died, because they chose Blu-ray. In fact, we owe a lot to them – streaming videos, web cam chatting, online payment gateways, broadband, online networking... all driven by the need to access the forbidden. However over the past few years, nothing! Actually there are reports of new "sensing" technologies being experimented with... but this is neither the place nor the time...

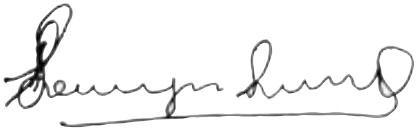
Team Digit has also argued often about whether there ever will be another garage startup to make it big. Many are of the opinion that any new and innovative service or product would just be assimilated into one of the bigger names via buyouts, takeovers or by patent lawsuits. I certainly hope not, because I would love to write about Indian companies or entrepreneurs that believe otherwise, and make a real mark for themselves by being truly innovative; and hey, even if your idea doesn't make you a Zuckerberg, there's nothing really wrong with going the Sabeer Bhatia way, is there?

Write in to us, if you're are doing something truly innovative, or even if you just have an idea, and we'd be happy to give you feedback, feature you in Digit, and help any way we can.



Robert Sovereign-Smith
Executive Editor
editor@thinkdigit.com

"Instead of being allowed to go wild with code, or try out innovative features, developers these days seem to focus more on enticing you to part with as much user data as possible"



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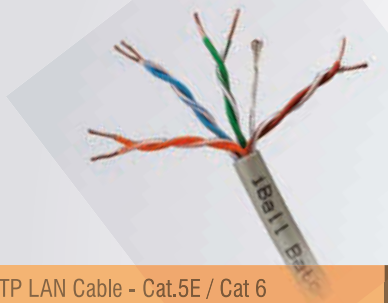


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Rovio launches Angry Birds Space for iOS, Android, PC and Mac, in collaboration with NASA. **http://dgit.in/GKULNM**

Feedback about the March 2012 issue of Digit



✉ Thanking Team Digit for sharing the kind of topics it does with us. It's ok if everything we do on the internet is being recorded until it's shown to our parents/social networks. If we have have the right to information then as service providers there's nothing wrong with their right to information and being able to record our searches/keywords. Although they also make money from this (as you mentioned, we saw Facebook doing it), I'm waiting for the day when they'll give us some share of the benefit they make. After all, we're the ones using their services.

Harsimran Singh

That is the dilemma. These companies will share your information with advertisers, but you will not get a cut out of it. Simple reason being, you are using their services volutarily, so they are not obligated to share profits with you. But a lot of groups/individuals around the globe are trying to keep this at a respetable level. Of course that does not take away from the fact that your activities online are being monitored at some level or the other.

Jayesh

✉ I'm a regular Digit reader and writing to you for the first time. I'm a student and have great interest in programming and development of apps and games.

I have my own web site and have also created many apps by your help as well as from the Fast Tracks.

Because of your magazine I'm famous in my class as a tech guru and programming head. I love Actionscript 3.0 and Flex. I have some suggestions for you:

- Provide an article or a section in the magazine for flex development, and also for allaying doubts of programmers, since I myself have many.
- Please provide latest build of Flex and Flash Builder (in my case it's Flash Builder 4.6) in your next month's DVD along with suitable tutorials for budding programmers.
- In February's DVD you provided SDK 7.1 but I have problems installing it. It talks about installing visual studio service pack 1. Please help.
- Info and tutorials on Windows Phone 7 development and Unity development.
- You're the best tech magazine I've ever read. The devworx section is very good, but in that section, suggest to have some space for mobile development and basic programming, and... keep up the good work as you guys are the best.

Ritvik Choudhary

Thank you for writing in. We're watching the mobile development space closely and look forward to covering relevant developments across platforms regularly. You must take a look at the Mobile App Development booklet, which is available as a free download at http://dvwx.in/mab-mar-12.

We will definitely consider your suggestions and discuss them in our future edit meets.

Nash

✉ In 2008, I discovered Digit. After seeing its software collection, I just became crazy about this magazine and purchased it monthly wherever I saw it. Last year in December,

I requested my dad for subscription to Digit magazine and guess what? I, along with my friends are now subscribed to it for 6 months. They said it's really awesome and hats off to you all for the software, latest gadget updates, latest games updates and much more. Can you please help me out regarding the the following:

- I read the March edition in which the camera updates given are pretty nice. I like taking photographs of nature animals and many more things. Can u provide any Fast Track edition for photography.
- I used to play games on my PC for 4-5 hours, but nowadays get bored while playing the same games. Can you give the game update magazine SKOAR! separately as me and my friends like it the most.

At last, on behalf of my friends, I'd like to thank you for such a great magazine.

Sameer Mukherjee

Hi Sameer, Happy to know that you and your friends are crazy, die-hard Digitians. Keep the fire to learn alive. We recently did a Fast Track to Photography. Check it out in the Thinkdigit store at http://dgit.in/GX7MR4 where you can buy it independent of the magazine and DVDs.

✉ I'm very disappointed with this month's DVD content. Especially the tutorial videos, PDFs for AIEEE, IIT and XII class papers. The poor quality PDFs are not readable and the tutorial videos are not clear. Moreover, who's going to watch them instead of doing revisions of their own text

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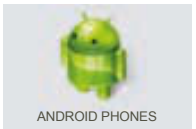


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ANDROID PHONES


TABLETS


SMART PHONES

MORE CATEGORIES

SLICK USER INTERFACE

The new site sports an intuitive user interface by incorporating multi-level navigation panes, search filters and tools like product finders to ensure a smooth user exprerience.





FRESH DESIGN



SOCIAL CONNECT





Toshiba PS20 TVs Launched
Toshiba launched the PS20 Power TV lineup, featuring a narrow 17mm bezel and the Regza engine, starting ₹32,990. **http://dgit.in/GMjZb5**



Durango Delayed Till 2013
Microsoft says that we will not see the next generation Xbox console announced in 2012. **http://dgit.in/GKV4Ix**

LETTER OF THE MONTH

✉ Six years back I started reading a magazine that soon became my true technology navigator;I still remember, it was sometimes back in year 2006 which featured XBOX 360 as the cover story with Office 2007 Beta packed in the DVD, It's been a very long time and I am writing my first letter to one of the most wonderful teams on this planet in the field of Technology. Over the years I have seen Digit changing with sections such as Sci-Techs, Toolbox, World View etc. One of my favourites is devworx since I love creating things which are as good as you guys are, but I really miss some of your really interesting things which include Beat That!,BlogWatch And DigiPick but I'll manage with that. Last Issue was one of the best issues I have ever had and Let me tell you the reason behind this, the cover story "Why Facebook Might Fail" and its other secondary stories, It was really a barnstormer for me as I have also developed a social networking website which I call Soclbox (pronounced as Socialbox) which is currently running on www.soclbox.com with updates in sites functionality day by day, which I developed keeping in mind what people hate on Facebook, and what they would love to have on Social Networks. Thank You Team Digit especially for this issue and navigating me over the years. Last but not the least you talked about the unknown competitor in your cover story, I would love to be that "Unknown Competitor". I will be very pleased to have your hands on my social networking website at least once and feature it in one of your smallest columns if you can. Here are some points that I'd like to put across: Please include a Windows 8 App Development Fast Track in your forthcoming issues.It will be a good idea if you feature Open Source Every month in the magazine. Thank You Very Much Once Again to the Whole Team Digit.

Raj Ankur Singh
Student, B.Tech, IT (Sunder Deep Engineering College, Ghaziabad)

Nothing fills our chest with more pride, then when one of our readers goes out and creates something from the things he has learnt via the magazine. We will definitely try out your website and have mentioned it here, so that more readers register on your site. More feedback will only help you make your site better. And we also hope that the 'Unknown Competitor' is a Digit reader. All the best.

Robert

books? Or revising their own notes from their respective coaching classes. Anybody who can afford to buy Digit can definitely go to a decent coaching institute.

Moreover, the movie trailers are outdated. Movies such as "The Tree Of Life" and "Safe House" are already released. It seems to me that the quality of Digit DVD content and magazine are depreciating month-by-month; which is why I'm writing this message to you guys. This needs to be fixed.

There's always something quite appreciative in your work which nullifies the overall critics. But believe me, please limit the number of DVDs to one if you're not content rich. By this message/text I'm not being rude; please don't take it that way. I'm just being an optimist.

And yes, as far as the video tutorials are concerned; they're quite decent in terms of the knowledge they provide, but are not quite good enough in terms of quality. Thus, what's the use of simply wasting so much disk space. Take an example of videos from "Lynda.com" which are of great quality and optimized size.

Jatin Sharma

Hi Jatin,
Going slightly on the defensive. We received the PDFs of exam papers from website a called cbseguess.com and we agree that they weren't crystal clear. We'll make sure to only have high-quality PDFs in the DVD next time. Regarding the Khan Academy videos, even they themselves don't have high quality versions. We scrounged through nearly all the mirrors but we couldn't find anything better, but this is an issue in the older videos. They have excellent high quality videos at http://dgit.in/GOKBfN, if you'd like to check them out. Also, these videos are not meant for last minute revisions; they're meant for everyone from 5th graders to engineers.

The trailers though, were a debacle, the movies were released in the first week of March and we actually hadn't anticipated that. We'll keep in mind to check the release dates of movies before bundling the trailers from the next month onwards, making sure the videos we bundle aren't outdated by the time the magazine is out. We always welcome criticism, feel free to send in whatever you feel about the Magazine or the DVD good or bad.

Jait

✉ Hello Sir, i am Sailendra from Assam. I am a big fan of your magazine.The product reviews are very helpful for the readers. Because of my financial condition it is not possible to read ur magazine regularly but whenever i can manage the money i purchased it.Recently i read your December collector's edition.The pdf versions of previous issues are very helpful for my knowledge. I want to know that is it possible to purchase the products reviewd by ur magazine through your website.

Sailendra

The Digit Store currently only sells magazines and Fast Tracks. We do not sell the products we review through our website, but you can always make use of the Contact Details section to get information on where to purchase the reviewed products. You can always keep checking our website for the latest reviews, if you cant get the magazine.

Jayesh

CORRIGENDUM

In the Security Fast Track of March 2012 issue, an older image of Kaspersky Internet Security 2010 was erroneously printed on pg 29. The box shot should've shown the latest 2012 version instead.

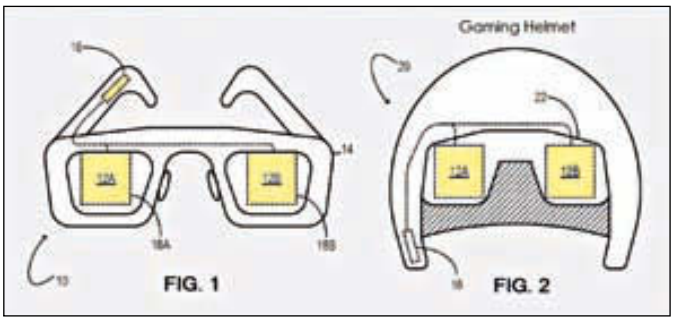
Photoshop Touch for iPad
Adobe has launched its beloved Photoshop Touch app for the iPad 2, or iOS5, for $9.99.
http://dgit.in/GMjRZn

Samsung Smart TVs Launched
Samsung has rolled out a new Smart TV range at its South West Asia Regional Forum held in Bangkok.
http://dgit.in/GMjU7g

Microsoft's recent patents include sci-fi goggles and helmet

Microsoft appears to be taking augmented reality pretty seriously. The software giant has a pair of new patents detailing projector eyewear technology for use with a game console like the Xbox 360 and with future mobile devices.

The first patent describes a full-on helmet with attached, visor-like eyepieces and appears to be intended for Xbox gamers, according to one report. The second reveals eyewear that resembles a pair of sunglasses—that's the tech Microsoft would attempt to integrate into future smartphones, media players, and other mobile devices, so it makes sense that it comes in a form that people might actually want to wear out in public.



A schematic of the gaming headset alongwith the goggles

What precisely Microsoft is planning to do with its projector eyewear technology is still unknown. The company could use stereoscopic capabilities—projecting slightly offset versions of images to each eye—to create a 3D effect, particularly for the gaming helmet. The patent also notes that eyewear may be partially transparent. That points to augmented reality uses, since the wearer would be able to see both external objects and the virtual display images, possibly with text and images layered over real-world objects to give users information about said objects.

Nokia Asha 303 launched, 3G Touch and Type at ₹8,999

The much-awaited Nokia Asha 303 has been launched in India, priced at ₹8,999. Vodafone customers will get special introductory tariff plans, with 1GB of free 3G data per month for the first four months. Asha 303 will also come with a subscription to the DRM-free Nokia Music Unlimited service, and feature Zenga TV, and Whatsapp, preinstalled, amongst other apps.



The Series 40-based Nokia Asha 303 is a Touch and Type device, featuring a 2.6-inch capacitive touchscreen with a 320x240 pixel resolution and 256K colour gamut, apart from a full QWERTY keypad. Other specifications include a 1GHz processor, 128MB of RAM, 256MB ROM, 100MB user available built-in storage expandable up to 32GB via microSD, and a 3.2MP fixed focus camera.

In terms of connectivity, the Nokia Asha 303 features 3G, Wi-Fi 802.11 b/g/n, Bluetooth 2.1 with A2DP and EDR, stereo FM with RDS and USB On-the-Go support. It features a 1,300 mAh battery, which gives up to 47 hours of continuous music playback, 8 hours of talk time, and 720 hours of standby time.

Facebook postpones privacy policy changes



The social networking giant had stirred up a new controversy as it planned to make various changes to its privacy policies, changes that included removing the word "privacy".

Facebook argued that the changes would be applicable for users across the world. Among all major changes the name of its user privacy policy will be changed from "Privacy Policy" to "Data Use Policy". The social networking company had also posted a PDF document which features all the changes that it intends to make in the near future.

In the document, Facebook also spoke about complying with the local laws and deal with users who do not use Facebook.

Earlier, Facebook spokesperson Barry Schnitt in an interview with CNET said that change was incorporated in the company's privacy guidelines more than a year ago. "We're just making the Terms consistent," he remarked. The spokesperson points out that the document featured many other wording changes, but they do not "outline any meaningful modifications to the company's practices".

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Konami joins Zynga
Zynga has announced three new partners for its independent gaming platform, Zynga.com – Konami, Rebellion and Playdemic. **http://dgit.in/GEo00A**

Sega joins Origin
EA's Origin now hosts games from Sega, Team 17 and other studios, bringing the total up to 35. **http://dgit.in/GEnTCn**

Samsung shows ultrabooks and cameras

Samsung Electronics unveiled the refreshed Series 9 ultrabooks at its Samsung Forum 2012 event in Bangkok. It boasts of the world's thinnest notebook chassis. Also introduced were the Series 5 Ultra laptops, available in 13-inch and 14-inch versions. A second generation Intel Core i5 processor powers this series, with up to 8GB of RAM and an ATI HD7550 Graphics card as optional. There are both the HDD and SSD options available, up to 1TB. These laptops will be priced between ₹48,990 and ₹54,390.

Samsung also introduced a series of SMART cameras, with the Wi-Fi enabled WB850F leading the way. This long zoom camera comes with 21x optical zoom in a compact design. The Wi-Fi Direct feature lets users upload and share their photographs and videos right from within the camera. The WB150F has an 18x optical super zoom and a 14.2 MP sensor. Also unveiled were a range of premium audio docks, with the Vacuum Tube amplifier technology. The docks will support a wide range of devices, thanks to the dual docking station.

Photoshop CS6 has something for everyone

Adobe's carefully leaking the sexiest new features of Photoshop CS6 prior to its official announcement, but many of the most important changes haven't been public until now. CS6 is a major overhaul of Photoshop, starting with the user interface — long in need of updating — and continuing through just about every filter and tool. There is something for everyone in the update, with many of the changes worth more than the price of an upgrade for serious users.



The UI in Photoshop CS6 resembles and has a very Lightroom-like look and feel. The sleek, sparse, dark default skin helps focus attention where it belongs — on the images and videos being edited. For serious photographers, the Camera Raw screen is the one they'll see first and use most for the majority of their images. ACR, as Adobe Camera Raw is known, has been redesigned for CS6. For this, its seventh revision, Adobe has normalized all the sliders to make them less confusing. Read the entire article here: http://dgit.in/PhoShoCS6

Twitter turns six, with 140mn active users

Little over six years ago, on March 21, 2006, Twitter founder Jack Dorsey posted the very first public tweet on the micro-blogging platform. "Just setting up my twttr," he wrote. Back then, Twitter was not much more than a vision Dorsey had sketched on a piece of lined notebook paper.

In the years since, Twitter has skyrocketed to be named among the giants of the social media world. "Without you, of course, there wouldn't be a Twitter," a blog post read on its website. Twitter said back in September announced



that it had reached 100 million active users. In January, Twitter CEO Dick Costolo said the company is planning to be around for many years to come, but has no immediate plans to go public. "We are going to be really patient about the way we build the business," he said. "We are trying to build a decades-long, lasting business."

Rovio launches Angry Birds Space for iOS, Android, PC and Mac

The battle between the angry birds and pigs has now gone into the space as Rovio in collaboration with NASA launches sequel to its popular mobile game - Angry Birds Space.



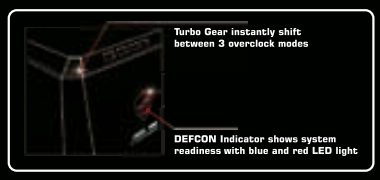
The Angry Birds Space has launched on App Store, Android and for the PCs and MACs. The new Angry Birds is said to have new twists as compared to previous sequels of the game. It has now new characters and a new physics in the game, which is obviously because the game has arrived in an environment with all new gravitational dynamics. One of the notable additions is the new power-up called Space Eagles. The power-up is available via an in-app purchase or progressing throughout the game. Read more: http://dgit.in/GKULNM

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Chipset	: Intel® H61
Memory	: 2GB DDR3
Graphics	: Integrated Intel® HD Graphics
HDD Storage	: 500GB
Optical Drive	: 24X SuperMulti DVD burner



CM6830 (i5)

Specification:

CPU	: 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



CG8250 (i7)

Specification:

CPU	: Intel® Core™ i7-2600 Processor
OS	: Genuine Windows® 7 Home Premium
Chipset	: Intel® H67
Memory	: 8GB DDR3
Graphics	: GT 545 3GB DDR3
HDD Storage	: 1TB
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C&C: Tiberium Alliances
Phenomic, the EA studio known to develop free-to-play games, announced Command & Conquer: Tiberium Alliances **http://dgit.in/GKVv5z**

Twitter acquires Posterous
Twitter announced it will be acquiring Posterous, a blogging & content sharing platform that is a direct competitor to Tumblr. **http://dgit.in/GEIKVp**

Nikon 1 V1 and J1 mirrorless ILCs launched



Priyanka Chopra, Hirotake Nozaki, Masahiro Suzuki and Hiroshi Takashina launch Nikon 1 series

Nikon launched their mirrorless interchangeable lens compact cameras - the lower end Nikon J1 and higher end Nikon V1. Both these cameras sport the 10 MP CX sensor which has a 2.7x crop factor. While the V1 sports a dedicated viewfinder, the J1 comes without it. These cameras sport a whopping 10 frame per second burst shooting mode and offer as many as 73 selectable focus points to choose from in the single-point AF mode.

An innovative feature in these cameras is the Motion Snapshot which takes a still image and a second long movie vignette playing it back at 2.5x slow motion. The other interesting feature is the Smart Photo Selector which takes 20 shots before and after you press the shutter release button and then selects the best out of those shots.

The pricing of the camera with the various kit lens is as follows:

- Nikon 1 V1 with 10-30mm lens - ₹43, 950
- Nikon 1 V1 with 10-30mm + 30-110mm lens - ₹53, 950
- Nikon 1 J1 with 10-30mm lens - ₹29,950
- Nikon 1 J1 with 10-30mm + 30-110mm lens - ₹39,950
- Nikon 1 J1 with 10-30mm + 30-110mm lens (special pink kit) - ₹40,950

A 4GB SD Card comes bundles with both cameras.

Videocon to shut down its GSM services in most circles

Videocon Telecommunications Ltd, is reportedly going to shut down its services in most circles in India following cancellation of its licenses by the Supreme Court. The apex court had recently scrapped as many as 122 telecom licenses issued under a scam-tainted 2008 sale. According to reports, Videocon is going to wind up its services in all circles excluding those having over 5 lakh customers. Circles namely Tamil Nadu, Punjab, Haryana, Mumbai and Maharashtra have the largest Videocon subscribers base.

Videocon Telecommunications Ltd, previously known as Datacam, had got the 2G licenses for 21 telecom circles. The company did not launch the GSM services for following three years. In Feb 2010, Datacom was rebranded as Videocon Telecommunication Ltd. A month after rebranding, Videocon rolled out GSM services in Coimbatore.

Few weeks back, Videocon had said that it would continue its 2G operations and participate in the forthcoming spectrum auction.

Videocon will be the third operator to wind up its operations in India. Earlier this month, STel and Cheers Mobile also shut down their services in India.

Zync launches Android 4.0 ICS-based Z-990 tablet for ₹8,990

Competition in the budget tablet segment has continued to intensify. The latest entrant in the market is Zync's Z-990, which the company touts as India's first Android 4.0 Ice Cream Sandwich tablet. Priced at ₹8,990, the Zync Z-990 runs a powerful 1.2GHz processor with 1GB of RAM.

The Zynch Z-990 has a seven-inch display with 800x480 pixels resolution and 0.3MP front facing camera. It has 4GB of internal storage. For connectivity, the device supports Wi-Fi, 3G, and USB 2.0. The device is available at online retail store Letsbuy for ₹8,500.

Zync says the Z-990 is India's first ICS tablet with features such as control over data usage, new gallery app with photo editor, new lock action, new user interface, new camera capabilities and five point touch.

Earlier we'd reported that Micromax's P-300 was the first tablet in India to run on ICS operating system. The device was spotted on online store HomeShop 18, which had then listed it as "out of stock". However, the website later pulled that image and name of the device.



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Compatibility Assured: ASUS P8Z68/GEN3 series motherboards are pre-tested for PCI Express 3.0

ASUS P8Z68/GEN3 series is the first motherboard range with genuine compatibility for PCI Express 3.0 support. Lab-tested to confirm quality, reliability and performance for users wishing to upgrade to PCI Express 3.0 in the future, the new motherboards ship with upgraded hardware and native BIOS support for next generation Intel 22nm processors. These motherboards are not only primed for today's PCs that use PCI Express 2.0 graphics cards, but all future upgrades as well.

PCIe 3.0 Requirements : What you need for compatibility

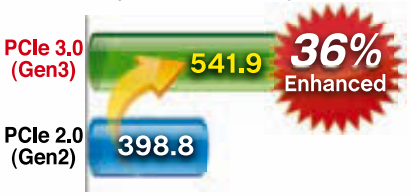


Technological Requirements to Run PCI Express 3.0

PCI Express 3.0 is the next generation specification that boosts performance 2x from 16GB/s to 32GB/s over the same 16x physical connection. However this requires an upgraded set of components; including a motherboard with PCI Express 3.0 switching IC that has completed compatibility testing for the physical layout to measure performance quality and link reliability, a next generation Intel 22nm CPU and a compatible BIOS. At the moment, only ASUS has committed itself to this assured QA process before shipping its motherboards, in order to guarantee consumer confidence in its products.

PCI-Express 3.0 Performance Comparison

PCIe 1x 3.0 / 2.0 Performance
CrystalDiskMark (Seq. Read MB/s)



Test Configuration: MB : P8Z68-V PRO/GEN3 I DRAM: Elixir DDR3 1600 2GB*2 I SSD: Intel SSD 320 I O.S: Win7 Ultimate 32bit I ASUS PCIe 3.0 Bridge Card I OCZ RevoDrive X2 OCZSSDPX-1RVDX0160 PCI-E 160GB

PCIe 3.0 VS. PCIe 2.0 : Double Bandwidth! Enhanced Performance!

PCIe Architecture	Raw Bit Rate	Max Total Bandwidth for x16 Link
PCIe 2.0	5.0 GT/s	16 GB/s
PCIe 3.0	8.0 GT/s	32 GB/s

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Android Market more unified as the Google Play Store



Google is taking a leaf out of Apple and Amazon's book by unifying its digital content under one roof for Android devices. Called the Google Play Store instead of the Android Market, the store will bring you Google Music, Movies and the Google Books in addition to the existing library of apps.

Users will be able to manage their content with greater ease and an app downloaded on one Google-powered device will reflect on your other Google -powered devices thanks to the power of the cloud (sounds like iCloud?).

Users will be able to store 20,000 music files on the cloud. You can store both, the files you purchased from the Google Play Store and your own collection. You can't store movies though.

The expansion of the library will help Android device users find a larger variety of content in one place making it a one-stop shop for apps, books, music and movies. Since the service is new, Google will offer special deals to attract customers to explore the new offerings.

The marketplace has over 45,000 mobile apps and Google plans to add four million books including free titles and over 13 million songs and movies to the Google Play Store.

Google in punishment mode

Google will penalise web sites that are overly optimised (with excessive keywords or link exchanges) for better search results. The search engine giant is currently working on a new set of tweaks to its "GoogleBot" that will identify such web sites.

SearchEngineLand.com quoted Google's Matt Cutts as saying that the web sites with great content are far more deserving for rankings than the sites with average content but backed by a better job with SEO.

Google's recent semantic search capabilities will help it directly answer users' questions and search queries instead of providing list of sites that might have the information they seek.

I&B Ministry joins Facebook

The Ministry of Information and Broadcasting has decided to use the power of social media to address issues related to digitalisation. The ministry has created a Facebook account, through which it also aims to have more direct communication with the key stakeholders. The Facebook account is likely to help the ministry create more awareness among public about its policies and take up a wide range of public concerns.

The ministry's Facebook account features answers to some of the frequently asked queries and also provides users with direct links to other organisations associated with digitisation. The government officials hope that the ministry will now efficiently deal with stakeholders such as multi-system operators and cable operators as well as serve as a source of information for individuals.

It's learnt that the ministry plans to complete the digitisation of the Cable sector by December 31, 2014. In the first phase of the plan, the ministry will digitise services in the four metropolitan cities of Delhi, Mumbai, Chennai and Kolkata by June 30 this year.

Web censorship row update

In a major relief to the internet companies locked in the web censorship row, the Delhi High Court has rejected charges of hosting offensive content against Microsoft India. The HC accepted Microsoft India's plea that the company didn't provide material to users to interact with each other or post their views. The court further asked the complainant Vinay Rai to file a fresh complaint if he comes across any credible evidence against the web site.

Earlier, Rai had moved the trial court against as many as 21 web sites including Microsoft, Facebook, Google and YouTube for allegedly hosting offensive content. Metropolitan Magistrate Sudesh Kumar had issued summons to the companies to face the charges of hosting obscene content punishable under IPC 292 (sale of obscene books and material) and 293 (sale of obscene objects to young person).

The court, in one of its initial hearings, had warned of bringing in a China-like ban on the internet. The government has already asked the Internet companies to set up a proper monitoring mechanism on social networks.

Facebook launches Interest List

Facebook has announced a new feature called the Interest List that allows users to compile "interest lists" around topics. The top stories from each interest will appear your newsfeed. The new feature, to be rolled out in the coming weeks, will allow users to create a list in which they can subscribe to their friends, brands, celebrities and others present on the social network.

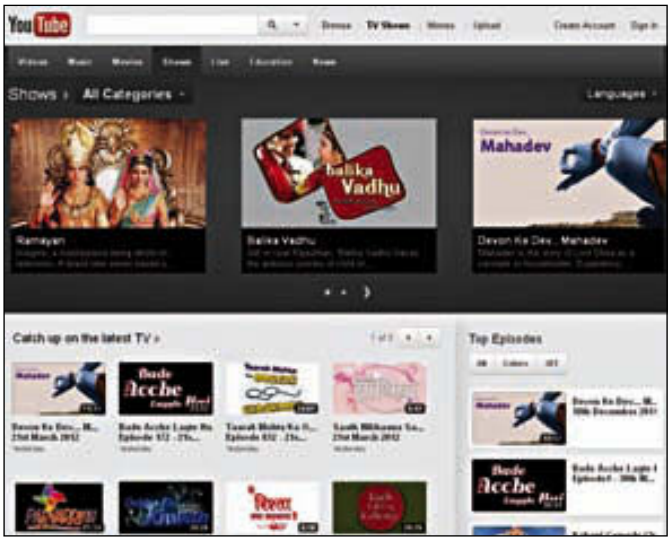


This feature is similar to Twitter's list feature or Google's Reader, which allows users to create a small list of subscribed social news. However, Facebook's Interest List is much easier to curate and customise news feeds. The social networking giant says that its new feature turns the service into a personalised newspaper. Facebook users can create their own lists and share them, or can keep them private. Users can also subscribe to lists shared by others.

"You can find traditional news sections like Business, Sports and Style or get much more personalised – like Tech News, NBA Players and Art Critics," wrote Eric Faller, a Facebook software engineer, in a blog post.

With the new Interest List, Facebook is now trying to fill up gaps and keep its users from wandering onto and moving to other social networks. Only recently, it updated its photo viewer. The new Interest List will definitely allow Facebook to grab the attention of those who've been using other social networks such as Twitter and Google+ to create personalised information.

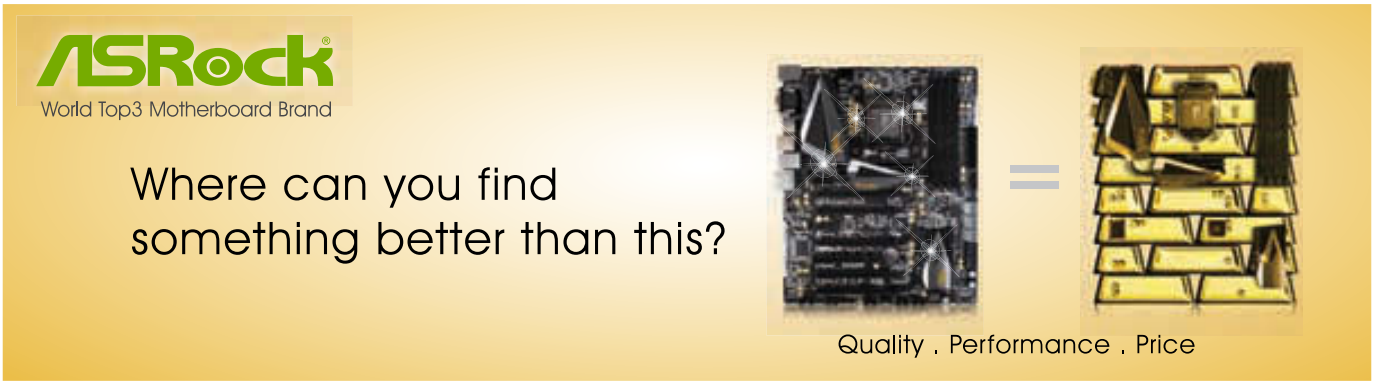
Missed an episode?



Google's video-sharing web site, YouTube, has updated its TV Shows page for Indian viewers, making sure that they never have to miss another episode of their favourite soap opera. The updated Shows page on YouTube India features various new shows from the Indian channels that users can now enjoy. YouTube says that the TV Shows page now offers over 19,000 full episodes of as many as 300 programmes in Hindi, Tamil, Telugu, Bengali, Gujarati and Punjabi. We don't know of any other service which does this sort of thing.

Broadcasters such as Sony, Colors, Imagine, Star and Vikatan already have their own channels on the web site. The update to the Shows page will help YouTube consolidate all those channels in one page.

You'll find programs in the genres of drama and comedy, as well as the latest and top watched episodes featured on the page. In case you missed the last episode of *Bade Acche Lagte Hai*, it will be right there in the channel waiting for you to view it. If you're looking for a few good places to start, check out the popular shows like *Balika Vadhu, Ramayan, CID, Devon Ke Dev.*



Look who's back
Vodafone India and Timbre Media will provide WorldSpace Radio on mobile handsets in India **http://dgit.in/GEHDFm**

Ultra low-cost smartphones
Sunil Mittal, CEO of Bharti Enterprises wants smartphone prices to come down to as low as $50 (around ₹2,560) **http://dgit.in/GEK0ba**

Mozilla tackles walled gardens, demos "Boot to Gecko" mobile OS

Browser-maker Mozilla showed off the progress made on its Boot to Gecko project at Mobile World Congress. It's the development of a "complete, standalone operating system for the open Web".



The concept, first announced in July, is intended to do away with the "walled garden" approach of today's modern mobile operating systems", said Johnathan Nightingale, senior director of Firefox engineer.

Nightingale likened today's mobile OS situation to the closed nature of Macs and PCs 10 years ago. "Now, if you buy an Android phone and you buy a bunch of apps for it and you get an iPad 2, you're out of luck. You need to buy those things again. And that doesn't feel great to us. However, when you peel back the covers, most of those apps are actually HTML5 Web apps with an added veneer for iOS, Android, or whatever store to which you're submitting."

"So we said, and this is what Boot to Gecko is, what if we just didn't do that? What if we just blow away that middle layer and say, the Web runs directly on the phone?" he said.

At MWC, Telefonica announced plans to support the creation of B2G-based open Web apps, as did Qualcomm, Adobe and Deutsche Telekom.

Nightingale demoed what B2G might look like on a Samsung Galaxy S II. After swiping to enter, up popped six tiles with options for the dialer, messages, browser (Firefox, naturally), maps, cameras, Facebook and more. The UI was bright and intuitive, and Nightingale easily swiped through the various screens and apps, playing video and launching a game.

Mozilla announced that its B2G app store is now open for submissions. More details are available at Mozilla.org

Sony introduces the Xperia P, U and Sola

The Xperia P, Xperia U, and Xperia Sola will run on a 1GHz dual-core NovaThor U8500 processor and Android 2.3 Gingerbread at launch in Q2 2012, but will get an Android 4.0 ICS upgrade soon after. Prices haven't been revealed yet. All three devices are smaller versions of the Xperia S, and feature no SD card slot.



The Sony Xperia P – formerly known as the Xperia Nyphon – has a brushed aluminium finish, and runs on 1GB RAM. It has a 4-inch (540x960 pixel) resolution display with "WhiteMagic" technology, a 1080p HD-capable 8MP camera, front-facing VGA camera and NFC connectivity.

Sony Xperia U (Kumquat) features a colour-changing band at the bottom. It also features a 3.5-inch "Reality" display, 512MB RAM and a 5MP camera.

The Sony Xperia Sola (Pepper MT27i) has a "floating touch display" that will allow users to navigate with fingers a few millimetres above the touchscreen. It has a 3.7-inch display with the Mobile Bravia engine, 512MB RAM and a 5MP autofocus camera.

READ MORE AT:
http://dgit.in/GR9syR

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Nokia's 6 new mobiles

Nokia unveiled six devices at MWC: Lumia 610, Lumia 900, PureView 808 and Asha 302, 203 and 202. The two Lumia devices will release in Q2 2012, along with the PureView 808, while the Asha devices will release within the next few weeks.

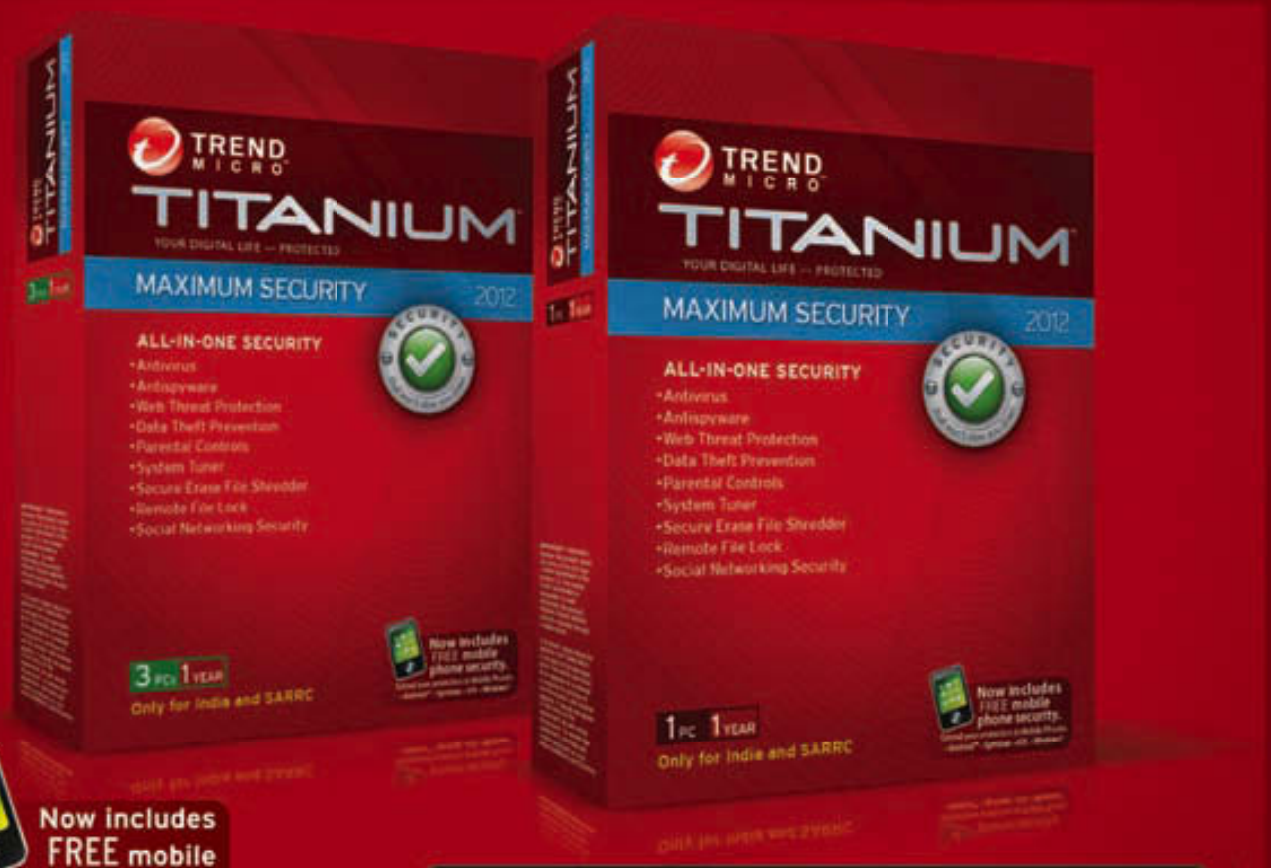
The Nokia PureView 808 stole the show with a 41MP camera phone running Symbian Belle. The Nokia Lumia 610 is the first low-cost Windows Phone handset around, running WP7.5 Mango on an 800MHz Snapdragon S1 processor, 256MB RAM and 8GB of built-in storage. It will be priced at roughly ₹12,500 when launched.



The top-end Nokia Windows Phone, the global-edition Lumia 900, was also introduced, featuring HSPA+ connectivity instead of LTE – it's expected to launch at ₹31,500. The Nokia Asha 302 is a QWERTY device, with social networking and IM integration as well as Microsoft Exchange. It should be available for roughly ₹6,500. The Nokia Asha 202 / 203 (dual-SIM variant) are Touch N Type offerings, with 2.4-inch resistive touch displays. Both devices will be priced at roughly, ₹4,000, and ship with roughly €75 (₹6,084) worth of EA Games.

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The new iPad is here!
New iPad in India Apple's new iPad tablet is available in India via online retailer Tradus, at ₹36,799 for the 16GB Wi-Fi variant. **http://dgit.in/GI2VEg**

Vodafone, Timbre Media re-introduce World-Space radio service in India

Vodafone India has partnered with Timbre Media to provide WorldSpace Radio services on mobile handsets across 18 circles in India. The new service includes access to thousands of songs via 10 radio channels. The WorldSpace Radio service on Vodafone will be available in circles namely Uttar Pradesh East & West, Rajasthan, Haryana, Punjab, Mumbai, Bihar, Kerala, rest of Bengal, Assam, North East, Karnataka, Madhya Pradesh, Jammu & Kashmir, Orissa, Delhi, Tamil Nadu and Chennai.

Co-founder and head of Timbre Media, Seetal Iyer said that the new services don't compete with the local FM stations or their mobile services. Iyer further pointed out that WorldSpace Radio specialises in genre-based radio programming. The WorldSpace on Vodafone has 10 stations that provide music from different genres, ranging from old Hindi films to regional folk songs.

To activate this service, Vodafone customers can call 58000 (toll free) or SMS ACT Wradio to 111 (toll free) or USSD on *514*580#. Users will be charged a rental of ₹30 per month along with 300 minutes of free usage.

Vodafone also provides a top-up of ₹7 through which users can get additional 70 minutes of listening time, once the free 300 minutes are over. The operator also plans to launch a separate service, which will be based on data streaming and priced at ₹5 per day.

Timbre Media, on the other hand, is looking to partner with other telecom operators as well and plans to bring out a dedicated mobile app for smartphone users.

It may be recalled that Bangalore-based start-up Timbre Media had acquired the licence to use the WorldSpace brand, that went off air in December 2009. WorldSpace now faces stiff competition from the major FM players such as Radio Mirchi and Big FM, which are also targeting the mobile phones with their apps. Radio Mirchi's Mirchi mobile app has some 8-10 million subscribers.

Wishtel launches two "Ira" Android budget tablets, starting at ₹4,000

Wishtel India has launched two tablets in the Indian market, the Ira Thing and the Ira, priced at ₹4000 and ₹5,500 respectively, plus tax.

The specifications of both the budget tablets are the same apart from the fact that the Ira Thing has a resistive touchscreen and the Ira has a capacitive touchscreen. The battery of both the devices too is different. The Ira Thing has a 2,200 mAh battery whereas the Ira has a 2,800 mAh battery.

The devices on display at a press event ran Android 2.2 Froyo but the manufacturers confirmed that the device will launch with Gingerbread. Apart from Android, customers will have the option of using the tablet on the Linux Sugar OS.



Speaking at the event, Milind Shah, CEO, Wishtel, said: "This launch is the first step in our long-term vision of bringing people closer to technology by creating gadgets that truly touch their lives. By enabling support for Indian languages, we're providing the opportunity for hundreds of millions of Indians to join the tablet revolution that is sweeping the globe today. We also hope to reach out to those brilliant minds in India that are inhibited for the lack of proper resources."

Richard Brown, VP International Marketing, VIA Technologies, Inc., added: "With the introduction of the IRA and IRA Thing, Wishtel is leading the way in driving tablet innovation in India. The potential for these devices is breathtaking, particularly in areas such as education."
From the specifications of the device and its build, it's clear that Wishtel is aiming to take on the Aakash and the Aakash 2 tablet manufactured by Datawind.

Specifications of Wishtel Ira Thing i-Pad and Ira i-Pad

- 7-inch touchscreen with a resolution of 800x480
- 800MHz CPU
- 512 MB RAM
- Android 2.2/2.3
- 4GB inbuilt storage expandable up to 32GB via MicroSD card
- Wi-Fi
- The device has a USB 2.0 port to which users can connect a 3G dongle
- Card reader
- Headphones jack
- 1.3MP front-facing camera and no rear shooter
- 20.3 x 13.7 x 1.45 cm
- 0.37 kg

Nokia Ovi Share closes

Nokia announced the closure of its Ovi Share service, which allowed Ovi users to upload their photos, videos and files **http://dgit.in/GEJV7h**

Terahertz bandwidth

Forget 4G and the gigahertz frequency – researchers at University of Pittsburgh say they can transmit data thousands of times faster **http://dgit.in/GEJQQV**

HTC's One family

HTC unveiled its new line-up of Android 4.0 Ice Cream Sandwich smartphones at MWC, providing specifications for the One X, One XL, One S and One V, along with an April release date. HTC One buyers will get two years of free cloud storage (25 GB) from Dropbox.

Formerly known as HTC Edge and Endeavor, the new flagship "super-phone" One X is 9.29mm thick and packs a 1.5GHz quad-core Tegra 3 processor, 1 GB of DDR2 RAM, Sense 4.0 and an impressive 4.7-inch (1280x720 pixel) Super LCD 2 Gorilla Glass display.

HTC One XL is identical to One X, except for LTE connectivity and a dual-core Snapdragon S4 processor instead. The HTC One S (HTC Ville) will probably qualify as another top-end offering, with its super-slim profile (HTC's slimmest yet – at 7.6 mm) ceramic metal body, a 4.3-inch Super AMOLED 960x544 pixel display, a 1.5GHz dual-core S4 Krait processor with an Adreno 225 GPU, and the same (as the One X and XL) 8MP BSI autofocus camera with f/2.0 lens.



At the bottom of the pack, the 9.2mm thick HTC One V bears a 3.7-inch 800x480 pixel display, a 1GHz single-core Snapdragon S2 CPU, 512MB RAM, Sense 3.6 UI, 4GB of built-in storage, and a rear 720p HD 5MP autofocus camera with an f/2.0 lens, without a front-facing counter-part.

LG's new devices

LG unveiled five phones at and before MWC, namely: Optimus 4X HD, Optimus L3, Optimus L5, Optimus L7 and Optimus 3D Max or Cube. All devices will launch in Q2 2012.

The Optimus 4X HD is the successor to the Optimus 2X flagship, and brings with it 1.5GHz Nvidia Tegra 3 "Kal-El" quad-core processor, apart from Ice Cream Sandwich out of the box. The slim 8.9mm thick LG Optimus 4X HD boasts a massive 4.7-inch (1280 x 800 pixel) True HD IPS display.



The siblings LG Optimus L3, L5 and L7 all look similar with their metal bodies and textured finishes and feature a "floating mass display" that sits very close to the screen. By the time this magazine reaches you they'll be launched in Europe with Gingerbread onboard – an ICS update will apparently follow soon. L3, L5 and L7 feature 3.2-inch, 4-inch and 4.3-inch displays, respectively.

Samsung's latest arrivals

Since the last issue, Samsung announced four new mobile devices: the Galaxy Beam projector smartphone, Galaxy Ace 2, Galaxy Mini 2 and the budget Galaxy Pocket.

The Samsung Galaxy Beam is powered by a 1GHz dual-core processor and has a 4-inch display with 480x800p resolution. It comes with Android 2.3 preloaded, and features a 5MP rear camera. Its real highlight is the built-in projector, with 15 lumens brightness. It can project images by up to 50 inches. The Galaxy Beam is expected to hit Indian shores by April 2012.

Galaxy Ace 2 and Galaxy Mini 2 are due to arrive in Europe by April and March respectively. Both run on Android 2.3 Gingerbread. Pricing details are as of now, not available. The Ace 2 bears an 800MHz dual-core processor, a 3.8-inch 800x480 pixel display, 768MB RAM and 5MP autofocus rear camera with LED flash. The Mini 2 bears an 800MHz processor, a 3.27-inch 320x480 pixel display, 512MB RAM, 3MP fixed focus rear camera.



The Galaxy Pocket will join the Galaxy Y series, and will be initially launched in Europe in Q2 2012. It features a 2.8-inch display and Android 2.3 platform. The device comes pre-loaded with Samsung's ChatON messenger, and is powered by an 832 MHz processor.

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Key Lime Pie is expected to be released in 2013, if not earlier
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Best apps for the traveller

Vishal Mathur
readersletters@thinkdigit.com

If you're an avid traveller, you may not have realised the power of your smartphone to simplify all your journeys that you undertake now and in the future.

If you've already been using some apps to do this, we'd love to hear about your experience using them – write to us at editor@thinkdigit.com. But if you're yet to explore the idea, here are some apps to get you started and on the way to getting extra value for the money you spend on your upcoming trips, and also in a way unlocking your smartphone's hidden potential. Here we go:

Ask A Nomad

For any new place you visit, inevitably there are bound to be a lot of questions – mostly regarding which place to visit. Quite simply, Ask A Nomad lets you ask a question, and get answers from other users who may have some idea about that subject. This is a lot more interactive than just searching for information on the web. Alternatively, you can also answer questions about places you've been to. The app divides the world very neatly into continents, countries and then cities. This makes asking a new question, reading other discussions and even replying to a query simpler. Neat way of getting all the information you need about a place, from people who've probably already been there!



Ask A Nomad utilizes crowd knowledge

Price: Free
Platform: iOS devices

Agoda.com

This is an app you should definitely refer to, because it will surely have information on the hotel that you plan on staying in. Considering over 1,60,000 hotels worldwide are a part of this database, users can search for hotels based on pricing and type, and even get special deals. This service also lets you book using a credit card, along with special offers and deals from time to time.

We believe that even though you may find it a little risky to book from here, it's a useful app to check out and compare hotels. Also available as a full-fledged web site.

Price: Free
Platform: iOS devices

Foursquare

Okay, this app isn't very new, but it's a must-have on every smart mobile device. And most people have used it.

But if you have a number of contacts who're explorers in their own right, this may just be the app for you.

Utilise the knowledge base of your friends to get information about a place you're going to visit, or have already checked in to. Also get recommendations from other users who've visited the place and written reviews about it.

Price: Free
Platform: Android, Blackberry, iOS, Symbian and Windows Phone.

Oh Joy! PlayBook finally gets its update!

The last couple of months have been hectic, particularly as far as OS updates are concerned. Amidst all that, the BlackBerry PlayBook got its much-awaited update, bringing in the native email, Android apps and a new version of the Bridge app. This immediately followed the limited time price reduction on the tablet in most markets globally. While it retains the previous OS's UI, there are very slight tweaks to make it look better. Performance and multi-tasking remain as brilliant as before. You don't need to have a BlackBerry phone hooked up to it all the time for mail. Social networking has been better integrated as well. However, Android apps have been a bit of a disappointment – limited in number and most of them are in the paid avatar! We don't think this OS update will really change the fortunes of the tablet. RIM needs to go back to the drawing board and ensure that the next PlayBook is actually up to par with the competition and has a proper app ecosystem in place.



The enhanced interface looks exactly like the older version

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Nokia Money shuts down
Nokia's recently launched Nokia Money service will soon be discontinued, surprising many as mobile payments are growing rapidly **http://dgit.in/GEIK7K**

Over 100 government web sites hacked in 3 months: Sachin Pilot

As many as 112 government websites, including those of the Planning Commission, the Finance Ministry and various state government agencies were hit by cyber attacks during a three-month period ending February 2012, revealed Minister of State for Communications and IT, Sachin Pilot in the Lok Sabha.

The minister further revealed that Bharat Sanchar Nigam Ltd (BSNL) web site was hacked on December 4, 2011 by a hacker group called 'H4tr!ck'. The web sites of Finance, Health, Human Resource Development ministries and Planning Commission also suffered the cyber attacks. A number of state government web sites, including those of Andhra Pradesh, Tamil Nadu, Kerala, Odisha, Uttar Pradesh, Sikkim, Manipur, Madhya Pradesh, Rajasthan, Maharashtra and Gujarat came under attack.

Pilot also said that the Department of Information Technology and the National Informatics Centre (NIC) are working on upgrading their skills to handle threats from cyber attackers, as well as their firewalls and filters.

Govt. sites hit by cyber attacks during CWG

The Defence Research and Development Organisation (DRDO) – a government organisation that researches new technologies for defence and combat – has revealed that computer servers of the government departments were attacked nearly 200 times during the 2010 Commonwealth Games in Delhi.

Speaking of attacks during the CWG 2010, DRDO chief and scientific adviser to defence minister Dr V.K. Saraswat said that a strong team of experts helped DRDO thwart these hacking attempts.

Saraswat, further said that the DRDO would soon form a strong encryption group that will develop encryption techniques to keep the attackers at bay. The DRDO is also planning to develop indigenous servers, routers and operating systems in an attempt to effectively combat cyber attacks.

Credit card details may have been leaked in Microsoft Store India attack

Microsoft is belatedly warning members of Microsoft Store India that their financial information such as credit card details, "may have been exposed" in the cyber-attack in the earlier part of February.



The attack took place on February 12, with the Evil Shadow team taking credit for defacing the site with a message, saying "unsafe systems will be baptized."

Soon after the attack, the Redmond giant had reassured Microsoft Store India members that only usernames, passwords and contact information had been potentially stolen. Members were advised to change their passwords on other properties, and were to have received an email instructing them on how to reset their Microsoft Store password.

Microsoft Store India is still offline however, and according to recent reports, Microsoft has now mailed the same members, advising them to closely monitor for any unauthorised credit card activity, and warn the card provider about potential unauthorised use.

Microsoft has now created a hotline number 1-800-102-1100 for members to call for more information on how to deal with the issue.

Microsoft accuses Google of sidestepping privacy in IE

Microsoft jumped into the Google "Safari tracking" controversy by accusing the search giant of doing the same thing with its Internet Explorer browser.

Dean Hachamovitch, corporate vice president of Internet Explorer, said, "When the IE team heard that Google had bypassed user privacy settings on Safari, we asked ourselves a simple question: is Google circumventing the privacy preferences of Internet Explorer users too? We've discovered the answer is yes: Google is employing similar methods to get around the default privacy protections in IE and track IE users with cookies."

Microsoft said that IE users can avoid the tracking by using the Tracking Protection feature in IE9. In response, Rachel Whetstone, senior vice president of communications and policy at Google, said that Microsoft "omitted important information."

The P3P standard, Whetstone said, dated back to 2002 and it's "impractical to comply with Microsoft's request while providing modern web functionality. We've been open about our approach, as have many other web sites."

"Today the Microsoft policy is widely non-operational," Whetstone continued. "A 2010 research report indicated that over 11,000 web sites were not issuing valid P3P policies as requested by Microsoft."

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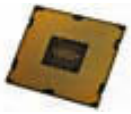
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Windows 8 preview
Barely a few months before the final product is rolled out, Microsoft teased us with a consumer preview



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McIntosh MC275 50th Anniversary Edition

McIntosh has been shipping this amp for quite sometime now, 50 years to be exact. The anniversary edition version sports a solid gold chassis, special LED lighting and comes in a deluxe packaging with a commemorative book. Despite technological advances in audio reproduction, audiophiles will go misty-eyed for the smooth and warm sound character reproduced by the vacuum tubes. The MC275 outputs 75 watts per channel at 2, 4, 8 or 16 ohms, or 150 watts in bridged mono mode. It has a frequency response of 20Hz-20kHz and a signal-to-noise ratio of 100dB below the rated output. This nostalgia-inducing Steampunk-inspired piece of hardware will set you back by about ₹3,32,000.

Cutting edge tech meets old school

BMW Enduro Mountain Bike 2012

The next time you go trailblazing, you could either take out your old ramshackled bike from the loft or get the new upgraded BMW Enduro 2012. It sports a monocoque black aluminium with Fox front forks and concealed rear suspension system. The new Enduro is fitted with Shimano XT hydraulic disc brakes, entirely redesigned wheels with bright green needles, black and green saddle and Shimano Deore XT components. You can exchange your old bike for this mother of bicycles for just ₹2,30,000.



Samsung Android digital camera

Samsung is considering a digital camera based on the Android. Previously, the company has used Android on its portable media players **http://dgit.in/GGSl3u**



Genius DeathTaker MMO RTS

The Genius DeathTaker MMO/RTS gaming mouse has arrived in India, priced at ₹3,915, with a warranty of three years **http://dgit.in/GMhJOQ**

Porsche Design BlackBerry P'9981

Launching a high-end luxury smartphone when your company is in doldrums hardly makes sense, but that's exactly what RIM has gone ahead and done. The Porsche BlackBerry has an interesting angular design that stands out from other smartphones, a faster processor, slimmer profile and is powered by the latest iteration of the BlackBerry OS. Despite this, the specs don't come anywhere near the best phones in the market today. Priced at a little over ₹1,00,000 it's meant for the rich sheikh who has a spare oil-well lying around, and needs a well-designed brick to show around.





Arcade 80s Trunk

Arcade 80s is a powerhouse on wheels featuring a 1080p screen, an integrated hi-definition sound system with iPhone/iPod dock and sixty built-in titles including Pac-man, Space Invaders and 1942. The trunk is clothed in calfskin leather and available in 51 different color variations or in Crocodile or Shagreen upon request. Other bells and whistles include chromium-plated dashboard and aluminum wheels. In case you're bored of playing *Mass Effect 3* on your GTX590 and have about ₹8,90,000 lying around, then make sure you get one of these golden era iPod docks.

Microstang

This is what you get when you combine Microsoft and all-American auto muscle. Dubbed "Project Detroit", this 2012 Ford Mustang has a touch-screen based dashboards console, a HUD, a built-in Xbox 360, two Kinect sensors for front and rear for skeletal tracking and live video streams and a swipeable digital instrument cluster powered by a Windows tablet. In case you want to build your own "Windows-mobile", all the code that runs the gadgets on this beast will be made available for free on Microsoft CodePlex.





Google's driverless car
Interesting infographic about the effects of the new driverless car
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Say "Print" and watch
A funny take on the process of printing. Click on the link below to witness it
http://bit.ly/xkEhDh

WINDOWS 8 COMETH, SLOWLY BUT SURELY

Barely a few months before the finished product is rolled out, Microsoft teased eager beavers with a comprehensive pre-release version of its much-awaited operating system update. We gaze into the consumer preview of Windows 8 to see if Microsoft has found the holy grail yet

Jayesh Shinde
readersletters@thinkdigit.com

It's roughly two and a half years since Microsoft released Windows 7, a much-improved version of Vista, its predecessor. Approximately three years since then, the Redmond-based software giant is almost ready to launch Windows 8 with the most significant fundamental change since its Windows 95 days.

We've been using the latest available consumer preview for a few weeks now, and we certainly love a few things about Windows 8, primarily the whole new Metro UI integrated following the company's experience with Windows Phone. However, while Windows 8 sort of brings together the x86 (PC-only OS) and ARM (tablet, phone-only OS) flavours of the product, we can't help but feel that the upcoming operating system is working against itself by forcing the two flavours on you. So you don't have a choice but to use two operating systems. With Microsoft claiming that things will largely remain unchanged between the consumer preview and Windows 8 launch day – apart from minor tweaks here and there – we aren't without our share of accolades and concerns.

If the developer preview released last year had us unconvinced regarding Windows 8's potential to successfully run on a PC, not just a touch-screen device, then this latest consumer preview has mitigated those concerns to some extent – it's much more responsive with a keyboard and mouse now – but not fully.

Metro rocks!

There's no denying the fact that Microsoft's import from Windows Phone, the famous Metro UI, is a breath of fresh air. It has created enough buzz and is unique enough to actually give the likes of Android and iOS a run for their money, purely in terms of fresh appeal. It's a rare breakthrough in Microsoft's mobile OS strategy where form meets function beautifully.

A good starting point to the brand new Windows 8 experience is the ability of Metro-supported apps to show live updates on the Start screen (otherwise called as active tiles), and the ability to pin any app there. However, this interface is only perfect for a touch-enabled device – like a tablet or smartphone – and interacting it with a mouse and keyboard reduces its charm. In fact, for a Windows 7 power user, this may be counter-produc-



The much-touted Metro UI. It works great on a tablet, but is cumbersome for PC users.

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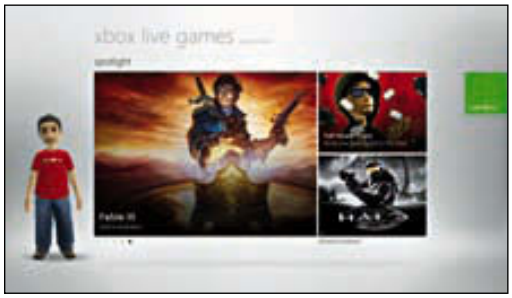
tive at times. Microsoft would do a huge favour to itself and its users by allowing an option for users to determine which "version" or flavour of Windows 8 they'd like to use. If left unchecked, this has the potential to cause a hue and cry like the one witnessed on Vista's autocratic UAC. Anyone remember those days? Let's hope they never come back.



SkyDrive is Microsoft's attempt to bundle free cloud backup

Xbox integration

Apart from the general buzz surrounding Windows Phone, the Xbox business has been solid for Microsoft since the past few years, and user interest has rekindled with Kindle's launch. Times haven't been better for Microsoft's Xbox division and it was only logical for the company heavily integrate gaming as an entertainment option within Windows 8.



Xbox integration is a great hit in Windows 8

The Xbox Live interface within Windows 8 has a heavy dose of Metro and looks really slick. Whether you hook a Kinect to your PC or manipulate it using your Windows Phone, we can see how Xbox will be an entertainment hub for future Windows users. The platform is hugely popular with millions of subscribers, and Microsoft will no doubt populate it with enough content to take on the likes of Amazon and iTunes. It has huge potential.

SkyDrive

Starting with Windows 8, you get to back up and sync your personal data on the cloud. It's essentially Microsoft's version of Apple's iCloud. But there are inherently two apps for SkyDrive which work distinctly. The first is a touch-enabled app found on the Windows Store which allows third-party developers to store Metro and app data onto the cloud drive.

The other version of SkyDrive is deployed across Windows Explorer like Dropbox – share a folder between users on different systems and files added to the folder will be incrementally updated and synced across devices. This feature will work on Windows 7 and Vista PCs as well and the largest file you can transfer using SkyDrive is 2 GB. This is a convenient new addition to Windows 8.

Two different IEs

When Microsoft starts cramming two operating systems into one in Windows 8, that's when some problems start creeping in. You are left with not one but two different copies of Internet Explorer 10 – one tuned for the Metro UI and touch-enabled navigation, and the other being the classic IE we are all used to in Windows PC.

What's more, the Metro version of IE10 doesn't support plugins and has trouble rendering a few Flash websites (we hope this is a beta bug). To view them optimally you're suggested to open them using the "desktop browser" option, thus compelling you to toggle over to the unrestricted IE10 browser window. We're sure it works great on a tablet, but we can clearly see how the Metro version of IE10 might become redundant on the PC, if you end up using the desktop version.

Windows 8 features

- Metro UI works only on a 1024x768 screen resolution, nothing below that
- The age-old Start button is gone
- Task manager is better, more comprehensive than ever before
- Can upgrade from Windows 7, no Windows XP support.
- Windows Store for downloading apps

Interface tweaks

There are many number of interface tweaks splashed all across Windows 8. Take your mouse cursor to the right side edge to reveal the all new Charms bar – a help pop-up that runs across apps and windows in Windows 8. Also taking the cursor to the left top reveals the previous app, while the left bottom reveals Metro, and if you scroll from top to left along the left edge, we see a list of all running apps right then and there. Great for multi-tasking.



It's literally a tale of two browsers in Windows 8

Windows 7's ribbon interface is muted and will only reveal itself when you press on the top bar. There are a few more features that haven't made it from Windows 7 to Windows 8. Overall, we feel, Microsoft should allow users the ability to pick and choose which Windows 8 they want to experience, the one tuned for tablets or the good old PC variant.

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New iPad isn't bulletproof
A video clip of a man shooting at the new iPad, supposedly testing the device durability, has become an online hit **http://dgit.in/GHxMRH**

Fujitsu Lifebook laptops
Fujitsu has launched ten new laptops in India, with configurations that meet the needs of SMEs **http://dgit.in/GHzDFW**

Corrupt HDDs, custom ROMs and overheating issues . . .

We solve your hardware queries

Mysterious hard disk

First I want to thank everyone associated with Digit because this magazine taught me how to use computers. Without it, I would never have grown such interest in computers.

I have one issue with my system about hard disk crash. I have MB - Intel 945 GCL, HDD - WD SATA 500GB, RAM - 2.5 GB. Recently my system crashed and it showed an error saying "media test failure. check the cables". My PC has never before shown this error or failed since it was purchased 3.5 years back (again with Digit's help) I had purchased the hard disk last year. I tried to boot system from Linux but couldn't, so I booted Windows XP SP2. When selecting drive for installation, it shows only one – the last drive. I can't see the other 5 drives on the selection screen. I continue using that last drive without changing any file, after I installed XP.

Please suggest any excellent software which can retrieve my data since it's my final year project and a good collection of engineering books.

Ameya Sawant

Please don't format the drive or do any more work on it if you want to recover any data. Do you have physical drives or partitions on the same drive?

If they're partitions, you may already have lost data while installing Windows XP. We suggest removing your drive from your PC and taking it to a friend's house to recover data on his PC, connecting your drive as a secondary disk using a new cable.

It sounds like a faulty or loose cable has caused file allocation table (FAT) and/or Master Boot Record (MBR) corruption, and it shouldn't take too long to recover that – provided there's no major physical damage to the HDD or platters, and no bad sectors have formed.

First try something simple like http://findandmount.com/ to recover the partitions. If all the data appears, problem solved.

If you can't see the data or if all partitions don't reappear, try more advanced software such as http://www.cgsecurity.org/wiki/TestDisk or the paid version of Stellar Phoenix Windows Data Recovery.

Game on...and then off

One always recalls Digit if one has a problem with their computer, and I'm recalling you now.

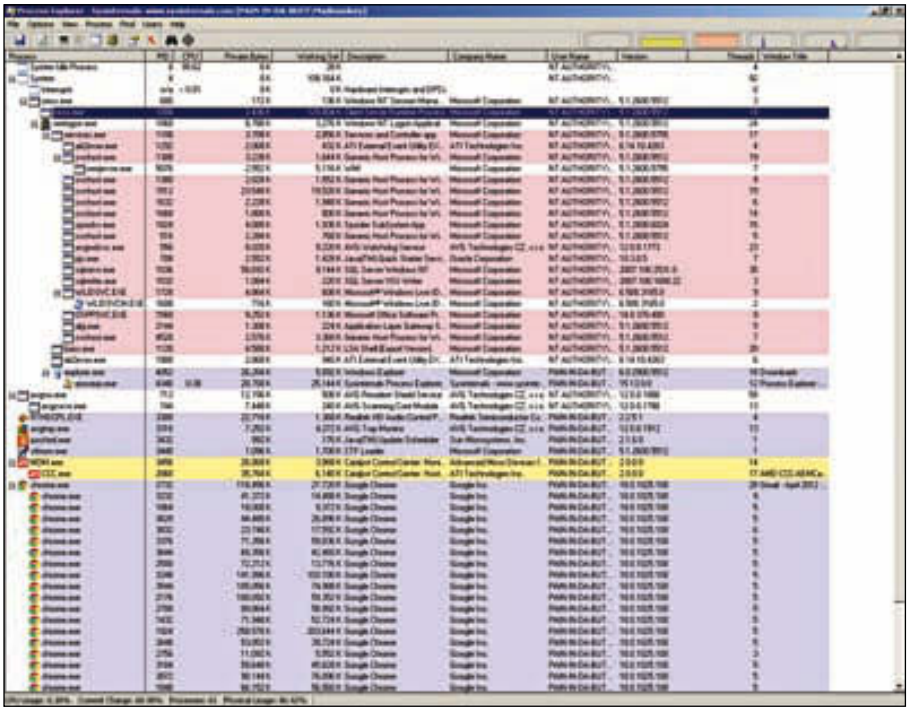
Some 10 months back I bought a MSI GE 620 laptop with the following configurations:

- **RAM:** 2 GB x 4 DDR3
- **GPU:** NVIDIA GeForce GT 540-M
- **HDD:** 500 GB
- **CPU:** Intel Core i7-2630QM @ 2.00 GHz
- **OS:** Genuine Windows 7 Home Premium (64-bit)

Two months later, my laptop just wouldn't start. I looked for a solution and someone said to remove the battery and hold down the power button for a minute. It worked and I was again gaming on my laptop, when I noticed that CS Source and MW2 started lagging at some places (no lag earlier). I installed MSI Afterburner and overclocked my GPU some 30 MHz (both, core and shader clocks). The games were running fine when again they started lagging. Frustrated, I set the core clock and shader clock to max. Again there was no problem when again it started lagging. I still have the warranty. Please give me a solution/recommendation as I can't game on it now (heavy games with quite high settings).

Dhiman Adhikari

Your laptop shutting down randomly within two months is not a good sign. If it's still under warranty, we recommend having it serviced as soon as possible. Overclocking your GPU to the maximum setting can lead to heating issues. The reason for the intial decent frame rates and then lagging may be attributed to the



Process Explorer - a detailed Task Manager replacement

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BenQ's new gaming monitors
BenQ has launched two new 24-inch gaming monitors, part of its XL series of 120Hz displays, featuring Nvidia 3D technologies **http://dgit.in/GELC9e**

excess heat that damages the nearby components. Make sure that none of the vents are blocked. Especially while gaming, proper ventilation is a must. It will help if you could find out the temperature at peak load and compare that with others on the internet. That'll give you a rough idea regarding your heating issue. A bit higher temperature can be expected due the climate in India, but anything more that 8-9ºC above average isn't good.

Corrupt SD card

My 2GB micro SD card is corrupt and my PC can very well recognise this when I connect it through a card reader. But when I try to open it, it says please insert a disk into removable disk. Also, I tried to format the card with FAT file system, but the format doesn't complete. Can you help me with it?

Rahul Trish

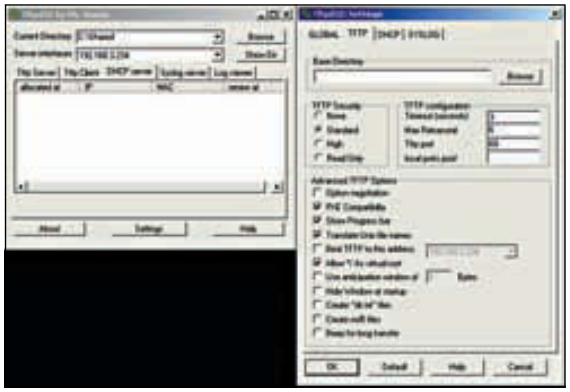
Did you remove the memory card from a device while it was still being accessed? These problems are common when memory devices are not handled with care. Sometimes, it's not even your fault; a minor static discharge can completely disable your card. However, if it's a simple case of data corruption then check the manufacturer's web site for tools to fix your card. SanDisk recommends RescuePro, Transcend has its own set of utilities and Kingston has MediaRECOVER. Some of these software recover deleted files if they can and some of them can fix your corruption issue. Try them out one after another till your issue is resolved.

Anti-virus hysterics

I have a problem with Avast anti-virus on my rooted smartphone. When I enable the Avast firewall, it displays a message "Your kernel does not support netfilter so the Avast firewall will stop now. To solve this flash a custom ROM with full netfilter support".Please help me recover from this problem and give a list of apps required to recover from this problem.

Makresh Nayak

You'll need to flash a Custom ROM as the error message says. Unfortunately, you haven't mentioned your device model, revision and OS version, so there's very little we can do to help you out. Google a bit; there's always someone or the other working on their own custom ROMs and are more than willing to share them with the world. If you do come across the required files then you'll need to use ADB (Android Debug Bridge) to install the netfilter package onto your smartphone. Here's an example of a custom ROM on which netfilter can be enabled: http://dgit.in/GFi6gT



TFTPD32 - setup your own TFTP server

Unbootable Windows

I work in a school which has a network of 28 computers connected via client-server network. The server has Windows 2003 SP2 installed and clients have Windows 7 Starter installed, configuration of server (IBM) is Intel Xeon 2.x GHz, 4GB RAM, 500GB HDD whereas all clients are dual core 3.0GHz, 2GB RAM and 160GB HDD. My problem.

There's only one DVD writer available on the server and it's shared with full permission on the whole network. But one of my client machine's OS is crashed and I need to reinstall a fresh copy of Windows 7. I want to boot from a network-shared DVD writer and install a fresh copy of Windows 7, (remember I can't boot into Windows and need to do this via booting from Network PXE). If it's impossible, what about Windows deployment services? It is OK if I need to install Windows XP or Vista in case Windows 7 installation is not possible here,

What's TFTP server? Do I need to do anything with it in this case?

If DHCP Server needs to be configured here, then how would I do that to perform my installation here? I have an IP range between 192.168.1.1 to 192.168.1.100 where 192.168.1.10 is server IP address.

If you have an alternate way than I'd love to know about that. (I don't want to open the server PC and take the DVD writer out. Also I've tried booting from a pen drive which I made bootable and capable of installing Windows 7 but it didn't work.

Arif Wemi

How old are your machines? We're assuming that it's a post 2001 PC, so it'll support PXE.

You've got multiple options here.

- Use the Windows 7 USB/DVD Download Tool (http://dgit.in/pHgaz3) to make a bootable USB drive with the Windows 7 Starter image. Boot via USB and install. If you tried to make a bootable drive using DOS files and configuring them yourself, they might not work properly.
- Install a TFTP server (`Solarwinds TFTP Server/TFTPD32`) and under `Settings > TFTP`, Uncheck "Option negotiation", Check "PXE Compatibility", Check "Allow '\' As" virtual root. Also ensure that the base directory is a single dot.
- Under DHCP, change the settings according to the number of computers on your network.
- On the PC that you wish to install Windows, access the boot menu and boot via network. When you get to the command prompt navigate to `Z:\\[Server IP]\[Shared Folder` containing Windows 7 setup files]. In your case, `Z:\\192.168.1.10\[shared folder name].`
- Type "Setup.exe" and your Windows 7 installation should begin.
- Alternatively you can also have a bootable BartPE USB flash drive and access the network-shared folders via the BartPE GUI and attempt your installation.

*save *protect *recover *enhance...

...just about anything

Almost all of us have become slaves to our technology – whether you're brave enough to admit it or not. We've written stories in the past about how you're increasingly dependent on technology, and how that may not be the healthiest thing for you. You don't bother to memorise anything but the most important of numbers, some of you have jobs that depend solely on the data you move about, or else how you analyse and act on that data.

A decade ago Digit would sit and tell you about how to back up your PC, and underline the importance of saving your work, lest the electricity gods desert you in your time of need. That was good advice for back then, however, technology has woven itself so intricately into your lives, that it's hard to tell where you end and your devices begin!

Those amongst you who've experienced data loss, virus infections or had something stolen will testify to the importance of learning to back up, protect, enhance and restore not just your data, but also your skills.

In the past year or so, we've received so many calls and email from the desperate, pleading for help to track and recover a lost cellphone, asking how to bring a terminally ill HDD back to life (so that they could recover "important data") or complaining about their accounts being hacked, that we knew we'd have to address the issue soon enough.

Everything that follows, as part of this month's cover story, is designed to help you Save, Protect, Recover or Enhance your data, your security, your skills and more.

Even if you haven't lost a device, accidentally deleted your vacation snaps from your camera, had a HDD crash, managed to get your smartphone infected with a virus or had your web accounts hacked, it doesn't mean it couldn't happen to you in the future. Prevention is the best cure, and preparedness is the best way out of a fix, and you'll be fine as long you remember that... and of course, read and understand what follows, or just keep it safe for a particularly gloomy and rainy day.

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Back up everything

From syncing to cloud backups to software options and hardware configurations

Nishith Rastogi
readerletters@thinkdigit.com

We're almost drowning in the data that we create. This raises two important issues: how do you deal with keeping your data synced across multiple devices (portable or otherwise) and how do you keep your data backed up to prevent any unfortunate loss of information either due to a system failure, physical damage or theft. In this feature, we'll deal with solutions to both these issues.

Sync

The leaders on this front are devices from Apple Inc. If you're using an iPhone and iMac (desktop or laptop) you should immediately be upgrading your operating system (if you haven't) to benefit from the iCloud service, which is offered for free. It not only keeps your data, but also applications, settings and calendar all synced and backed up on the cloud, without any effort on your part. Of course, you might have your own concerns about handing your data to Apple, but if you're okay with that, it might be reason enough for you to make the switch.



iCloud: Hassle-free sync

If you're looking for an option that works for all operating systems, here's another option. And you have to be living under a rock to not have heard about this one – the awesome syncing service, Dropbox. It's available at https://www.dropbox.com/ and gives you a one-step way to keep your files synced across computers and devices. The service offers 2.5 GB free, post which there are paid options and other referral schemes to avail more space. It works on Windows, Linux, Mac, iPhone, Android and even BlackBerry. So if you're using devices from various vendors and want a dead simple way to keep your important data available to you at any time, give this service a spin.

If you're an Ubuntu user, then the Ubuntu One (https://one.ubuntu.com/) service provides a similar functionality as the Dropbox service mentioned above. In addition to 5 GB of free space, it provides useful add-ons like built-in music streaming, and has clients for Windows, other Linux distros and even Android.

A surprising amount of our interaction with the computer happens with the browser these days, and it's equally important to keep our browsing history, add-ons, settings and if possible even open tabs in sync. Imagine leaving your browser open with certain tabs at your work, and then coming back home, opening your browser on another computer and finding yourself exactly where you left. While previously there were patchy solutions available, with Firefox Sync all of this is seamless.

In the Google ecosystem, you use your single Google login credentials to access all your email, calendar, contacts and documents anywhere on any device provided there's a working internet connection. With the new Google Chrome Sign In feature you get a similar functionality as Firefox Sync. Google also provides the Free Google Sync (http://www.google.com/sync/) services for free push email, calendar, contacts and even notes across a range of devices from Windows/Mac/Linux to all mobile platforms including our old and often neglected friend, the Symbian S60.

Most of the sync services use some form or the other of internet connectivity and back up data on their own data centres. If you're either paranoid about handing over your data or simply work in situations where you don't have access to the internet all the time, a simple and very effective solution would be to carry your data with you. With 32 GB pen drives available for well under ₹1,500, you could give this solution a try. You can geek it up by installing a Live Linux distribution like Ubuntu on it and you have your own computer with your applications, settings and data wherever you go. Follow this guide https://wiki.ubuntu.com/LiveUsbPendrivePersistent to have your own system with you always.

Back up

The first step is accumulating all data including your online data locally. If you're in the Apple iCloud system, then you're already done. If you're using Google services for email and documents you can do the following. Flip over a few pages in the magazine itself to read how to backup other social media data.

- For Google Docs, open the documents page, select any one document. Click on the small arrow next to More, then click on "Download" in the pop up. Select the "All Items" tab, select the format you want and all your data would be available to you in a single zip file.
- For Gmail, sign in and click on "Settings" (the cog wheel icon), go to the "Forwarding and POP/IMAP" tab. Over here, select "Enable POP for all mail (even mail that's already been downloaded)" and click "Save changes". Now pick your favorite client (Outlook, ThunderBird or

others) and configure it to use Gmail using the settings provided at this link http://dgit.in/GKYkAw. Once all your email has been downloaded (this may take a while), simply export it (from your desktop client) to your favorite location and format.

Now that you've gathered all your data on your local system, let's explore how to make backup copies for it. Apart from hardware backups, there are two ways to back up your data: 1) an entire byte-by-byte disk image 2) an incremental copy of a folder/partition/drive and update it with only the changes made since the last backup. The first method is more thorough but requires considerable time and storage space.

Incremental backup

Most software offer a GUI for "Rsync", a command line utility. Rsync computes the changes made and only then oupdates them on the destination. This is extremely useful if you're backing up huge archives which only change slightly or are backing up over the network. Grsync is a popular frontend which works on Linux, Solaris, Windows, Mac OS X and even Maemo.

Image-based backup

There are many software available to do this task. The most popular paid option for a long while was Norton Ghost. True Image by Acronis (USD 50 for 1 PC license) is also a good option. Perhaps the best free alternatives are Clonezilla (http://www.clonezilla.org/) and DriveImage XML (http://www.runtime.org/driveimage-xml.htm). CloneZilla is extremely capable, has a live version and an SE version where you can back up upto 40+ computers over a network simultaneously and manage them with ease.

Now that you have a copy of your data, the question is what's the best way to store it for maximum life and safety. Typically archival formats like DVDs/Blu-Rays provide a good solution as you can break up your data into multiple discs and if one gets damaged, the other can still be used. For incremental backups, hard drives provide a good option as the data needs to be frequently updated. For critical data of low volume, SSDs provide long-term safety and usability due to lack of moving parts. Since cost is a concern here, these are feasible only for low volume of data. You can also back up entire TBs of data online if you're willing. Don't worry about internet bandwidth as most services provide the option of you mailing in your physical hard drive to them (eg. http://aws.amazon.com/importexport/).

RAID 1

RAID stands for Redundant Array of Inexpensive Disks and provides a simple and cost-effective method for home backups providing high reliability.



Grsync: One tool to rule them all

Of the many configurations available, right from RAID 0 to RAID 6, a good compromise for a home user wishing to back up data would be the RAID 1 configuration. Here two identical disks are used and the data is automatically mirrored across both, so whenever one disk fails it can be replaced by another without any loss of data. It can be implemented via hardware as a dedicated RAID controller (Many motherboards have a built-in option) or it can be implemented via a software driver. Typically a hardware implementation is recommended.

For software raid, you can go to `Control panel > System management > Computer management > Disk management`. Now select "dynamic and mirror". More info here: http://dgit.in/GLwlnH

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BACK UP YOUR SOCIAL PRESENCE

In today's day and age we live out a large part of our lives in the virtual world; sharing photos, updates, thoughts, journal entries, even important moments and events with friends and family. All of this precious data sits on servers spread halfway across the world and we're quite comfortable with that. After all, technology giants such as Google, Facebook and others who are curators of your personal memorabilia surely have safety measures in place. Yes they do, but wouldn't you feel safer if a copy of it all was available on your own system? By doing this, blackouts, outages and downright loss of data won't affect you so severely.

Back up Facebook

Facebook allows you to back up all your data without using any third-party apps.



Use Facebook's in-built tool to download your data

To do this, click on the drop-down menu next to your name in the top-right corner. Go to account settings and you'll find a link which says "Download a copy of your Facebook data". Once you click on it, Facebook will tell you what the back up will contain. It includes your photos, wall posts, messages, chats etc. Click on "Start My Archive" to begin the process. You'll receive an email when your archive is ready for download. The archive contains an HTML version of your account which you can store locally. Ensure that you save this data carefully.

Back up your Twitter account

Twitter is a sneaky little blue bird. While you're happily tweeting away your pearls of wisdom on the micro-blogging site, Twitter is busy deleting your old tweets. Yes, only 3,200 of your most recent tweets are available online. Imagine all those dear diary style ramblings, those witty innuendos, those wisecracks all gone! The horror! Fear not, there are several services such as http://backupmytweets.com/ and http://tweetbackup.com/ which will help you preserve all that you hold dear on Twitter. TweetBackup requires you to sign up using Twitter and an email address. Oauth will authorise the app and you'll be on your way. Go to the export tab on the web UI and you can export your tweets as plain text or HTML. BackUpMyTweets also works in a similar way except that you need to post an obligatory tweet about the service.



TweetBackup can help you save beyond Twitter's 3,200 tweet quota

Back up last.fm plays

Last.fm is a social networking service that lets you connect with people with similar tastes in music. To build your taste in music it uploads (scrobbles) information about every track that you play. In turn, over time it builds up a huge database of all tracks that you've ever played. But as always, outages are common and who knows, data might disappear or last.fm might decide to stop storing scrobbles beyond a point. To back up your last.fm data, go to your profile and click on the RSS feed button in your recently played tracks. Next go to http://www.feedmyinbox.com and paste the RSS url in the box. Click `submit > verify your email` and soon your last.fm feed will start trickling in your inbox. Apply a filter and archive under a label. If you're comfortable using scripts head over to http://bitly.com/lastbup for detailed instructions on exporting and restoring your scrobbles.



Backupify does it all

Backupify everything

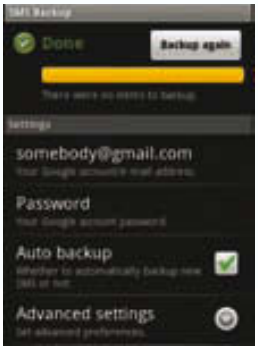
www.backupify.com is a great tool to back up multiple social media accounts with ease. Besides regular networks such as Facebook and Twitter, it allows you to back up LinkedIn, Flickr and a host of other Google services. The free account in its Social Media package allows you to back up up to three accounts. Head over to the web site. Select the account you wish to back up, authorise it and voila you're done. As simple as that.

BACK UP YOUR PHONE DATA

Almost functioning like mini-computers, phones today carry most of your important data. You're unwittingly carrying around everything from pictures, videos, notes, texts and so much more. Even the applications that you install constitute important data. Should something happen to your phone you'd want to retrieve not just your personal data but also the minor customisations you've made in the phone to make it uniquely yours. Since they're so popular, we'll look at backing up Android phones.

Back up SMS messages to Gmail account

An application called SMS Backup (Christoph Studer) is a very easy and effective way to back up SMSes from your Android phone to your Gmail account. Visit http://dgit.in/GW8IY9 to push it to your phone or search for it on your Google's Play Store. The app requires you to have IMAP switched on in your Gmail account. To do this, click on the Sprocket icon at the top-right corner of your Gmail account. On launching the app for the first time, you'll need to enter your Gmail credentials and the first batch of 100 SMSes will begin uploading to Gmail, under a new label titled SMS. The app will automatically back up all your texts in batches of 100. The texts will be filed.



SMS Backup on Android

Back up with Astro

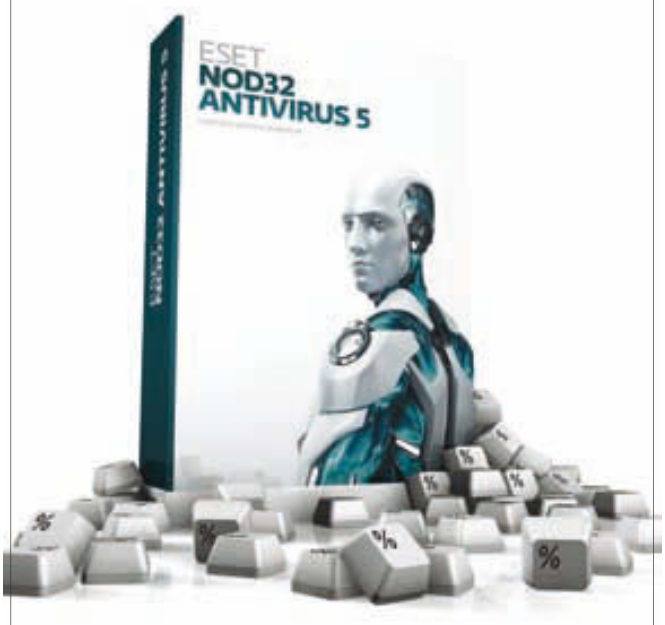
Although a lot of backup features are built into Android via syncing with Google, it's not the only service you should depend on. Astro is actually a file manager but supports application backup. Follow these steps: `Download Astro > Launch > Tap Application Backup`. Now select the applications you want to back up and tap the Backup button. The applications you selected will get backed up to your SD Card. Note that the app publisher should allow backups to SD card.

For rooted phones

Users with superuser access on rooting have the option of using a superlative application called Titanium Backup. Incidentally Titanium had won a place in our list of top Android apps some issues back. Follow these steps to back up phone data using Titanium Backup: `Install the App > Tap the menu button > Tab Batch`. Now select market apps, system apps and a whole bunch of content. You can even schedule backups. An excellent app when you're switching ROMS frequently.

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Steganography: Using images to store data

Ravi Sinha
readerletters@thinkdigit.com

If there's one thing that history and popular culture has taught us about spies and secrets, it's that often, the best hiding spot is the one in plain sight. After all, if a nosy intruder is searching for valuable information, surely the last place he'd check is right under his own nose, right?

This logic forms the basis for steganography, itself an ancient historical practice of concealing information within images. This practice differs greatly in purpose from cryptography. The latter employs code to hide a message. This appears as jumbled letters and numbers, unless a cipher (or key) was used to decrypt the information back into its readable state. However, while cryptography is great for sending messages securely across unsafe channels, the very nature of the encrypted message will tip off anyone to its true form. In short, just because it's hard to break into, doesn't mean you want to leave it in plain sight. What if sending encrypting messages itself is against the law?

This is where steganography comes in. Using basic freeware tools like OpenPuff, it's possible to hide audio files, video, messages and images within a file (usually an image).

In steganography, the file or image used to deliver the hidden data is called the carrier. The hidden data is referred to as the payload. A carrier is usually required to hold up against different steganalysis methods, as well as common sense. Several digital artists use steganography to embed digital watermarks into their work. In case anyone else tries to lay claim to his or her property, the decrypted watermark can reveal the true owner.

You can download OpenPuff from http://bitly.com/opuff1 or find it on the Omega DVD. After downloading and installing OpenPuff – currently at version 3.40 – you'll see two primary options for steganography: Hide and Unhide.

Select Hide, and you'll be taken to a menu divided into four steps. The first step entails entering up to three different passwords to secure your data. You can choose to enter only one password as well, if keeping up with them all becomes tough. Next, you'll have to select your payload or target that you'll be transferring. Use the Browse button, and select the target to see it's overall size in a bar below the name. In this third step, you'll have to choose a carrier. Keep in mind that the carrier can't be smaller than the target (since this will no doubt raise suspicions). You can attach multiple carrier bits if one file isn't big enough. Hit the Add button to navigate to files designated as the carriers and select them to see their space in relation to the target space. If the carrier space is greater, the red status bar will turn green.



Use applications like OpenPuff to hide data in images

The Bit Selection Option allows you to properly encode the carrier's size until it matches with the target. Keep in mind that some formats would be better suited than others. OpenPuff will alert you if the file type isn't supported for being a carrier.

After bit selection, hit "Hide Data!" and a new file will be created. On the outside, the carrier will look like a normal image file. Navigate to the Unhide option in the main menu and proceed to enter all the relevant details used for encrypting the file. Ensure that the passwords and bit selection option are exactly the same as those used before, or else the file won't open. Select your carrier file then, hit "Unhide!" and voila! The payload is now revealed.

You can also choose to fool any attackers by using the "Add Decoy" option. Simply head over the Hide menu, and after the previous four steps, select "Add Decoy". You can add a file, just like when adding the payload, and set multiple passwords for it. When you're done, hit "Hide Data". The decoy can be revealed in the same way as the payload, only you have to use the details entered for the decoy.

Selecting the SetMark option, and adding a mark to a specified carrier can add watermarks. Similarly, CheckMark allows you to verify the watermark by selecting the carrier in question. You can also use CleanUp to erase a watermark from an image.

Steganography obviously has its disadvantages and controversies but when used effectively, it becomes an invaluable tool for covert transmissions. Not to mention those times when you just want to claim right to your work.

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Protecting your social identity

Beware, someone might be engineering your identity online!

Ravi Sinha
readerletters@thinkdigit.com

In the 1995 cult geek movie *The Net,* Sandra Bullock plays your average, every day systems analys whose interactions with work and friends, were solely online. Due to her pre-occupation with the online world, she rarely found time to prove her own identity when she suddenly found her credit cards invalidated, her home empty, and pretty much any record of her existence "deleted". A decade ago, we would have looked at the film for its cheesiness and really questioned whether a government conspiracy could entangle anyone and steal their life via the Internet. Flash forward till now, and it's come to a point where you never know who could be gathering information on you, or when.

In today's world, where the number of devices connected to the Internet supersedes, we're all living through the Internet in some form or another. The threat of imposters, who pretend to be you, is frightening and real. After all, how hard is it to glean one's habits, hobbies, interests and professional experience? The damage that can be caused by ordinary people who can visit your profile, view your photo albums and friend lists, and see what makes you tick is equally devastating. When you look at the number of kids and pre-teens coming online, who aren't aware of the ugliness hiding deep inside the Internet, it's of tantamount importance to know just what to share and what not to. Protecting your social identity thus becomes a major priority for protecting not just yourself, but your friends and family.

Entrapment: How They Get Us

The number of activities and apps on Facebook alone has reached an almost infinite level of constant buzz. We no longer look at them as separate from our very selves, for we are what we "Like", and everyone should know who we are. Curiosity can get the better of one more often than not, however.

Social engineering may sound like a nifty term for techies involved in social media. It's actually the practice of tricking people into divulging their confidential information, especially in situations where they normally wouldn't. Phishing is one of the tactics employed, wherein a user's name, password, and other personal information is obtained by the "phisher" masquerading as a trusted source. This is often achieved by designing whole websites and pages to look like, say, your bank to get you to give up your personal information. Email spoofing can be considered more dangerous for social networkers. It involves altering the sender address or other parts of the email to make it appear as if it's from a known source, even though it may have originated elsewhere. Given the number of notifications and alerts sent to our inboxes, it's not a stretch for someone to just send you a mail, pretending to be Facebook or Twitter.



"How You Connect" is important for it determines how much you're willing to share.

Detailing Facebook Security

Since it's the most widely used social network in the world with 600 million users and rising, we'll be covering the security features of Facebook in detail. Keep in mind however that no matter which social network you use, you always give the security settings a once over.

Firstly, navigate to the arrow located next to the "Home" button on the top of the page. Select Privacy settings.

You'll see three settings for controlling what you share: Public (which makes all your profile info and pics available for everyone to see), Friends (limits your info to your circle of contacts and "friends of friends") and Custom, wherein you can define parameters even more stringently.

Go to "How You Connect" and you'll find options regarding who can look you up using your phone number and email address, and who can send friend requests and messages. Ideally, you should set the first option to "Friends", though it would be safer to limit this to a custom group. As you go along, you can add more names to said group depending on who you can trust. The last two options should be set to "Friends of Friends", at least.

"Profile and Tagging" gets more extensive. It determines who can post on your wall, which friends can see those posts, the ability to review post tags, com-



Facebook offers three privacy settings for your discretion, though you'll still need to do some fine-tuning.

ment tags and who can make tag suggestions, and finally, whether friends can check you in to different places using mobiles. "Apps and Websites" determines just how much information you share with third party websites and applications. You can also edit "Public Search" and "Instant Personalization". The latter is especially interesting since it accesses public info related to you and your friends' interests on select websites that Facebook is partnered with. If you're feeling especially paranoid about other people seeing your views on different sites, you can disable this feature.



Facebook offers three privacy settings for your discretion, though you'll still need to do some fine-tuning.

"Limit Audience for Past Posts" is fairly straightforward. Since Facebook's privacy settings can be adjusted for individual posts, this option allows you to change all past posts to whatever settings you've created under "Friends". If you've made something public before, however, and want to keep it that way, you'll have to go to the post in question and change it separately. Finally, there's "Blocked People and Apps". This is the page where you can block annoying users or applications, and is fairly useful since it pretty much erases any evidence of either, no matter where you go.

Standard Do's and Don'ts with Facebook

Do's

- Keep as little information of your profile viewable to the public as possible. Limit messaging and friending options to "friends of friends".
- When logging into Facebook, always make sure it's via a secure "https://".
- Avoid clicking on suspicious links or allowing third party apps to access your profile. There are greater dangers than just letting the whole world know you play Farmville.
- Limit the privacy of your posts to "Friends" rather than "Friends of Friends". The extent of one's connections can never truly be known. Keep things within a circle you know you can trust.
- Disabling the public search option can improve your social security by leaps and bounds. This prevents anyone from viewing your profile via any search engine. It's imperative to do this before you start Facebooking full time so that none of your information is cached within the search engine when you decide to disable it.
- If you're logging from a cyber café, keep in mind that ozens of users come in every day, and it's no secret they can be a major breeding ground for key-loggers, worms, etc.
- Several sites allow you to log in to your Facebook account to like and comment on posts. Always make sure the source is trustworthy before doing so, and even then think twice about it.
- Disable viewing of your default profile pic for everyone except your friends. This seems elementary, but this often how imposters get rolling. On another note, be careful of people you think you recognize but who have only one or two pictures on their profile and a scarcity of information.

Don'ts

- You should never post your phone number or physical address on Facebook. In extreme cases where you must, make sure it's viewable to a circle of friends that you trust.
- Never, ever, ever divulge any sensitive information to anyone on Facebook, for any reason whatsoever. This rule applies to information regarding your account, email, and bank details.
- If there's a video or picture you only want a few people to see, it's safer to simply not upload it.
- Never use the same log in password for Facebook as you do for your email address or other services. This is even more so in the case of the email. If your Facebook password is lost or compromised, you still have the chance to change it via a notification it sends to your email account. If both passwords are the same, it wouldn't be difficult to have someone lock you out all together from your own account.
- Don't simply friend some one based on the "one mutual friend" connection. Even in lists of a 100+ friends, there will always be someone your friend can't completely vouch for. Always make sure you know the person in real life, and communicate via messages first before trusting them with viewing your profile and information.
- And most importantly, never click on each and every link you see on Facebook, especially the ones that ask you to navigate away from the site.

Online Identity Management and its Benefits

You can use online identity management or online personal branding to deter any possible imposters. It involves publicly participating in forums and being brought up in news items and social media. This presence you create is somewhat different from keeping information about yourself away from crackers and snoops. Take for example, famous celebrities and politicians officially cementing their presence on Twitter. It not only allows the site to weed out fake accounts, but can be a great source for legitimacy if some one's causing trouble in your name. Just make sure to keep sensitive information out of the disclosure.

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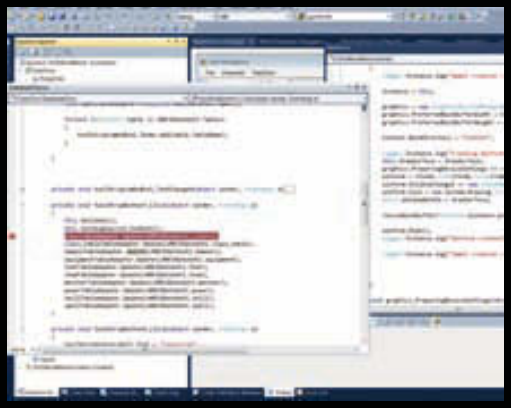




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Secure your mobile

When you buy that next great smartphone or a much-awaited tablet, don't hesitate to install a security app on it

Jayesh Shinde
jayesh.shinde@thinkdigit.com

If The need to secure something personal and important to us is a natural instinct. Yet that instinct doesn't naturally extend over to a device that's increasingly becoming the centre of our attention: the smartphone. A general lack of awareness and an attitude confined to the PC era is to blame.

For better or worse, smartphones are increasingly becoming a part of our extended digital life. Along with this increased proliferation comes increased risk of exposing them to unforeseen vulnerabilities. In fact, in this day and age, the minute you turn on your phone you're at risk -- same as the minute you connect your PC to the net, you've to be on your guard. And the risks of today aren't just content with wreaking havoc in your PC, they have ulterior motives of mining your personal and professional data. As that data moves on to our smartphones and tablets, the bad guys wasting no time to follow us there.

Why?

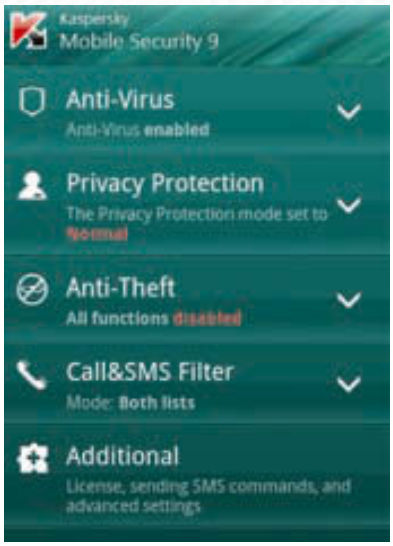
There are a multitude of threat reports, released over the past year or so, that point at a rising trend of malware infection on mobile platforms. Even from a malware architect's perspective, there is greater incentive in targeting smartphones and tablets because of two reasons: a) More people today are buying smartphones and tablets today than PCs or laptops; and b) Not many of them think of securing these devices with any anti-virus or anti-malware software. It's a no-brainer for the guys producing malware, and the perceived threat to handheld devices is quite real.

Android, the fastest growing mobile OS in terms of market share, is the most targetted OS since mid-2011, according to a security report. Since 2009, the number of malware targetted at Android has grown by a whopping 400%. What's more, since Google doesn't police and screen the apps added into the Android Market, you (and Google) have no way of knowing whether that cool, new app with multiple recommendations is infected with a trojan or not. Chances are that unless you suspect fishy behaviour and report the app for Google to check, the malware app will just fly under the radar and continue to exist as a legitimate download option on the Market. Other mobile OSes may be lesser at risk compared to Android, but they aren't 100% safe without security software. Sad but true.

But that's not it. Anti-virus is one thing, but protecting your sensitive work and home-related data on your smartphone and tablet should be prime among the reasons why you should install a security app on your handheld device. For people who scatter



Annual Mobile Malware Infection Likelihood 2011



Kaspersky's suite has an anti-theft feature



McAfee's suite allows you to wipe data

their work across multiple systems and devices, the importance of safeguarding sensitive corporate data can't be underscored enough. This is why you have to equip your smart device with a security app to give it a fighting chance of combating the risks that are prevalent in today's digital world.

Features offered

Good news. The number of security apps and solutions offered on popular smartphone and tablet platforms has been steadily rising since last year. A smartphone security app is a jack of many trades, offering tools and services that are tailor made for the platform and device. Virtually every major security suite vendor has an anti-virus and malware scanning tool built-in, along with protecting your privacy.



Norton's app has the most fluid UI

Nearly all of them have an anti-theft module, which helps you locate the coordinates of your lost phone, and call and SMS filter. Some security apps also let you send SMS commands to either lock your phone or delete all sensitive data from it. Others offer features that automatically lock a phone when its SIM card is removed. If there's one thing they all do, apart from protecting your device from malware, is to go to huge lengths to safeguard your personal and professional data on the device, make sure it doesn't get compromised.

Since paid subscriptions to most popular security apps only cost about Rs. 500 or so, securing your smartphone is quite cheaper than your PC -- plus it's nothing compared to the thousands of rupees splurged on the smartphones themselves. The peace of mind ensured by having an antivirus app running on your smartphone is worth the trouble of hunting it down and installing it on your mobile device.

Coding and spreading a malware on smartphones is substantially difficult than attacking Windows PCs, but the threat persists and by all indications it's only going to rise. So do yourself a favour and protect that smartphone.

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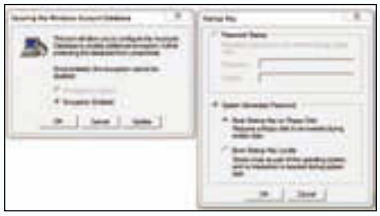
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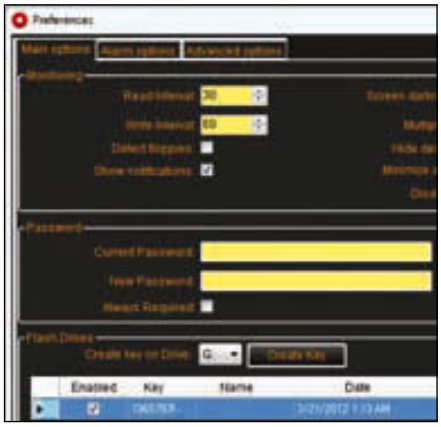
USE USB DRIVE AS A HARDWARE KEY

Windows has an inbuilt system utility called Sys Key that can help you use a normal pen drive as an access device



In-built USB Key feature in Windows

instead of a regular text based password. To do this the first step is to assign A: as your removable disk drive. This is because the utility was designed to work with floppy drives. To do this hit [Windows] key and type "disk management" and press enter. Right-click the relevant drive name and click rename. Next hit the [Windows] key again and type SysKey and press enter. Click update > Store key on floppy disk. Click ok. After this a file called Startkey.key will be created on your pendrive and your PC won't boot into your desktop unless the pendrive is plugged into your system.



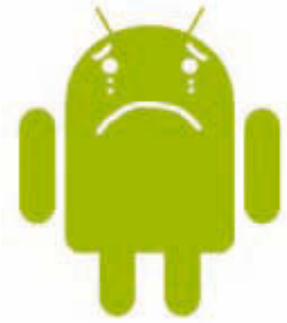
Predator configuration and preferences

Use pendrive as killswitch

Our mobile phone, laptop, and now tablets have so much of our personal data on them. Surely the thought of losing these devices must've crossed your mind. In such an unfortunate situation you'll most likely think of whether you can find your lost/stolen device. Is there a way to install a software equivalent of a lojack on your device? And if all else fails is there a way to remotely wipe at least your sensitive data? Sometimes as a last resort wiping your data is the only way to protect it from falling into the wrong hands. In the tips below we'll discuss the various options available

REMOTE WIPE YOUR MOBILE DEVICES

Our mobile phone, laptop, and now tablets have so much of our personal data on them. Surely the thought of losing these devices must've crossed your mind. In such an unfortunate situation you'll most likely think of whether you can find your lost/stolen device. Is there a way to install a software equivalent of a lojack on your device? And if all else fails is there a way to remotely wipe at least your sensitive data? Sometimes as a last resort wiping your data is the only way to protect it from falling into the wrong hands. In the tips below we'll discuss the various options available



Android Lost

For the droids

An application called Android Lost is your ray of hope when this unfortunate calamity occurs. Install it from the Android Market (now Google Play) and you'll be able to control your phone from www.androidlost.com . The app allows you to remotely perform various tasks such as locate your phone via GPS, forward calls, lock the device, and erase data. All you have to do is configure your phone with the service and it will show up on the website for your bidding.

Remote wipe your laptop

The most popular free application to help you find, recover, and remotely erase the data on your laptop is Prey. It's Open-Source, lightweight and cross platform with versions for Mac, Windows and Ubuntu. The software sits in the background and allows you to perform many tasks remotely. These include gathering info on the device's location, hardware and network status, and trigger specific actions on it such as a remote wiping passwords. You can download Prey from http://preyproject.com/download or find a suitable version for your system on the Omega DVD.

iWipe that iPhone

There's a neat little feature within the iPhone too that lets you delete data remotely. This is enabled through iCloud and obviously requires an apple id. If your device runs on iOS 5, simply visit www.icloud.com and click on find my iPhone. But before this you must ensure that you've enabled the Find My iPhone feature in the iCloud settings menu of your device. Once the feature is enabled on your device and say you've lost it, you can firstly find the device location and additionally even perform a remote wipe by simply visiting the website.

SANDBOXING

Sandboxing allows you to create a separate environment for your applications. So if you are wary of any new application that you've recently installed, then you can easily check the software out in a sandboxed environment without fear of wrecking your system.

Sandboxie is a simple Sandboxing program which allows you to create multiple environments, each with customised permissions. You can also go a little further and install a Virtual Machine in which you can install whole a OS and thus, have multiple instances of OS running at the same time on the same machine. You can choose to allow access to the Internet, load drivers, load

a hook in order to listen on an application, akin to a keylogger. So you have greater control over the applications on your system.

Sandboxing explorer

A neat trick to prevent system wide software crashes is to sandbox the Explorer.exe process. In order to do



Prey: Know the whereabouts of your PC

this, open an instance of Windows Explorer. `Click Organize > Folder` and `search options > View`, then Check the "Launch folder windows in a separate process". Usually, when Explorer.exe crashes, it takes down everything else down with it as it is essential for most applications to run.



Wipe iPhone remotely

With multiple instances available, the applications no longer crash as there is at least one instance of Windows Explorer running in the background.

Massive bandwidth ahoy

Another neat trick is to make maximum use of your cable bandwidth is by having multiple instances of virtual machines on your computer. You can then login multiple times to your ISP, once from each virtual machine using a unique login for each instance. Each of your login will be allotted the alloted bandwidth for the connection respectively. If you are downloading torrents, then assign the same torrent to all connections. Then in each torrent client in the individual virtual machine, you should designate the other client as a local peer. This way, each instance downloads a portion of the torrent and passes it on to all local peers. With the increased bandwidth and co-ordiantion between each clients all your downloads are completed must faster without the same data being downloaded twice.



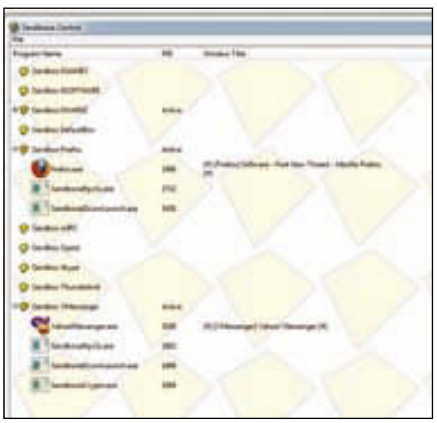
NoScript addon for Firefox

SECURITY PLUGINS FOR BROWSERS

Most of our computer usage these days is restricted to opeing up a browser and going online. Since browsers are so commonly used they need to be protected

Say No to Scripts

Firefox and other Mozilla browsers have an add on available called NoScript (install from https://addons.mozilla.org/), that blocks and notifies you of scripts like Flash, Quicktime, JavaScript etc, preventing malicious websites from using these scripts as attack vectors to access your computer or crash your browser. Blocking all scripts however would render your browsing experience incomplete, thus NoScript allows you to adjust settings so as to block only unsafe domains. For Chrome you can install a very similar extension, called by a very similar name NotScript (search in Chrome Store). This too gives you a relatively high degree of control over what content to run and what to block on your bowser while allowing you to whitelist sites you trust and want easy access to. Internet Explorer again has certain inbuilt features you can tweak to give similar results. Go to `Internet Options > Security Tab > Custom Level > Disable Scripting`. But there is no customization possible and the JavaScript will be disabled for all websites alike.



Sandboxie control panel

Control your Cookies and more

Other useful and popular options include Ghostery (http://www.ghostery.com/) for both Firefox and Chrome that gives you a pop-up whenever you use an ad network or tracking script and allows to block the ones you don't trust. Then there is Close 'n' Forget in Firefox, through which you can protect yourself from sites you've accidentally opened, only to realize later that you did not want it to appear in your history at all, you can simply press the icon and the site and all cookies related to it are permanently deleted. If the thought that all you visit or search on the net gives you the creeps, you should try out Better-Privacy in Firefox, which blocks long term tracking by Google, YouTube, Ebay etc.

You shall not pass!



We pit 18 security suites head to head against some of the nastiest malware circulating the globe. Read on to find out which one comes out on top

Anirudh Regidi, Jait Dixit
readersletters@thinkdigit.com

Securing your PC from infection has come a really long way from just protecting it from a simple virus or a worm. A simple anti-virus (AV) program is no longer sufficient protection as we have the world's largest virus bank literally at our fingertips, the web. Malware has grown very subtle over the years and (mostly) tries to get into the PC in the form of a trojan (seemingly innocent files), in fact, the most common way for a "virus" to get into a system nowadays is user-error, an accidental click on the wrong link and hey presto, you have given someone a backdoor to your system. It needn't even be accidental, that link or file you clicked or downloaded might seem perfectly innocuous and safe, in fact, most of the time it will do exactly what you wanted it to and the malware will just silently sneak into your system and wreak havoc without you even knowing that something is wrong.

If security is a priority, it has become essential to provide a fully-featured suite that not only detects viruses, but protects your web browsing as well.

In this month's security suite comparison we take a look at 18 security suites and pit them head to head to see how they fare. The test process is laid out on the next page for your perusal. The reason we have not given any specifics regarding the malware and payloads that we used is that these malware are extremely dangerous in the wrong hands and any user, experienced or otherwise, can run into a lot of trouble, or create it for that matter, if you doesn't know what you're is doing.

Features and design

The various security suites in our test were packed to the brim with features like spam and phishing filters, link scanners and virtual keyboards. As a bonus, most of the suites also came with system optimizers and secure file erasers and other miscellaneous utilities. Many of the suites, notably Avast and Bitdefender, came with a browser sandbox mode. This works by isolating the browser entirely from the system, so any malware that you may have inadvertently triggered will not, in theory, affect your system. Some suites like Avast and NetProtect also came with Windows Gadgets which you could use for quick access to essential aspects of your security.

Avast has an interesting feature where you can configure the system to send you an e-mail or even a printout when malware of any sort is detected. This will probably be useful for system admins as well as power-users who might want to monitor their systems remotely. Bitdefender in particular was the most feature-rich suite of the lot. It includes a lot of options and tweaks and even monitors aspects such as password strength and windows and application updates. Another interesting feature of Bitdefender was the rescue mode that it offered. You can use the program to create a system rescue partition and boot into that using Bitdefender to deal with your system when it is infected.

We noticed a few quirks with some of the programs as well. NetProtect Anti-Virus (NPAV) completely disabled

HOW WE TESTED

Since we were testing 18 security suites as exhaustively as it was possible, we decided to use as many PCs as we possibly could to speed up the process. The first step was to prep the PCs for the rigorous testing.

Prepping the test PCs

We chose four identical PCs for our tests and these were specifically mid-ranged PCs to present a clear use-case scenario. The configuration is as follows:

1. Intel Core 2 Duo E6600
2. Custom HP motherboard
3. 2GB DDR2 RAM @800MHz
4. 80GB SATA HDD

The HDDs were first completely formatted, a copy of Windows 7x64 SP1 was installed on all the machines. Essential apps such as WinRAR, TeraCopy, VLC 2.0, Google Chrome, etc. were installed on all the PCs.

We took a complete system snapshot using Clone-Zilla and each of the four PCs were reset using that very same image to ensure that each and every system was consistent.

We benchmarked the PCs using PCMark vantage (3 runs) to ensure that their performance was within 2 percent of each other.

Test Process:

The PC was first restored to the system snapshot as specified above and the security suite was installed and allowed to update. All applicable optional components were installed, including toolbars and Windows gadgets provided by the suite.

The test was divided into two main parts, namely, performance and productivity.

The productivity tests were run first, followed by the performance tests. Detailed notes were taken during the entire test process.

After each security suite was tested, the system was again restored to the system snapshot

Productivity tests

These tests were designed to measure how much a system is affected by the presence of the security suite.

1. **Benchmark:** We ran the peacekeeper benchmark (http://dgit.in/AVSuite) on the test system before and during a system scan. The benchmark measures various aspects of a browser's performance, including video playback and image-editing. We found that this benchmark scales well across a variety of loads and gave consistent results. Maximum weightage was given to this test as it tries to mimic a real world usage scenario.
2. **File transfer:** We transferred 2 GB of assorted files from partition to partition and compared it to the time taken to transfer the same files before the security suite was installed.
3. **File Compression:** We compressed the above mentioned assorted files into a .zip file using 7-zip and its default options.
4. **Total system scan:** A full system scan was run on the test PC, all scan modes except a memory scan (RAM) were enabled, where applicable. This was mainly because not all suites had the option to scan RAM and we wanted consistent results.
5. **Boot time:** This test was a measure of the AV suite's impact on the boot time of our test systems. The results of this test were given a minimum weightage as this score is largely irrelevant unless you spend a lot of time shutting down and restarting your PC. Boot time was measured using the "Windows Performance Analysis Tool", which is part of the Windows SDK.

Performance tests

In these tests, our aim was to measure the performance of the AV suite in terms of its detection rate and ability to detect and prevent malware and rootkits from accessing the system. All these tests were performed with all settings at their default values to measure out-of-the-box performance of every suite.

1. **Virus samples:** We downloaded a selection of 9974 viruses, trojans, etc. from an online virus vault. These samples covered a period from the 1st to the 15th of March and were put on a formatted pen-drive and the AV suite was allowed to run a full scan on the drive. At the end of the test, the log file was used to verify the number of infected files actually detected by the security suite.
2. **Malware domains:** To test the effectiveness of the link-scanner which came bundled with almost all the suites that we had for testing, we compiled a list of infected domains, featuring a variety of malware including fake AV software. The response of the AV suite to these sites were noted and rated
3. **Payloads:** A payload is that part of a computer virus which performs some malicious action. We created 13 (this wasn't intentional) payloads using the Metasploit Framework. The payloads were hosted on a server running *backtrack* and metasploit and the test PC had to navigate to the server's IP and then download the files. The payloads were divided into 3 tiers based on the challenge they would present to the AV engine. The suites were rated on their response to these payloads.

a. Tier 1: These payloads utilize nearly all known virus bypassing techniques known to humankind. We inserted junk code in the program, encoded multiple times using various encryption schemes. This was followed by a lengthening of the decryption loop (to understand why, read Digit 101). We then compiled the code using the 32-bit *mingw compiler*, and stripped the debugging symbols to further throw off the engines. These payloads were the most difficult to detect and usually need excellent heuristics scanners to detect.

b. Tier 2: We used an interesting method to get around the heuristics engine here. We can't go into much detail, but we basically XORed the shellcode and the decryption loop required input from the command line, which throws off AV engines. Otherwise it employed the usual encryption schemes. These samples lie somewhere in between hard and easy to detect.

c. Tier 3: The simplest of payloads to be detected, they employed the least amount of encoding. But the change here was that these samples utilized backdooring and they were embedded into harmless looking executables - VLC 2.0 setup, Microsoft Malicious Software Tool setup and 7zip 32-bit setup. Still most of the security suites detected samples from this tier.

Name of product	Avast Internet Security 6	Avira Internet Security 2012	AVG Internet Security 2012	BitDefender Total Security 2012	Bullguard Internet Security 12	eScan Internet Security	ESET Smart Security 5	F-Secure Internet Security 2012	
Price (Rs)	2000	1750	3250	2800	3375	1136	1449	2763	
Pros	File ranking works well	Can save scan profiles to desktop	-	Feature-rich	High detection rate	Hijacks the system	-	-	
Cons	Disappointing firewall	-	Expensive	-	Expensive	Hijacks the system	-	Low detection rate	
Features (100)	77.27	40.91	45.45	86.36	31.82	54.55	50.00	31.82	
Productivity (100)	65.50	66.52	65.26	67.92	66.04	66.05	66.82	67.87	
Performance (100)	73.24	57.51	40.67	69.98	74.74	72.77	53.92	48.83	
Overall (100)	72.13	55.24	49.48	74.28	59.25	65.29	56.61	49.44	
Feature Tests									
Silent / Game mode (Y/N)	Y	Y	Y	Y	Y	Y	Y	N	
Parental Controls (Y/N)	N	Y	N	Y	Y	Y	Y	Y	
Identity protection (Y/N)	Y	N	N	Y	N	Y	N	N	
Browser sandboxing / Virtualisation (Y/N)	Y	N	N	Y	N	N	N	N	
Run program in sandbox (Y/N)	Y	N	N	Y	N	N	N	N	
Boot time scan (Y/N)	Y	N	N	Y	N	N	Y	N	
Rescue disk (internal source)	N	N	N	Y	N	Y	N	N	
Scan modes (full / quick / RAM)	Y/Y/Y	Y/Y	Y/Y/Y	Y/Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	
Schedule scans (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
Spam Filters (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
Phishing filters (Y/N)	Y	Y	Y	Y	N	Y	Y	Y	
File ranking (Y/N)	Y	Y	N	Y	N	N	Y	N	
Link scanner (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	
Performance Tests									
Time to full system scan (min)	18	41	18	27	150	19	57	24	
Payloads detected									
Tier 1 (6)	6	6	6	6	6	6	0	6	
Tier 2 (4)	4	4	4	4	4	4	0	4	
Tier 3 (3)	3	3	3	3	3	3	3	3	
Infected sites blocked (SO 10)	10	7	8	9	9	7	10	7	
Infected files found (SO 9974)	6271	5670	5588	5832	5817	5816	5466	3661	
Productivity									
CPU (Load %)	27	50	83	60	44	35	49	98	
Peacekeeper score (idle)	2595	2599	2600	2636	2613	2597	2650	2642	
Peacekeeper score (load)	2445	2599	1947	2572	2503	2458	2421	2597	
Time to boot (sec)	60	63	60	60	60	68	45	70	
File transfer time (sec)	99	72	107	62	70	92	100	62	
File compression (sec)	80	61	68	68	75	61	69	74	
Misc									
Free AV available (Y/N)	Y	Y	Y	Y	Y	N	N	N	

	G-Data Total Security 2012	K7 Total Security	Kaspersky Pure	McAfee Internet Security 2012	NetProtector 2012	Norton 360 6.0	Panda Global Protection 2012	Quick Heal Total Security 2012	Trend Micro Titanium Maximum Security 2012	ZoneAlarm Extreme Security 2012
	2045	899	1995	1799	800	1434	2948	1949	900	2300
	Decent performance	Cheap	High detection rate	-	Cheap	Quick install	-	-	Parental controls	-
	Massive installation size	Inordinately long transfer time	-	-	Disables UAC Low detection rate	Lowest detection rate	Extended file transfer time	-	Low detection rate	Disappointing firewall
	45.45	63.64	54.55	45.45	54.55	40.91	45.45	45.45	36.36	63.64
	61.65	65.81	64.56	65.03	64.45	63.72	63.68	67.62	64.23	65.59
	55.66	49.47	64.72	47.44	39.30	58.62	48.99	48.92	33.79	69.21
	54.39	58.62	61.62	52.12	51.42	54.83	52.34	53.49	43.69	66.45
	N	Y	Y	Y	N	Y	Y	Y	N	Y
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	N	N	Y	Y	N	Y	Y	N	Y	Y
	N	N	Y	N	N	N	Y	N	N	Y
	N	N	Y	N	N	N	N	N	N	N
	N	N	N	N	Y	N	N	Y	N	N
	N	Y	N	N	Y	N	N	N	N	N
	Y/Y/Y	Y/Y/Y	Y/Y	Y/Y	Y/Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y/Y
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
	N	N	N	Y	N	N	N	N	N	N
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	42	60	25	60	33	19	45	24	20	20
	6	0	6	0	0	6	0	0	0	6
	4	0	3	0	0	4	0	0	0	4
	3	2	3	3	0	3	0	0	0	3
	7	10	10	8	7	8	8	8	10	6
	5937	5843	6351	5459	4048	1011	5908	4598	4212	5292
	93	64	66	55	55	50	45	35	98	35
	2506	2660	2616	2611	2525	2484	2570	2650	2585	2585
	1979	2523	1676	2334	2319	2360	2508	2426	1958	2384
	70	52	52	47	55	51	52	60		58
	109	2880	98	132	75	67	580	78	142	94
	93	60	120	74	63	72	71	64	75	66
	N	N	N	N	N	N	N	N	N	N (Free firewall)

UAC during install and did not turn it on when it finished. We didn't even notice it at first because the suite gives you no notification that it is doing that. Diametrically opposite to NetProtect is EScan, which completely wrests control of the PC from the user. It automatically launches Windows update and also forces a secure login, where you have to enter your username and password to access your PC. Speaking of quirks, NetProtect also has this weird restriction where it cannot scan more than five individual files or folders at a time. It has no problem scanning four folders containing over 200 files each though, so we can't figure out what the problem is.



BullGuard Internet Security 2012

Performance

The malware detection rate has already been mentioned in the table so we won't really talk about it too much. A surprising point to note was that Norton 360 had the worst detection rate at a measly 10 percent, we were so taken aback by the score that we ran the malware scan again just to be sure.

The rest of the security suites managed an average detection rate of about 50 percent. Don't be alarmed, all the security suites haven't suddenly become defunct, its just that we used a selection of malware over a period of 15 days, and the most recent ones may not even have a patch yet.

Coming to the payload tests, most of the suites couldn't detect the tier 1 payloads. Avast in particular made full use of its file-ranking system to assist in detection. While its AV engine failed to detect anything wrong with the downloads, the file-rating system flagged the file as an unrated one and recommended that the connection be terminated. What was disappointing was that if the file does get through, Avast allows it to run for about 15 seconds, in which time it waits for a user response, this was more than enough time for us to hack into the system using our payload.

AVG's firewall also managed to detect the files, but recommended that they be allowed through. K7 detected the incoming packet from our server but could not detect the payloads or the attempt by the payload to connect to the server. The rest of the responses can be seen in the table (refer to "How we tested" for explanations on payloads). Those which got a score of zero allowed all payloads through with absolutely no hindrance from the security suite being tested.

The malware tests were quite straightforward, again, the number of websites blocked is shown in the table. We did notice something interesting where the browser itself (Google Chrome in our case), was blocking most of the sites and we had to manually force the sites to open to test the security suites. Surprisingly, ZoneAlarm, always known for its good firewall, was the worst of the lot.

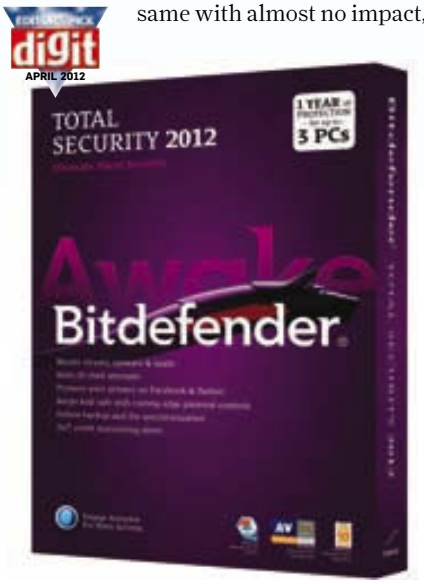


EScan Internet Security 2012

Productivity

Most of the security suites had a negligible impact in terms of productivity. The K7 and Panda suites were terrible when it came to file transfers (at default settings), with both suites taking an astonishing 48 minutes and 5 minutes respectively to transfer our 2GB bundle of assorted files. The ideal time should have been under a minute. Obviously, this extended transfer time is because the AV engine was scanning the files while writing to the disk. This is expected from a security suite but at 48 minutes (an average of around 700KB/s), this is way too much time spent on scanning the files, especially when other suites can do this faster and still have a higher detection rate.

Norton 360 had a distinct impact on the system even in idle mode (Peacekeeper benchmark) which can easily be put down to the fact that the engine was scanning all incoming and outgoing data, this is alright for security, but when you consider that Bitdefender does the same with almost no impact,



Bitdefender Total Security 2012

Norton 360 seems to be a tad heavy on the system. While Kaspersky impacts the system, you have the option to set resource management within the engine itself. Since we were testing at default values, we did not fiddle with this setting and anyway, system impact during scan was given a minimal weightage in scoring.

Winners

Best Performer

Going by pure performance numbers and disregarding every other aspect, this title goes to BullGuard Internet Security Suite 12. It was a very close

run between Avast and BullGuard, with barely 1 percent separating the suites, Avast lost because of its inability to definitively identify our payloads, which BullGuard succeeded in doing. BullGuard is a good suite, comparatively light on features and we have seen better interfaces, but when it comes to pure performance, BullGuard aces our tests.

Best Buy

This award is given to the product which would give you the "best bang for your buck". This award would have normally gone to K7 total security but considering its low performance scores (a very high priority for a security suite), the award goes to EScan internet security. This suite scored very well in performance and was just 2 percent away from our Best Performance winner, BullGuard. EScan can be a bit frustrating to use for power users because of its tendency to completely hijack the system, but for those who want complete security on a tight budget, this is the ideal tool.

Editor's Pick

The editor's pick has to go to Bitdefender Total Security 2012. The suite performed very well and is packed to the brim with almost every possible feature that you can think off. Other than being an security suite, you can use it to monitor every aspect of your PC, including access to USB devices and how you and your network connected devices and PCs interact with each other. The pricing is also not so bad considering the features and performance on offer. Other options like the system rescue image are an added bonus.

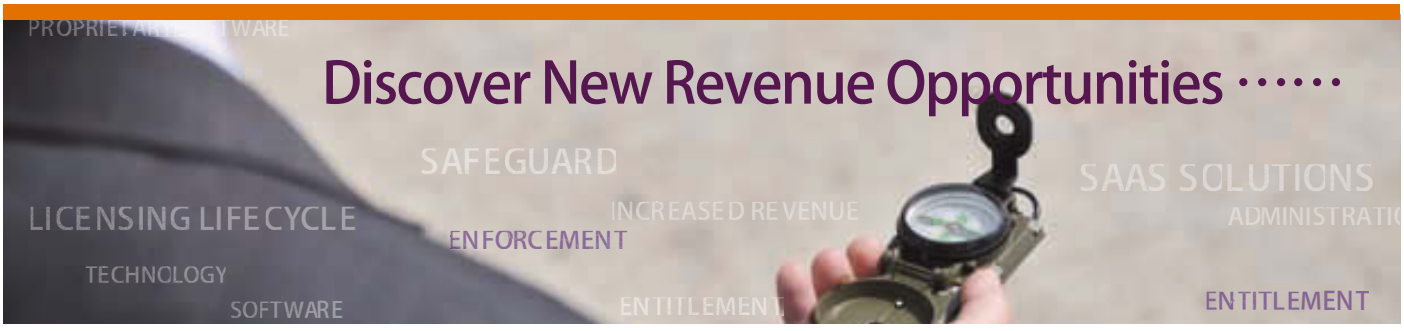
DISCLAIMER

These tests were conducted in an extremely controlled environment under the supervision of professionals who know what they are doing. DO NOT attempt to replicate any of these tests without proper supervision.

These suites are rated only on the parameters we have listed in "How we tested" and the final ratings are only meant to be an indicative of the performance of the security suites under those exact conditions.

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Hanu Prateek
readersletters@thinkdigit.com

Recovering domain names

There could be a multitude of reasons for you to lose control of your domain. It might have expired because you failed to renew it or the person who's technically the owner, is untraceable or was an employee and has left the company. In this case you might not have any means to get the renewal notifications. What do you do?

Most often you can recover a domain name even after it has expired or you don't have direct access to it. In case of



Get domain information from www.who.is

expired domains, there's a grace period of a week to 45 days for you to buy it back from the registrar, during which time it won't be made available to other people. If the domain hasn't expired and you don't have direct access to credentials you can contact the domain registrar directly. You can get this information by checking the Whois information (www.whois.com). After explaining your situation, the registrar will require you to go through certain formalities like fax identification and proof that the domain is yours. After a review period you're normally given the domain if you're found to be the righful owner.

Recovering your Facebook account through friends

It's very easy for someone to gain access to your Facebook account if the perpetrator gets access to your password. This is possible even if your primary email account is compromised. Being locked out of both, your email and Facebook account can be frustrating but Facebook lets you gain access by another alternative: "Recovering your account through friends" It lets you prove your identity when you're completely locked out. For a user's privacy and security and to avoid the



Get the security codes from your friends

misuse of this feature, Facebook will only reset your account login information after making sure of your identity. It lets you choose a few trusted friends to prove that the particular account is yours. Each of your chosen friends will be sent a security code and you can call these friends, collect your codes and follow instructions on the Facebook page to reset your password.

In case someone gets your Facebook password, logs in and changes the password, there are other steps you can take to minimise the damage to your social profile. Logging in with your old password will alert Facebook that something went wrong and you'll get a notification that it's your old password and it was changed on some date. Here you get an option to either reset your password or temporarily lock your account. You can instantly lock your account and nobody can misuse your information. Once the account is locked, you can reset your password through your email account.

Get back suspended Google+ accounts

Google has been constantly trying to eliminate fake profiles in the past few months. Unfortunately though, many genuine profiles might be considered fake and you might have your profile suspended if Google finds some suspicious activity on it. In case your account is suspended, you'll still be able to view your stream and notifications but not edit or add anything to your profile. To recover your Google+ profile fill up the appeal form which will be provided to you during the sign-up process. You'll need to wait for about 24 hours before Google verifies the legitimacy of your claim. You'll then need to provide your contact number and verify your identity by voice or SMS.

Password reset through SMS in Twitter

You can use conventional methods to reset your password in Twitter through the "Forgot password?" link and enter your email address or Twitter username. Twitter additionally needs you to verify your identity by entering your phone number. You can also send yourself a password reset via SMS. If your mobile number is connected to your account and you've enabled password resets



Resetting Twitter password through your phone

via SMS through the Mobile Settings page previously, you may receive a password reset via SMS/text message. Simply go to https://twitter.com/account/resend_password on a computer and enter your email/username and mobile number. Then select the Phone Reset option and Twitter will text you a 6-digit code that's valid for 15 minutes. You can then change your password by entering this code on the web.

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RESTORING A SESSION AFTER BROWSER CRASH

You've got 20+ tabs open. You revel in your "Geek - Level 9" status. Browser crashes... FFFUUU! If you too are regularly haunted by the nightmare of losing the hours of effort put in opening all those tabs due to sudden crashes, these tips are sure to bring a big sigh of relief. A few useful plug-ins and slight changes in your settings could be just the thing you're looking for.

Extensions for Chrome

For Chrome users, in most cases when you reopen the application after a crash, it automatically prompts you to return to the last session (with a sorry face, mind you!), and simply pressing the Restore button will take you back to all the tabs and windows you had open initially. But extensions like FreshStart, Sessions Manager and Sessions Buddy add another level of functionality. With FreshStart you can chose which tabs to save across all the open windows, to be stored under a particular session. Sessions Buddy captures your last 10 most recent sessions, an especially helpful feature after a browser or system crash. On starting the browser again returning to a particular session is a breeze.

Mozilla Firefox add-ons

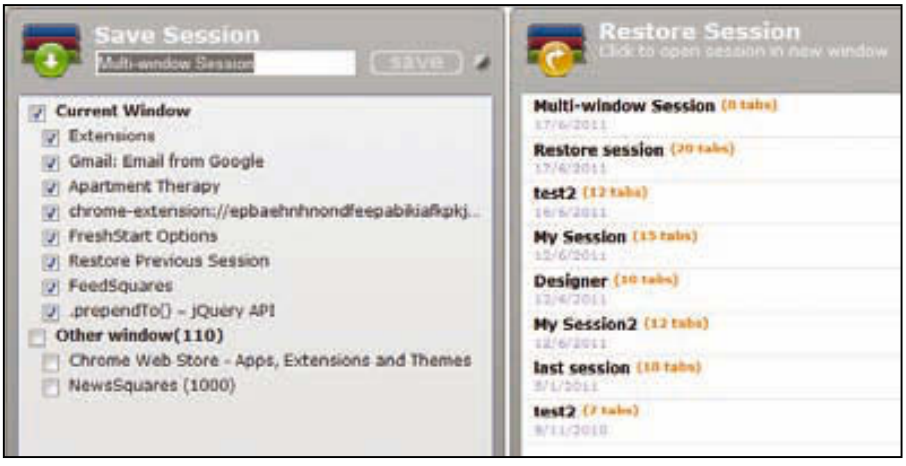
Firefox also prompts you when you restart the browser after crash, and clicking on the Restore Session option will reopen all tabs and windows. But as with Chrome, add-ons give you much more control. Open https://addons.mozilla.org/ and search for Sessions Manager. It can also automatically save the state of open windows individually. Other common add-ons for this purpose are Tab Mix Plus, which also includes a full-feature manager with crash recovery that can save and restore a combination of opened tabs and windows and save session.

Tweaks for IE

If your Internet Explorer crashes or shuts down for whatever reason, when you reopen the application and go to “about: Tabs”, there's an in-built link on the bottom of this page to reopen your last session as it was. Opening a prior session is tricky though. The solution is to install a separate application for this, the most popular being the IE Sessions Manager (download from http://bit.ly/GFtJqC)



Feature in IE9 to reopen tabs after crash



FreshStart extension in Chrome to organise sessions via Chrome Store



REVEAL A PASSWORD FROM ASTERISKS (*****)

Suppose you've forgotten a password to a particular login, but it still appears via the auto-fill utility. Copying the bullets/asterixes and pasting them into an empty text file won't help out in anyway. So in these instances you need to extract your password that's hiding behind ******. One way to do this is by using a software that does it all. We came across one particular site (http://www.nirsoft.net/password_recovery_tools.html) that offered interesting tools.

BulletsPassView, for instance, converts passwords it encounters in open programs. There's even a program which can analyse your router settings backup file to show you your password.

For web sites, if you'd like to check your password one last time before pressing enter, you could use a Greasemonkey script. You'll have to get the Greasemonkey add-on installed first, then navigate to http://dgit.in/GFC61I. Click the green



Use Greesemonkey scripts

Install button in the top-right corner of the web page. All you need to do now is mouse-over the password box and your password will be changed to plain text as long as the cursor is within the box's boundaries. We've listed the script at the web site given above, just in case you're wary of installing unknown scripts from the web.

A to Z of data recovery

Hanu Prateek
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In today's world, almost every bit of information is becoming electronic. While on one hand, this helps make life easier, simpler and faster; on the other hand, if proper care isn't taken you'll have hell to pay if your data is lost. Losing important files and data, be it business documents, important photos of friends and family or even personal media like movies and songs can be very stressful, to say the least. In most cases, data is lost forever. There are still ways by which you can retrieve data or replace it with a backup taken in advance.

Prevention is better than cure

It might seem intuitive but first and foremost, the best way to recover data is to already have your important data backed up on another storage device. Care needs to be taken about how often you back up because this entails the requirement of additional storage space and time for frequent backups. You can take a backup



Recovering your lost data

on the same computer (same drive or a different partition), a network server or on the internet (an external server or the cloud). In case of any data loss, recovery then becomes a simple matter of copying back the files. In the worst case scenario of your computer crashing, you'll just have to reinstall your applications and replace user data which has been backed up.

Fixing your hardware

In case of an unavailability of such a backup and hardware problems with your disks, there are specialized organisations and service providers that can retrieve data from damaged computers and disks. This usually involves them having to move the drive to a working computer, or opening it and replacing its



Back up your data

internal parts such as read/write heads, actuator arms and chips. Sometimes, the platters are removed and placed into another drive. Of course, these types of recovery cost you a bomb on a per MB basis! Fear not though, Digit's looking out for you and we've included a DIY in the following pages detailing how you could recover data yourself.

Retrieving deleted files

Recovering a file that has been deleted recently is a relatively simple task. There are dozens of undelete utilities available that help you do just that. But two software we'll try and explore in this article are Photorec for photos and Recuva



External services can fix your hardware

from Piriform, for just about anything. Recuva is free and very simple to use offering sector-based recovery. It's also available in a lite portable version.

Sector-based recovery

When you face a hard drive crash, or your PC keeps producing error messages and problems like not being able to boot into your operating system, you need more than just a simple undelete utility. First check if the crashed drive is visible in the Windows Disk Management console, and is still spinning and working (not making any weird sounds). In this case you may still be able to retrieve your data with a sector-based utility. Unfortunately, most sector-based recovery utilities aren't available for free. When using a sector-based recovery utility keep in mind that it shouldn't be installed on the hard drive or partition from where you're trying to recover the data. You might accidentally end up overwriting that particular data. If you have a recent backup of your data and need to recover only one small important file, you can use Easeus Data Recovery Wizard. Its demo version can recover one file for you irrespective of its size. It's probably one of the easiest recovery programs to use. R-Studio is another utility which works with almost every file system out there, including Linux and Mac. The demo comes with its own boot CD in case you need to recover from a machine that can't boot to its OS. "Active File Recovery" is another software with a very user-friendly and simple interface making it easier to see what files have been recovered compared to R-Studio. In most cases, after restoring a partition you should be able to boot to the OS again failing which you'll at least be able to copy files to recover your data. For doing this, you'll probably have to boot your computer using a live CD. Any versions of Linux that will run from a CD, such as Slax or Ubuntu are adequate and they're free.

Recovering data from smartphones

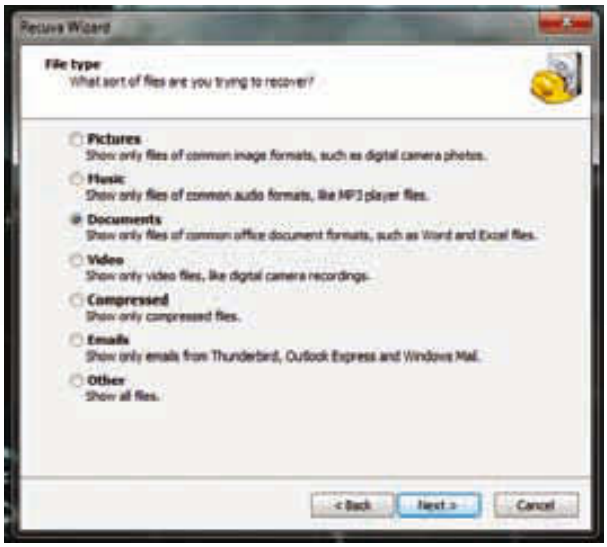
Smartphones today with their improved hardware can perform similar to conventional computers. They also have the option of adding in external memory and come with as much as 8-16 GB of internal memory to begin with. But with this extra memory we have to realize that we also grow very dependent on them to store our data and personal information. We keep piling data onto them or the memory cards and generally forget to keep any backup either. A lot of pictures and videos taken on a smartphone have a knack for being misplaced or accidentally deleted. A smartphone can be connected to your computer and be used as an external drive to recover lost files. But again the older the files, the lesser the chances of actually successfully recovering them, as data on a smartphone is constantly overwritten on the media. For best results, try recovering files as soon as possible and take the media card out of the device if you've accidentally deleted an important file.

Using Recuva to recover deleted files

Using software like Recuva is a good first step in data recovery considering the case where no backup is available. Make sure you understand that Recuva is not an alternative for a service that can extract data from a drive in just about any state or condition. It's simply a handy tool for recovering deleted data in simple situations.

Recuva has a very user-friendly interface and filters results based on either the file name or its type. It gives you different views like lists and trees. The best part about Recuva is that it's portable and can be run from a USB pen drive without any need for installation. You can restore most of your documents, images, video, music or email. It supports most popular file systems like FAT12, FAT16, FAT32, exFAT, NTFS, NTFS5 and NTFS + EFS. It can restore files from removable media such as smart media cards, secure digital cards, memory sticks including Sony ones, digital cameras, compact flash cards, and mobile smart phones. It also lets you restore files from pen drives, and external hard drives. There are just six simple steps to using Recuva and recovering your lost data.

Step one: Getting the installer and setting up the utility. Installation of Recuva is extremely simple and intuitive. You can download the latest version of its installer from the internet and run it. After the installation process, Recuva will immediately start a first-time wizard.



Recuva Wizard Screen – Choose the required file type

Step two: Choose the file types you want to recover. The Recuva wizard will ask you to select the types of files you want to recover. In the case where you're unsure about which file type you want to choose, simply select "Other" and click on the Next button.

Step three: Select the location of the files. You can allow Recuva to choose from any of the drives including local and removable media. If you're unsure about where the files were originally located, just click the "I'm Not Sure option" and click on the Next button.

Step four: Scanning your drive for deleted files. On the final screen of the wizard, there's an option for you to enable a Deep Scan. A deep scan is a very intensive scan which would take a lot longer but give you more results than just the superficial files. In comparison to a standard scan, a deep scan can come up with 1,000 times more results and recoverable files. But still, this can take hours for a big drive.



Recuva software from Piriform

Step five: This step involves recovering the required files. On completion of the scan, Recuva will show you a list of all the recoverable files. On this screen, you can select the files you want to recover. Then press the Recover button and a new window will open where you must select a location for saving the recovered files. You can select as many files as required but the more you select the more time the recovery process will take.

Step six: Verify your files. Recuva may not always work. If the data was damaged or overwritten numerous times, the recovered data will most likely be damaged and won't work. Also if the data being recovered is located on a drive that has been damaged, Recuva might not be able to recover it. It only works properly for files that were either accidentally deleted or lost. Instead of installing Recuva you can also download the portable version and unzip it onto a pen drive or portable device and use it directly from there on any computer to recover lost data.

Brute-force using GPUs

Unleash the full potential of parallel processing in GPUs for cracking passwords

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Forgetting passwords is quite a common occurrence and when this happens, either the files we protect are rendered worthless or sometimes a person's career can be on the line. In such cases, we end up typing every word/phrase of any relevance at all to the file and go through them one after the other. What we tried to do was a dictionary attack. When that fails, the last resort is to use every character known and use every combination and permute that. So if we have a 5-character password that might contain upper case letters, lower case letters and numbers, then we're faced with 776 million odd combinations that need to be checked. Every time you enter a password, you need to wait for the confirmation, then try another one until you've hit gold. This is exasperating. Here's where brute forcing software comes into the picture.

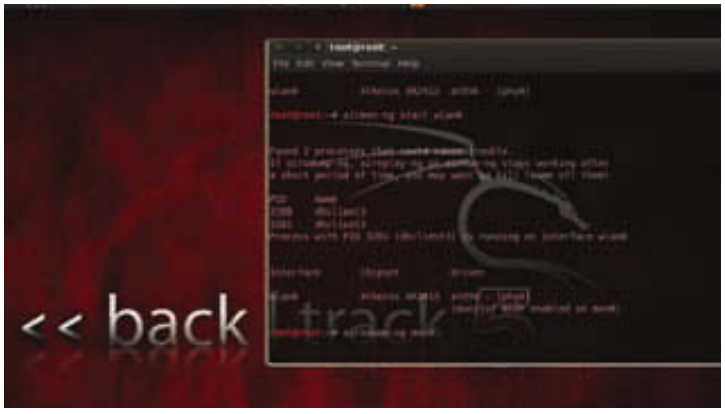
Passwords, aren't stored in any particular file. This practice was discarded long back as viewing the password-protected file within a hex-editor would simply reveal the password. So software manufacturers started hashing the passwords using various algorithms like MD4, MD5, SHA1, NTLM etc. And soon multiple hashing algorithms were applied to complicate the process. So what we'll be doing now is extracting hash-keys from protected files and brute-forcing them to crack them. However, this is a tedious process and can take hours, months and even trillions of years depending on the complexity of the algorithm. A 6- character SHA1 hash can be cracked in under 10 minutes using a Core 2 Quad Extreme 9650, whereas a Radeon HD 5970 GPU would take less than five seconds! Thanks to parallel processing in the form of stream processors on AMD cards and CUDA cores on Nvidia cards.

Cain and Abel

This tool only utilises the CPU, so we can only manage a fraction of what we can using a GPU. However, this tool deserves a worthy mention for the sheer number of protocols it supports.

ocl-hashcat plus

ocl-hashcat is a frequently updated tool that makes use of the parallel processing architecture present in modern day GPUs. We set ourselves to the task of cracking a Wi-Fi router's WPA2 passkey. In order to achieve this, we set up our target router with a simple 8-character WPA2 passphrase. Then we setup a computer running BackTrack 5 R2 with a Wi-Fi card to capture packets which we'd later be working on.



BackTrack 5 R2 – where majority of the work got done

We began by using aircrack-ng. The first step was to run airmon-ng and start monitoring the air-waves for a Wi-Fi signal. Then we started airodump-ng on an interface which works in the monitor mode, started by airmon-ng monitoring process to get the base station MAC address and address of clients connected to the same network. We observed the available networks to figure out which channel the



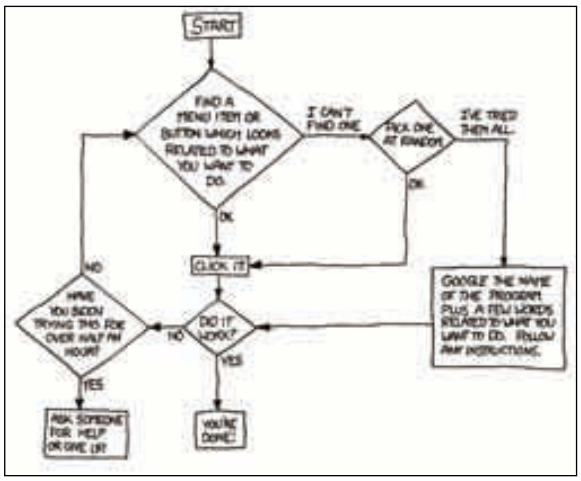
ocl-hashcat plus

router is operating on. Then we used airodump-ng to capture whatever incoming/outgoing packets we could from the router. During the dump process there had to be at least one four-way handshake (initial communication between the router-client) to take place on the air-waves. This could either be done actively or passively, in case of the active mechanism, the handshake was forced by using a ruse called fake de-authentication. While trying to crack a key passively, one had to wait until a client actually connected to the AP. Once that was done, we took the captured packets and used ocl-hashcat to perform a brute-force attack on them. This was performed on a rig comprising of Intel Core i7 Extreme 3960X, DX79SI, Radeon HD 5870. Needless to say, it didn't take long for us to guess the key.

Troubleshoot a buggy system... Like a boss

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We've all faced that dreaded moment when we try to turn on our computer and either it doesn't start at all or stops functioningun expectedly. At this point we feel frustrated and exasperated, and many of us are clueless as to what do to next. Fret not, this workshop will equip you with many Do-It-Yourself solutions for fixing a crashed or a malfunctioning computer. All you need is basic computer knowledge, some tools, a little patience and a can of Red Bull. As with anything to do with PC repair, you need to try different approaches and so this guide won't try to spoon-feed you, but will provide pointers in the right direction.



A comical yet almost true approach to system troubleshooting



Advanced system settings

Here we present a top down organized checklist to guide you in troubleshooting. We'll be using the Worst to Best Case Scenario Methodology for diagnosing of the issues in this workshop. This means we'll start with the Worst Case of your computer not starting at all to the Best Case where it requires a minor tweak, and all the steps in between. Identify how broken your computer is, and start fixing. A word of advice: even if you're not facing the Worst Case Scenario [the problem], it's strongly recommended to run through the checklist as the problem might be a result of something mentioned in the previous steps. The guide will apply for both laptops and desktops and either of Windows or Linux operating systems.

Checklist

The first thing to do when faced with a malfunctioning system is to calm down; panic won't help. To reassure you a bit, there is over a 90 per-cent chance that your data is still safe; it's just not accessible to you, right now. Often it might simply be a simple issue of loose connections or an inexpensive piece of broken hardware or a wrong setting. Let's begin with the worst case scenario.

Your computer doesn't turn on at all

1. Check the basics: Sounds silly but is you power on? Is the display up? Look for any LED activity lights (power, hard disk, network) and listen for any spinning noises of fan and hard disk. If there are no signs of life then perform the following checks on else skip to the next step.
2. In case of desktop check if the main powers cord is attached to the wall, the switch is on, and also if there is power supply in the socket, try putting some other appliance in there.
3. For laptops ensure your battery is charged, and the laptop is connected to a charger. Try putting in another battery if you have access to the same or one from a similar model.
4. Check if the reset switch on the front panel from your case is stuck. You can check that by pressing it. If you can't move it, that means it's stuck, and you need to release it using a small screwdriver. In the worst case you'll need to replace it.
5. If you're on a desktop, try reconnecting all the cables and do a bit of dusting. You won't believe the number of systems that turn on simply be reassembling and cleaning off all the dust.

If at this point it's still not turning on, it's likely that your SMPS has conked off. You'll need to replace it with new one.

System turns on, but absolutely no display or switches off immediately

1. Ensure that your monitor is plugged in and switched on and is working properly. Try connecting your monitor to another device if possible.
2. With laptops you're a little out of luck. The error might not be only with the display panel but also the cable that powers it or the graphics card (if nothing at all is displayed) a graphics card error is rare.
3. Don't worry, all is not lost yet; you would have noticed your computer beeps once when you boot it,

at this point most probably your beeping pattern has changed.

a. Power on the computer or restart it if it's already on.
b. Listen very carefully to the beeps that are being emitted by a small speaker on your motherboard [You don't need external speakers]
c. You can restart your computer a few times if you couldn't hear it properly the first time, it's unlikely that by merely restarting a few times you'll make your issue far worse. Of course refrain from doing this if any burning smell or smoke is at play.
d. Note down the exact beep pattern, the points to note are if it was a short beep or long beep, and how often was it repeated.
e. Now Google for the beep codes of your respective motherboard/ BIOS manufacturer. For example for AWARD BIOS (one of the most common one), you can find the beep code listing at http://dgit.in/GRdv9H You'll notice that you can find a great deal of information and specific information on your issue.

4. Often in these scenarios, one typical issue can be solved by resetting the RAM. It's simple to do even on laptops and nearly all manufactures, except Apple. You'll have a simple panel at the back which can be removed to access the RAM. You don't need any specialized tools, but be sure to keep one barefoot on the ground while handling the RAM to prevent damage by static discharge.

Turns on but doesn't start booting into OS

This issue is typically encountered where either your Master Boot Record (which tells what to load in BootLoader, refer to BOX 2) is broken or your Boot Loader is broken. This arises in two typical scenarios. One when you're trying to install Windows after installing Linux, and then you find yourself with no way to enter Linux or when you install Linux after installing Windows, and then deleted the Linux partition. Or if you're simply seeing the dreaded "BootMgr is missing" error, read on.

HOW DOES A PC BOOT?

It is important to understand how your computer starts and what the words BIOS and POST mean. A typical BIOS screen is where you can change some system critical settings. The BIOS, which stands for Basic Input/Output System is already present in the computer and is the first code run by it when switched on. This outputs the first thing you see on your monitor. BIOS now calls the POST, which stands for Power-On Self-Test. POST is responsible for the identification and initialization of system devices such as the CPU, RAM, video display card, IO devices etc. The BIOS then locates the "Boot Loader" software stored on an attached storage medium or over the network (designated as a 'boot device', and the priority of lookup from HDD, PenDrive, CD-ROM, Network can be changed by the User). The Boot Loader then typically loads the designated (or selected in case of multiple OS) Operating System.

1. You want only Windows:
   a. For Windows XP, insert your disk. Press 'R' to enter the recovery console. When you reach the command prompt simply enter "fixmbr" let the process finish, reboot the system, remove the disk and voilà it'll start working.
   b. For Windows 7/ Vista, insert your setup/recovery disk. After that, click next through the usual options, select "Repair your computer". It will then list out your installed Operating System, select the correct one. Click next and from the following menu for choosing a recovery tool, select "Startup Repair". Let the process finish, reboot your system and remove your disk. You can also accomplish the same by choosing the command prompt option and simply typing "`bootrec /fixboot`"
   c. In case you don't have a setup or recovery disk, or your system doesn't have CD drive, then take out your Linux Live Pen Drive [Refer TOOL BOX]. Boot into linux. Open a Terminal session by `Applications >Accessories>Terminal` and type in the following
   "`sudo apt-get install ms-sys`"
   Followed by:
   "`sudo fdisk -l`"
   Look for something like `/dev/sda1 XYZXYZ NTFS` at the end of the output and then type:
   "`sudo ms-sys -m /dev/sda`"
   Note there is no '1' in the above command, it would be between "sda" or "hda" or "sdb" depending on your system
   Reboot the machine, remove your pen drive and you're done.
2. You want both Linux and Windows:
   a. Follow step c from the previous set, but instead type this:
   "`sudo fdisk -l`"
   Figure out the device where linux is installed from "sda"/"hda"/"sdb"
   And then type
   "`sudo grub-install /dev/XXX`"
   Where XXX is the above mentioned device name. Reboot your system.
   b. If you're looking for a graphical way, refer to this guide: http://dgit.in/helpada



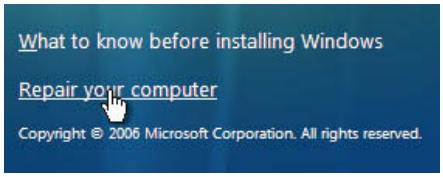
System restore

Starts booting but shuts down

1. Keep pressing F8 key while the system boots, to access the startup menu and see if Windows will boot into Safe Mode. If you're able to get into Windows, the problem is most likely with your graphics card drivers, junk applications, or perhaps some spyware applications. Try remembering your recent changes and revert them from here.

2. Most Linux distributions will also give you a recovery option right at the bootloader (Grub) stage. Try that and then do the same as above.
3. For Windows, if Safe Mode doesn't work, try using the "Last Known Good Configuration" option.
4. Since Windows 7, the System Restore tool has become a decently mature tool. You can access System Restore via the recovery disk as explained above, where instead of "Startup Repair" you can choose "System Restore". If you don't have the disc and can access the command prompt from the F8 menu, then log in as administrator and type `%systemroot%\system32\restore\rstrui.exe` to start system restore.

If at this point your system still doesn't start, you might need to reinstall the OS in the case of Windows (Don't worry, your data will still be safe).



Repair

Boots into the OS, some hardware not working

In case you have a piece of hardware which was previously working but has now stopped working, try the following:

1. Check that piece of hardware on another machine to see if it's a hardware issue or a software issue. If you lack access to another machine, booting into an Ubuntu Live CD and seeing if the hardware works there can provide a good workaround.
2. If it works, then it's most probably a driver update issue. Go to `Control Panel>Device Manager`, then select the malfunctioning device and click on Update Driver. If this doesn't fix the issue, go to the respective manufacturer's web site, download the latest device driver from there and install it.

Boots into OS, non-optimum performance

1. If you can't find a partition, type Disk Management in the Start menu and explore what the issue is. If you're unable to get to this stage, then you can pop in the Ubuntu Live drive and Open the "Gparted Tool" to investigate.
2. Blue Screen of Death: If you consistently find yourself running into the Blue Screen of Death here's what to do.
   a. On Windows 7 or later a consistent BSOD typically indicates a hardware or driver issue. As mentioned above, try updating your drivers.
   b. Run the MemTest86+ tool and see if your RAM is performing upto the mark. RAM is often the cause of consistent BSODs.
   c. One annoying thing is that often the system restarts without giving you time to note down the error, which you can later Google to get towards a reasonable solution. For this Right Click on your "My Computer" Icon and select "Properties", Click on "Advanced System Settings" from the right hand side panel. Click on "Settings" at bottom in the "Startup and Recovery" area and simply uncheck the "Automatically Restart" box under System Failure. This will give you all the time you need to note down the error.
3. Anti-Virus and spyware:
   a. A free antivirus software is a good first line of defence. Install one of them and keep the definitions regularly updated.
   b. Use SuperAntiSpyware & MalwareBytes on a regular basis with updated definitions to keep your system running smooth and trojan-free.
4. Slow startup
   a. In the Windows 7 menu, type "`msconfig`" by clicking on the Start Button, or in an older version, in the run command box. From there select "Startup" in the tab and uncheck all the software you don't want to start automatically.

TOOLS YOU'LL NEED

Here's a small list of tools that we've mentioned and used in this workshop. Most software will be found on the Digit DVDs, past and present.

Screwdriver Set: If you want to open your desktop cabinet or reseat your laptop RAM you'd need this

Ubuntu Live Drive: Even if you're a Windows user it will be an invaluable tool. It comes pre-bundled with a great partition manager known as "Gparted". Simply get one from http://dgit.in/GMDotz. It's recommended to use a USB stick

SuperAntiSpyware and MalWareBytes: Get these from http://www.superantispyware.com/ & http://www.malwarebytes.org/

Memtest86+ Get it here: http://www.memtest.org/#downiso

Windows 7/Vista/XP setup or recovery disk: If you're still using an OS released 12 years ago, consider an upgrade.

BlueScreenView: Available at http://dgit.in/GJydOc Will help you a great deal in debugging Blue Screen of Death errors.

Soluto: Obtained from https://www.soluto.com/ for automated system maintenance

5. Install Soluto for automated application updates and general maintenance.

Prevention and basic maintenance

Hopefully this guide would help you recover your system in the event of a crash with a little bit of smart Googling, a bit of patience and some common sense. We would like to wind up this guide by iterating the old adage which says, "prevention is better than cure". Here are a few simple tips for keeping your system well-oiled and preempting crashes.

- Defragment your system often.
- Keep your Registry clean by using tools like "CCleaner"
- Use the built-in "Reliability Monitor" tool in Windows 7 & 8.
- Keep backup images of your OS partition from a point where everything was working and updated.

Bring a dead Hard Drive back to life

Recover data from a dead harddrive by physically changing platters and saving thousands in per GB professional recovery charges

Mithun Mohandas
readersletters@thinkdigit.com

Your hard drive though seemingly tough is in fact pretty delicate and contains precious data. HDDs have plenty of mechanical parts and the more there are, the more things can go wrong. One fine day you'll come across this...

```
Operating system not found
```

The most probable cause for this is a hard drive failure. During the numerous restarts that you'll perform after this happens, there is a likelihood that your drive may be detected again. Immediately take a backup onto any other drive you may have connected to your PC. However, when all else fails, and you desperately need your data you can swap the platters of your current drive onto a hard-drive with similar make and hope to recover it.

Before you go about doing so, you'll have to figure out where exactly the problem lies. If it so happens that your logic board on your hard drive is wrecked then you'll have to find a similar logic board and transfer it onto the drive. Depending on the severity of your problem, you may have to perform a live swap, which requires you to swap the PCB after connecting it and the OS has initialised the drive. This may work and if it does, keep an extra drive nearby to backup all your data. There are a few criteria that need to be satisfied in order to get a matching PCB. Check box. You can buy a spoilt HDD and use it's PCB. If you can't find the needed PCB easily then there are specialty stores that stock just PCBs and with any luck you'll find the one you need, for about ₹2000-5000.

SIGNS OF A DYING HDD

1. Clicking sound
2. Frequent BSODs
3. S.M.A.R.T. Data
4. HDD Intermittently disappearing from the BIOS screen
5. Grinding noise
6. Abrupt OS hangs



Hard drive PCB

We found 2 drives of the same make, one of which went kaput a few years ago. After a round of diagnostics, it was found out that we'd have to swap platters to extract the data from the spoilt disc.

The PCB here shows you the Microcontroller (MCU) and Flash BIOS chip. These in combination with information stored on the platter tell the MCU how to read/write data across the platter. So it is absolutely essential that you retain the Flash BIOS chip. Often swapping the platters along with the PCB does the trick and will allow you to read the data via the OS. In case your operating system asks you to initialize the HDD again, do not do so. Instead, boot up in a Linux distro and install ddrescue, it'll copy your data bit-by-bit onto another drive.

All these operations need to be followed in a clean room, which is a room with very few particulate matter and has continuous air flow. The air is filtered to such an extent that there are barely 12 particles(<0.1um) within a cubic meter of air compared to 35 million particles which is present in a cubic meter or room air.

We remove the HDD covers, take out one half of the magnet and then the acutator limiter. We insert a small piece of rolled up paper in between the head armature to separate it from the platter surface, slowly slide the head away from the centre while rotating the platter counter-clockwise. Remove the metal ring holding the platters in place and transplant this platter into the donor casing. Do not touch either surface or bring any magnetic devices near it. Put back the metal ring and secure it. Slide in the head while rotating the platter counter-clockwise and remove the rolled up paper gently so that the head rests easily onto the resting area and doesn't slam onto the platter. The heads are very sensitive and proper care must be taken. Insert the limiter and the magnet. Secure the magnet and close the HDD casing. Flip the HDD and swap the PCB onto the donor drive. Connect the drive and check if your OS can access your data. You have a very narrow window to copy all your data over, specially if you performed the entire operation outside a clean room. If your OS cannot read the data but asks you to initialise the drive. Use ddrescue to perform a bit-by-bit copy.

CHECKING FOR PCB COMPATIBILITY

1. Same PCB type
2. Same PCB revision
3. If WD, match the DCM(Drive Configuration Matrix) till the 4-5th character. Interpreting the DCM -
   a. Motor
   b. Base
   c. Latch
   d. Bottom VCM
   e. Media
   f. Headstack
   g. Actuator-Preamp
   h. Top VCM
   i. Separator

RAID 0+1: Doing it right

Getting the best of both worlds: Security and Performance

Mithun Mohandas
readersletters@thinkdigit.com

One way to safeguard against data loss from hard drive failures is to setup a RAID array in your machine. There are different RAID levels one can opt for and each have their own benefits. RAID 0 offers superior performance as data is written across two physical hard drives, so while write speeds get a boost, read speeds go through the roof. RAID 1 offers data security as your entire data is mirrored completely so if one drive fails, you still have all your data safe. Then comes RAID 1+0 or RAID 10 as it is more commonly known. Here, we have the best of both worlds with superior performance and data security and we are going to help you setup your own RAID array.

Checklist:

1. Your motherboard should support RAID 10 with at least four connectors or you'll have to go in for a dedicated RAID card. They offer much more features (check the box).
2. HDDs of same make (Considering RAID and available ports) For RAID 10 you'll need 4 HDDs of the same manufacturer, make and capacity. This is most economical for a personal RAID 10 array. As the next possible setup requires eight HDDs.
3. Ensure your power supply can handle the extra drives and have extra connectors.

You'll end up with exactly half the total capacity of the drives in RAID. So if you are using 4 x 1 TB drives then you'll have 2 TB in your RAID array. With this in mind, let us begin.

Step 1 - Connect your drives

Your drives need to be connected to the right ports for this to work. Check your motherboard manual for instructions regarding which ports you'll need to connect your 4 HDDs onto. Attach the power connectors and boot-up.

Step 2 - Back up your data elsewhere

This is important as your data on the 4 drives will be wiped completely when the RAID is setup.

Step 3 - Boot up

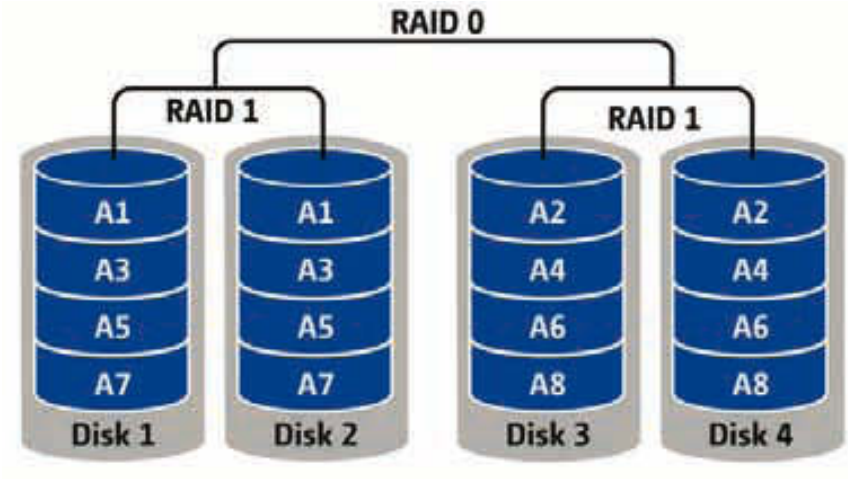
As soon as your computer boots up, enter the BIOS menu and navigate to Storage Configuration option. We setup our system on a motherboard with AMI BIOS, so the option was on the Main window of the BIOS. Scroll down to "Configure SATA as" and select the "RAID" option. Save the configuration and reboot. Be ready to press "Crtl+I" when prompted.

Step 4 - RAID setup

When you press "Ctrl+I" at the prompt, you'll be taken into the Intel Rapid Storage Technology/Matrix Storage Manager window. For AMD machines, the option will be "Ctrl+F". Here, name your configuration anything then select "RAID Level" as 10. Under "Disks", select the 4 drives you have connected to your machine and press enter. Let "Strip Size" remain 128 KB. Move on to Create volume and press enter and press Y to confirm. If your drives are empty, the configuration will take no time at all. Otherwise it will format each HDD individually and that takes a lot of time.

Step 5 - Boot into your OS.

Your RAID has been configured but you won't be able to access the array for any use yet. Under Windows, run "compmgmt.msc". Now under Storage > Disk Management you'll see your array as unallocated. Right click on the drive and select "New Simple Volume". Feed in the size of the partition and the label you wish to assign to the drive and then you'll have your partition ready for use. That's it.



RAID 10 is equal to two RAID 1 arrays in RAID 0

DEDICATED RAID CARDS

When your motherboard doesn't support RAID but you still wish to setup an array you need to go get yourself a dedicated RAID card. LSI, Adaptec, Areca, etc. and well known companies that offer personal and enterprise RAID solutions. With a dedicated RAID card, you can increase your read/write performance by up to 50% and reduces your CPU usage by more than 50%. It's a double whammy. Also these cards have a huge cache so one needs to have a UPS or else data loss due to power cuts will be huge. Not to mention the extra features like SSD caching which are part of the package.

Using password vaults

Ravi Sinha
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The number of passwords that any ordinary human being has to keep track of these days is astronomical. From social networks and email addresses to bank details and credit cards, it's very easy to get lost in the chaos of trying to remember one's password.

Password managers or vaults were thus created to solve this issue. Simply put, a password vault is like a safe storage. It collects all of your passwords and their associated details together under a single lock and key. This key is the master password. Thus, only one master password has



Yubikey provides two-factor authentication

to be remembered to keep safe all of your data. Password managers even contain means to thwart traditional phishing tools by comparing URLs with entries in its own database. If they don't match, it refuses to fill in the required fields. Most password managers even allow for multiple means of protection, such as a USB key.

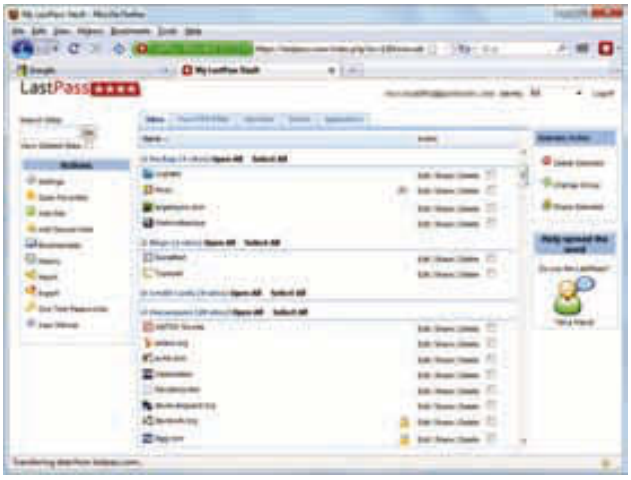
LastPass is a popular freeware password vault, which you can install as a plug-in to your default browser. It requires a LastPass account, but once you make one, you'll be able to import your passwords and other data to be encrypted on the LastPass servers. You can set a default mail ID and master password, along with a reminder for the latter before importing your passwords. Once you have an account, you can log into LastPass online to retrieve your passwords at any time, or organize your passwords into different categories. You also sync LastPass it to your browser to automatically fill blank fields.

The addition of YubiKey provides for additional security. Functioning as a touch-sensitive USB device, you can sync it to LastPass and set a password and phrase. Whenever you log into LastPass, you'll be required to also initialize YubiKey by hitting the touch-sensitive button and then entering both the YubiKey and LastPass credentials.

To combat more advanced attacks, LastPass also supports secure password generation. You can generate a one-time password and securely copy it without worrying about key-loggers or compromising your master password.

However, this highlights some of the more troubling aspects of password vaults. If a single password is compromised, you can take comfort in the fact that the others are still safe. However, if your master password is stolen, then all of your passwords are at risk. They won't be able to completely guard against screen-grabbing spyware and key-loggers used in conjunction, though LastPass still makes it tough for them. Finally, if someone else has physical access to your computer, the door is pretty much open anyway to access all of your private information because of browser synchronization.

LastPass is also available for mobile platforms as well. The advent of cloud computing and multiple devices has inspired Google to launch its own Password Synchronization feature within Chrome.



Lastpass encrypts all your passwords online

You first need to launch Chrome, and enable Password Syncing by clicking on clicking on the wrench icon and navigating to the Options Menu. Choose "Personal Stuff" and you'll see a menu for enabling sync and other options. You can



Lastpass-Sesame for the paranoid sorts

also choose to enable auto-form fill and which information to sync.

Choose "Add New User" and you'll go to a link for entering you Google Account data. Once sync is enabled, all your Chrome data can be accessed on your phone, laptop, tablet and even at a friend's place. This includes bookmarks, history, accounts, etc. The best part is that the feature has had no reported errors thus far and given the security of Google, it provides a strong impetus for protecting one's data. It still falls prey to the caveats of password vaults, but it's a nice feature for those with a short list of enemies and a long list of devices to maintain on the go.

If you've been daunted by the amount of online information you need to maintain, a password vault is a pretty good option as long as you physically secure your computer and take precautions.

ENHANCE YOUR PASSWORD

As you'd have rightly guessed by now, your password needs to be secure enough. With the selection criteria for strong passwords typically including a minimum character limit, a mix of lower and upper case, inclusion of numbers and special characters, it's quite tricky indeed. Think about it when you need to make an urgent bank transfer and your online account prompts you to change your internet banking password! When you're prompted to change such critical passwords frequently by banks and other services at short notices, there's no need to fret.

Go the random way

You could simply head over to a random password generator. PC Tools by Symantec Corporation would serve you right. It has a no-nonsense menu. Simply go to, http://www.pctools.com/guides/password/. If you're the extra cautious type, select the SSL option.

Give some thought

If you'd like to give some thought into your next password, here's a quick way out. An easy way to approach this problem is to



Get yourself a secure password in a few clicks

literally use a mnemonic. Build a sentence that contains a mix of numbers and words, and is something you exclusively know. An example would be:
I first read Digit at 9, now I am 18.
That could be your story, and you'd never forget that. But simply take the first letters of each word and reduce it down to a bunch of characters you could use as your password.
1frD@9nIm18 - I first read Digit at(@) 9, now I'm 18). The next time you're prompted to change this password, you could probably think of your favourite sport star.

MANAGING YOUR BATTERY LIFE FOR ALL GADGETS

The biggest problem with almost all compact electronic devices today is the battery technology employed. It hasn't caught up with the advancements in other primary technologies and hence batteries still remain bulky and underpowered.

Optimize System Settings

Laptops require you to charge their batteries very often, and as they get older the battery cycle decreases even further. Make sure you optimise your system settings to get the maximum duration output from your battery. Defragment your system regularly to make your hard drive efficient, allowing for lesser hard drive usage which in turn puts lesser load on your battery.

Some laptops and smartphones also have more advances features like modifying CPU and cooling performances. Working on these aspects and optimising them will allow you to squeeze out some extra battery performance. Batteries run longer and have an extended life in cooler conditions.

Adjust your Screen Brightness

Almost all laptops let you adjust the brightness of their screens. Same is the case with modern smartphones including the iPhone and Android device. Make sure you use them on a low setting whenever you don't require the screen to be too bright.

Managing external hardware

Reducing the number of additional external devices like a pen drives; mouse also helps with getting more out of your laptop battery. When not in use make sure you disconnect or switch them off. Similarly charging other devices like your iPod or phone through the computer should also be avoided.



In case of laptops and smartphone, switch off WiFi, Bluetooth, 3G and GPS location based services when not required. They drain a lot of your phone battery.

Use your system efficiently

Adding more RAM to your system allows you to not rely on virtual memory, which is much more power efficient. Always try and run files off your hard drive rather than from an external media source like a CD or DVD. In both laptops and mobile phone check and make sure you cut down on apps and programs running in the background.

Take Care of your Battery

Keep your battery contacts clean and exercise your Battery. Never leave a charged battery dormant for long periods of time. Once charged, you should use the battery at least once every two to three weeks. Make sure your battery get discharged almost completely before charging and charge completely after to have the best prolonged results. Clean the fan and air vents with a cloth or keyboard cleaner; cool batteries live longer.

Enhance Camera life

Compact digital cameras have a major problem with batteries. Turn off the LCD display and use the manual viewfinder to be able to take more pictures. Don't preview your pictures too much unless absolutely required. It takes additional power both to use the LCD screen and access the camera memory. Minimize the usage of the zoom function and auto-focus since the motor that moves the lens uses a lot of power. Use the flash judicially and don't turn it on always, like in broad daylight. Avoid deleting pictures on your camera itself as this consumes power. Wait until you download the pictures to your computer before deleting.

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Ultrabooks



Ultrabook are the latest fad among laptops. Agent001 gives you the skinny on these lean, mean machines

Agent 001
agent001@thinkdigit.com

If you have been following the category of laptops closely in the past six months, then the word 'ultrabook' wouldn't have been lost on your ears. Yes, after the breakthrough era of netbooks back in 2007 till now, ultrabooks is a new sub-category within mainstream laptops that's exploding all around us. As far as 2012 goes, it is the new buzzword of the PC market. Here's what you should know if you or your friends are contemplating to buy a new laptop soon.

What is an Ultrabook?

Intel defined netbooks very clearly back in 2007-2008 as mini-laptops with a small, compact form factor, ranging from screen size 10 to 11.6-inch all running some variant of Intel's Atom processor. However, ultrabooks aren't categorized in such well-defined terms. Having reviewed four of the seven available ultrabooks in India, we know that these are mainly thin and light laptops that offer increased ultraportability without compromising on performance. Other specific design and hardware attributes of an ultrabook range from the MacBook Air-like unibody chassis with a sealed battery compartment – for prolonged battery life; a low-powered variant of the latest Intel Core i3/i5/i7 processors with onboard graphics; and SSDs for storage, among other things.

How is it any different from a regular laptop I hear you ask? Well, for the most part, it isn't. Compared to the netbook, which brought the 10-inch form factor to the masses and made it mainstream, ultrabooks aren't hugely different from laptops sold now or 5 years ago. In fact, they're a natural progression of a category's evolution and demands –slimmer design, better performance, longer battery life. But it's all packaged in a different marketing machine called the 'ultrabook.'

While there may be small differences between a regular laptop and an ultrabook's design and hardware, the biggest difference I see is that from the manufacturers. Earlier, offering an ultraportable laptop for consumers was considered as essential to complete a range or portfolio of distinct laptops for a few well-established laptop manufacturers. But now, that isn't the case any more. Nearly every laptop manufacturer, including the ones who never before sold an ultraportable laptop, will launch an ultrabook this year – most of them are set to launch multiple variants.



The Asus Zenbook is one anorexic laptop

Why is that? It's high on Intel's agenda this year. In fact, according to Intel 70% of new laptops launched this year will be ultrabooks. Acer, Asus, Dell, HP, Lenovo, Samsung, and Toshiba have already launched their first ultrabook in India – Acer was the first among the lot, while Dell joined the club only last month. Most of them have a 13-inch form factor and a slim, ultraportable profile. I think the heaviest ultrabook I've picked up weighed 1.5 kg, while the lightest was around 1.3 kg – that's the same weight as a 10-inch netbook!

We must say that we're quite impressed by the overall capability of most ultrabooks we tested, running on Intel's Core i5 or Core i7 processor, they could easily match and, in some cases, surpass the performance offered by a 15-inch entertainment laptop. The HP Folio 13, especially, didn't let its faster processor dampen its battery life score – it lasted easily over 5 hours on a single charge – a feat that most regular laptops will find hard or impossible to emulate. So yes, the excitement surrounding ultrabooks is justified to a large extent.

Should you buy one?

For the time being, ultrabooks are selling at a premium. Since they are so few in number, manufacturers are trying to extract higher profit margins, pricing them between ₹50,000 to ₹1,00,000. In fact, Acer's Aspire S3 and Samsung's recently launched ultrabook remain two of the most inexpensive ultrabook in the market.

Don't forget Intel wants to offer consumers a low-priced ultraportable laptop which doesn't compromise on performance, and it has promised that 70% of all laptops launched this year will be ultrabooks. If you wait a little longer, not only prices will fall, but you'll have an ultrabook based on Intel's upcoming Ivy Bridge platform in the second half of 2012.

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Zync Z-990 tablet released
Zync has released Android 4.0 Ice Cream Sandwich-based Z-990 tablet in India with a price tag of ₹9,990 **http://dgit.in/GHu8Hv**

Apple's New iPad overheats
Tests conducted by Consumer Reports show that the New iPad runs significantly hotter than its predecessor **http://dgit.in/GHvemm**

I need a GPU

I want a graphics card for playing the latest games like Battlefield 3, Call of Duty, Need for Speed, etc.

My PC Configuration is as follows:

- Processor - Intel Core i5 @ 3.30 GHz
- RAM - 4 GB
- Motherboard - Intel DH67BL
- My budget is ₹8,000 - ₹9,000

Aravind Ranjit



You can go for the AMD Radeon HD 6770 which is available for around ₹6,500 which is a decent enough card for your needs. Amongst all the brands, the cheapest we found was MSI R6770 MD1GD5. On the NVIDIA side, you may consider GTX 550Ti which is slightly on the higher side at around ₹7,500. But performance-wise the GTX 550Ti does give better frame rates than the HD 6770.

Which home theatre?

I am planning to buy an HT but not sure which one to choose. Have two options: Yamaha 196 and Denon 390. Please guide me through this process.

Datta Bagade

Both the Yamaha 196 and the Denon 390 have excellent performance on offer. Having used a Denon for quite a while now, I believe that the sound offered by the Denon speakers (since this is an "out of the box" setup) have a slightly more complete sound, and can handle the higher frequency sounds in a softer way than the Yamaha and the Onkyo systems. The subwoofer, albeit similar on the spec sheet, on the Denon one has the advantage of better bass effect, with a deeper thump. Having said that, the Yamaha speakers are extremely good as well, with the only niggle (well, thats what we think) is that they sound sharper, and at high volumes, tend to sound a bit uncomfortable. The bass, because of the extra sharpness, will make the bass sound outside-ish. But let me clarify, sound is something that every individual prefers in their own way. Suggest you spend some time listening to both units at the store, with some content that you may carry along - DVD, iPod etc.

As far as the AV receiver feature is concerned, the Yamaha one has an advantage in terms of the devices you can connect to it via HDMI - three inputs as compared to just two on the Denon. The Yamaha also has two optical audio inputs, as compared to just one on the Denon. Where the Denon has the advantage is the dedicated (optional - extra expense) iPod dock that you can connect to the receiver. But that may not be a criteria for a lot of people, since the AUX-in is sufficient in most cases!

While it is too close to call, we would slightly tilt in the direction of the Denon. The bigger factor is the sound quality, and the Denon speaker + subwoofer package sounds better than the Yamaha package. In terms of the receiver feature set, the Yamaha has the advantage, but if your sound is something that you are very picky about, Denon is the one to buy. As we said earlier, you should spend some time listening to both units at the store, with some content that you may carry along. Make up your mind only then.

PMP or tablet?

Hi! Agent001!

I want to buy a device for about ₹14000. I have listed out three devices: iPod Touch 4G, Blackberry Playbook 2.0 and the Samsung Omnia W. I don't want a phone as such but purely an entertainment device. Playbook looks good on specs, Omnia is equally excellent, and so does the iPod Touch perform superbly but misses out on RAM of only 256 MB. Would you suggest tablet, PMP, or phone out of these? Please suggest best out of these and also suggest other devices, if any.

Akshay Raul

That is quite a tricky question we have got. Let's try to make things a bit simpler. You have stated that you do not want a phone, so let go of the Samsung Omnia W. You say you want a device purely for entertainment, that leaves us with just the Playbook and the iPod Touch 4G. Now, if you look at the BlackBerry Playbook, sure you have a lovely hardware with decent specs and a fabulous screen. But it isn't portable. The iPod touch 4G on the other hand is everything, except a phone and has a brilliant app ecosystem to back it up. Even BlackBerry Playbook has Android app support now for that matter. If portability is what you are looking at then the iPod Touch 4G makes sense. If you want a more powerful device and a bigger screen, then go for the Playbook.

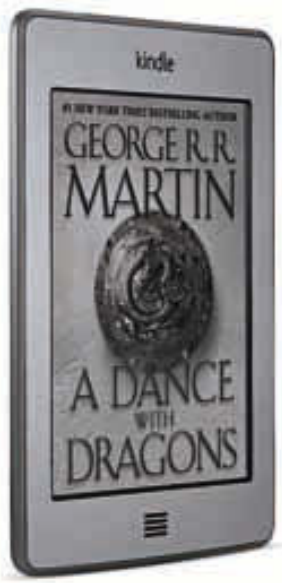
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Waiting for your positive reply.

Harsh Beniwal

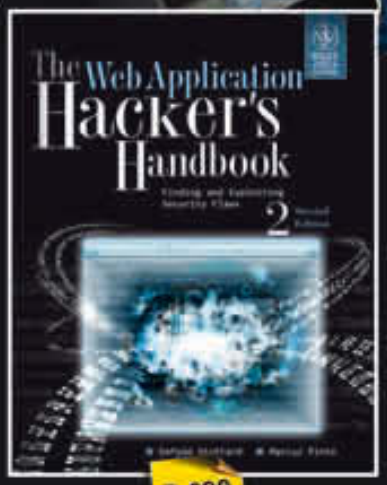


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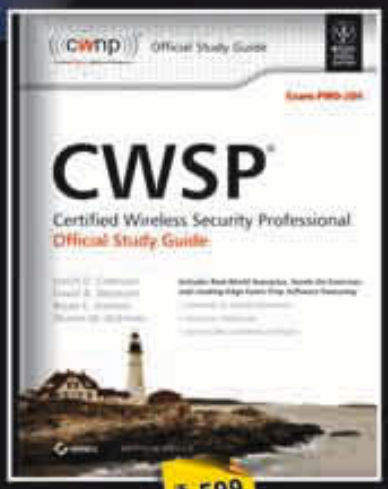
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IS YOUR DEVICE REALLY SECURE?

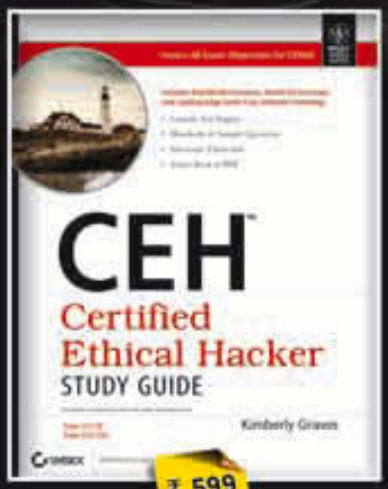
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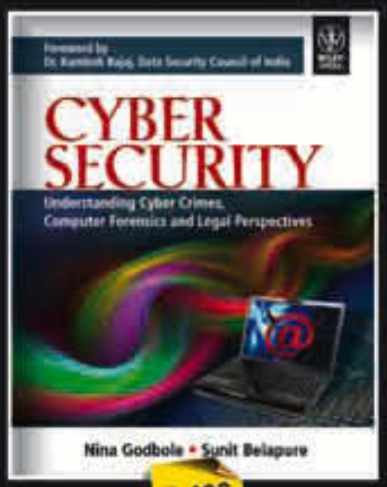
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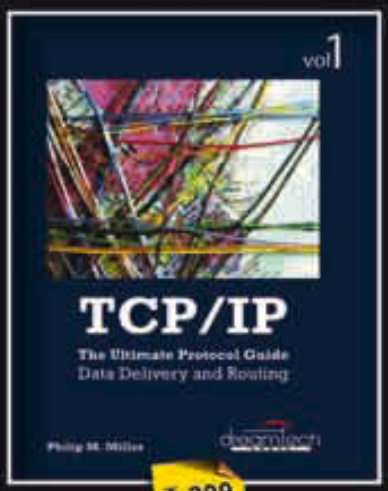
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Canon unveiled the EOS 5D Mark III, the awaited upgrade to the 5D Mark II, with a 22.3MP CMOS sensor
http://dgit.in/GF9FRP

Intex launches i-Tab
Intex Technologies has forayed into the Indian tablet market with the launch of i-Tab
http://dgit.in/GHsQw2

SPEND SMART

Updated prices of top mobile phones and tablets



MOBILE PHONES

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Nokia Lumia 800	WP7	1.4 GHz Scorpion	512	16	3.7 / 480x800	- / 8	24000
Nokia 701	Symbian Belle	1 GHz ARM11	512	8GB	3.5 / 360x640	0.6 / 8	17850
Nokia 700	Symbian Belle	1 GHz ARM11	512	2GB	3.2 / 360x640	- / 5	16190
Sony Ericsson Xperia Arc S	Android 2.3.4	1.4 GHz Scorpion	512 MB	1 GB	480 x 854	NA / 8 MP	27500
Sony Ericsson Xperia Mini Pro	Android 2.3	1 GHz Scorpion	512 MB	400 MB	320 x 480	VGA / 5 MP	14795
Samsung Galaxy Note	Android 2.3.5	Dual Core 1.4 GHz Cortex A9	1 GB	16 / 32 GB	800 x 1280	2 MP / 8 MP	32700
Samsung Galaxy R	Android 2.3.3	Dual Core 1 GHz Cortex A9	1 GB	8 GB	480 x 800	1.3 MP / 5 MP	20999
Motorola Defy+	Android 2.3	1 GHz Cortex A8	512 MB	2 GB	480 x 854	NA / 5 MP	15490
Motorola Milestone XT800	Android 2.0	550 MHz Cortex A8	512 MB	1 GB	480 x 854	VGA / 5 MP	14999
LG Optimus 3D	Android 2.2	1 GHz Coretx A9	512 MB	8 GB	480 x 800	VGA / 5 MP	28430
LG Optimus Pro	Android 2.3	800 MHz	256 MB	150 MB	240 x 320	NA / 3.15 MP	7999
BlackBerry Bold 9790	BlackBerry OS 7.0	Marvel Tavor MG1 1 GHz	768 MB	8 GB	480 x 360	NA / 5 MP	26450
HTC Sensation XL	Android 2.3	1.5 GHz Scorpion	768 MB	16 GB	480 x 800	1.3 MP / 8 MP	37500
HTC Incredible S	Androind 2.3 - 4.0	1 GHz Scorpion	768 MB	1124 MB	480 x 800	1.3 MP / 8 MP	23500
HTC Explorer	Android 2.3	600 MHz Cortex A5	512 MB	90 MB	320 x 480	NA / 3.15 MP	9500
Apple iPhone 4S	IOS 5.1	Dual Core 1 GHz Cortex A9	512 MB	16 GB	640 x 960	VGA / 8 MP	44500
Micromax A85	Android 2.2	1 GHz Cortex A9	512 MB	8 GB	480 x 800	VGA / 5 MP	18990
Micromax A75 Superfone Lite	Android 2.3	650 MHz	256 MB	NA	320 x 480	VGA / 3.15 MP	8545
Dell Venue Pro	WP7	1 GHz Scorpion	512 MB	8 / 16 GB	480 x 800	NA / 5 MP	15490
Dell Streak	Android 1.6	1 GHz Scorpion	512 MB	16 GB	480 x 800	VGA / 5 MP	18999

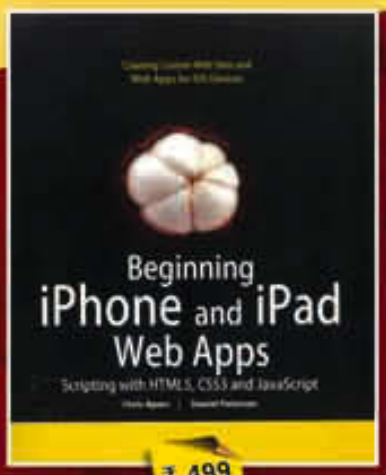


TABLETS

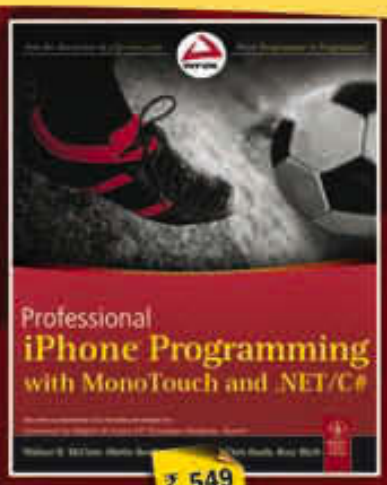
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Znyc 990	Android 4	1.2 GHz	1024	4	800 x 480	0.3 MP / NA	8990
Viewsonic View Pad 7	Android 2.2	600 MHz ARM11	512	0	800 x 480	0.3 MP / 3 MP	14990 (3G)
Sony Tablet S	Android 3.1	1 GHz ARM Cortex-A9	1024	32	1280 x 800	0.3 MP / 5 MP	26990
Samsung Galaxy Tab 750	Android 3.1	1 GHz ARM Cortex-A9	1024	16	1280 x 800	2 MP / 3 MP	30990 (3G)
Reliance 3G Tab	Android 2.2	800 MHz	512	0	800 x 480	0.3 MP / 2 MP	12999 (3G)
Notion Ink Adam NI3421-A01P	Eden 1.5	1 GHz ARM Cortex-A9	1024	8	1024 x 600	3.2 MP (Swivel)	24999
Motorola Xoom 2	Android 3.2	1.2 GHz dual-core Cortex-A9	1024	32	1280 x 800	1.3 MP / 5 MP	32559 (3G)
Lenovo IdeaPad Tablet K1	Android 3.1	1 GHz dual-core Cortex-A9	1024	32	1280 x 800	2 MP / 5 MP	22724
iBerry Auxus AX02	Android 4	1 GHz ARM Cortex A8	1024	4	800 x 480	0.3 MP / 2 MP	7990
iBall Slide i7011	Android 2.3	1 GHz ARM Cortex-A8	512	8	800 x 480	2 MP / NA	12950 (3G)
HTC Flyer	Android 2.3	1.5 GHz Qualcomm Scorpion	1024	32	1024 x 600	1.3 MP / 5 MP	23500 (3G)
HCL ME Tablet X1	Android 2.3.3	1 GHz Cortex A8	512	4	800 x 480	NA / 2 MP	10390
Dell Streak	Android 2.2	1 GHz Qualcomm Scorpion	512	2	800 x 480	0.3 MP / 5 MP	18999 (3G)
BlackBerry PlayBook	BlackBerry Tablet OS	1 GHz Cortex-A9	1024	16	1024 x 600	3 MP / 5 MP	19999
Beetel Magiq II	Android 2.2	768 Mhz Snapdragon	512	0	800 x 480	2 MP / 2 MP	9500
Asus Eee Pad Transformer TF101	Android 3.2	1 GHz Cortex-A9	1024	32	1280 × 800	1.2 MP / 5 MP	47615
Apple iPad 2	iOS 4	1 GHz dual-core Apple A5	512	16	1024 x 768	VGA / 0.7 MP	31333 (3G)
Acer Iconia A500	Android 3.2.1	1 GHz dual-core Cortex-A9	1024	32	1280 × 800	2 MP / 5 MP	26139
Aakash Tab 2	Android 2.3	700 Mhz ARM Cortex-A8	256	2	800 x 480	NA	2999
Creative ZII 10	Android 2.2	1 GHz ZiiLABS ZMS-08	512	8	1024 X 600	0.3 / NA	13897

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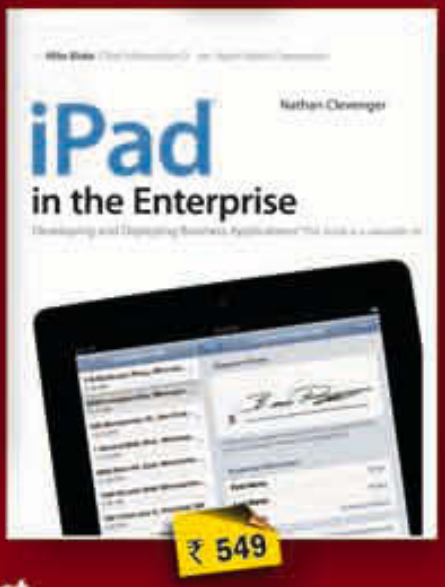
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BASIC RIG

Processor	AMD Athlon 2 x2 260	3300
Motherboard	GIGABYTE GA-MA78LMT-S2	2600
RAM	Corsair 2GB DDR3 1333MHz	700
HDD	Seagate 500GB 7200.12	4300
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	1100
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		**20,915**

HTPC

Processor	Bundled	0
Motherboard	MSI E350IA-E45	8500
RAM	Corsair 2GB DDR3 1333MHz	700
HDD	Seagate Barracuda 2 TB	7924
Monitor	None (your TV)	0
Graphics Card	None (HD6310 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		**22,824**

ENTRY-LEVEL GAMING

Processor	AMD Phenom II x4 840	5500
Motherboard	GIGABYTE GA-MA78LMT-S2	2600
RAM	G-skill F3-10600CL9S-4GBNT	1200
HDD	Seagate 500GB 7200.12	4300
Monitor	BenQ G2222HD	7000
Graphics Card	Asus 550Ti	8300
Cabinet	Cooler Master Elite 310	1600
PSU	Corsair CX430	2400
Speaker	Altec Lansing V2621	2000
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		**36,315**

MID-RANGE GAMING

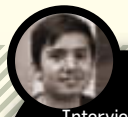
Processor	Intel Core i5-2400	11100
Motherboard	MSI-H67 MA-E35	4850
RAM	G-skill F3-10600CL9S-4GBNT	1200
HDD	Seagate 500GB 7200.12	4300
Monitor	Samsung P2350	10800
Graphics Card	Radeon HD 6870	11300
Cabinet	Cooler Master Elite 430	2750
PSU	Corsair GS 600	4000
Speaker	Altec Lansing V2621	2000
Mouse	Razer Abyssus (bundled)	0
Optical Drive	LG 22x SATA DVD Writer	950
Keyboard	Razer Cyclosa (bundled)	2700
Sound Card	None	0
Total		**55,950**

ULTRA HIGH-END GAMING

Processor	Intel Core i7-2600K	17400
Motherboard	ASRock Extreme 7 Gen3	18999
RAM	Gskill F3-12800CL9D-8GBXL	3050
HDD	2x Seagate 1 TB + Kingston 64 GB SSD	16000
Monitor	BenQ XL2410T	25000
Graphics Card	ZOTAC GTX 680	32999
Cabinet	Cooler Master HAF922	7500
PSU	Seasonic X850 (80+ Gold)	10000
Speaker	Logitech Z506	6700
Mouse	Logitech G9x	5000
Optical Drive	LG 12x Blu-ray OEM RW	6500
Keyboard	Logitech G510	5000
Sound Card	ASUS Xonar DX 7.1	4700
Total		**1,58,848**

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
System Fans	Noctua NF-P14 FLX 140mm Case Fan	1050
Sound Card	ASUS Xonar Essence STX	9000
USB Hub	Belkin 7 port USB HUB	1000
Wireless router	Linksys WRT120N	1550
CPU Cooler	Noctua NH-D14	5250
CPU Cooler	Coolermaster Hyper TX3	1900
Thermal Paste	Arctic Cooling MX2	500



Interview with Abhishek Arora, winner of Google Code In 2011 on pg. 80. For full interview visit: dvwx.in/apr-12-gci



PHP 5.4 releases...

While PHP 6 might be nowhere in sight, a major update to PHP 5 has been released with PHP 5.4. This release comes nearly three years after the preview major update PHP 5.3.

Those familiar with PHP will know that there are major concerns regarding the direction PHP should take with PHP 6, such that its development has been indefinitely delayed. Instead, some of the features that would eventually have been released in PHP 6 are now being added to PHP 5 itself. Numerous such features were added in PHP 5.3, and more such features have been added in 5.4.

As with PHP 5.3, this release too breaks backwards compatibility in a number of ways. For example, Magic quotes, which had been deprecated in 5.3 has now been completely removed. Similarly, register_globals, and the PHP Safe mode have been removed after having been deprecated in the previous version of PHP.

A number of new features have also been added:

The PHP CLI mode now has an inbuilt server for use while developing websites.

PHP can track the upload progress of files, so this information can be returned to the client for rich upload progress displays.

Traits: this is a new major feature in PHP 5.4 that allows better code reuse. This is pretty similar to classes. However, they cannot, by themselves, be instantiated. A trait can instead be used to group together related funtions and variables, and the trait can then be included in multiple classes to give them that functionality. >

Read more on the additional features in PHP at **http://dvwx.in/zY9tPI**. Please share your comments on our Facebook page.

*side panel



*Joomla 2.5.2 released

>> Early in March 2012, the latest version of Joomla – one of the most popular web content management systems was released.

http://dvwx.in/apr-12-1

*360 | Flex

>>360|Flex is the premier Flex, AIR, and ActionScript developer conference in the world, bringing together the best speakers and sponsors in the industry under one roof! April 15-18, Denver, CO

http://dvwx.in/apr-12-2



*Ubuntu Cloud Infrastructure

>>Ubuntu Cloud Infrastructure, which is the successor to Ubuntu Enterprise Cloud, is a ready to deploy Infrastructure-as-a-Service (IaaS) based on OpenStack.

http://dvwx.in/apr-12-3



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*Developing for Windows 8 Metro

>>With Windows 8 and its radically redesigned Metro interface, Microsoft is offering software developers a new set of challenges and opportunities. With the Windows 8 Consumer Preview out, many developers have already built preview versions of the apps they plan to offer Windows 8 tablet and PC users. Read more at:

http://dvwx.in/apr-12-5

vmware

*VMWare Workstation!

>>With the launch of Windows 8 Consumer Preview, Windows Server 8 Beta and Ubuntu 12.04 Beta 1, VMWare has announced release of its latest virtualization platform, and test for the best possible platform. Try out the latest product offering from VMWare. Go to:

http://dvwx.in/apr-12-6

*SQL.js: SQLite compiled to JavaScript

>>Alon Zakai, the creator of Emscripten is back at it again, this time releasing SQL.js, which is a compilation of SQLite to JavaScript using his own tool. The demo page shows it in use, and if you view source, just how easy he's made it to use after it has been compiled. You can run any SQL query you can think of and it will work just like it does natively. Pretty cool! You can read more at:

http://dvwx.in/apr-12-7

Zen Coding

<HTML might be all well and good for a browser to understand and interpret, but it isn't really something that is designed for humans to write>

By Kshitij Sobti

At times, it can be painfully verbose to repeat the same old opening and closing tags for each element in HTML. For those who feel this pain, there is Zen Coding, an awesome shorthand way of writing HTML code. With Zen Coding, even the most complex HTML structures can be written using a single line of text.

Zen Coding does away with the need to enter opening and closing tags, and has shorthands for popular attributes such as the id and class. It takes away the verbosity of HTML by creating a syntax that lets you specify the important things in HTML tags, attributes, and hierarchy that makes writing code a breeze.

But what is Zen Coding? It isn't a new standard that replaces HTML; well not exactly. It is a shorthand way of writing HTML code that can be used in a large number of web development software. Many popular software either directly support it, or have plug-ins that add support for it. For example, Dreamweaver and WebStorm support it directly, while Notepad++, Vim, Emacs and many others have plug-ins for the same.

Of course, in the end it produces HTML, so you will need to be familiar with the basics of HTML to understand the rest of this article. To try out the examples we list here, use the browser-based Zen Coding-enabled editor available at http://zen-coding.ru/codemirror/. While this is actually a demo, and not an actual product, we recommend for the purpose of this article since it will work across all platforms. You can however find a plug-in for you favourite editor at the Zen Coding project page: http://code.google.com/p/zen-coding/.

The Zen way

One of the core features of Zen coding is the ability to expand on abbreviated representations of HTML code. Let's take a simple example of a div tag that has a class of "sidebar", you would need to write it as: `<div class = "sidebar"></div>`

However the really important parts here are the div, the sidebar, and the relation between them — i.e. that sidebar is the class applied to div. With Zen coding, the idea is to write this in as simple terms as possible, and then use a particular hotkey to have the Zen Coding engine expand it to good old HTML. The example we just looked at could be represented in the syntax of Zen Coding as: `div.sidebar`

Now look at a somewhat more complex example. We have a div (with an id "div1") and a class (class1) applied to it. Here is how you would represent it: `div.class1#div1` OR `div#div1.class1`

Both of the above will expand to:
`<div id="div1" class="class1"></div>`.

The order of id and class might vary though, based on which of the above you used; but in this case, the end result is the same.

If you're familiar with CSS, you will notice how this is similar to the concept of selectors in CSS. There too one can represent an id using "#" (bang / hash) and a class using a period (.). Its similarity to CSS selectors only makes it easier to learn; if you know CSS, you know most of the shortcuts Zen Coding has to offer already.

How does this expand, you might wonder. That answer depends on the IDE you use and the shortcut it implements for this feature. If you're using the online editor we mentioned above, all you have to do is enter the abbreviated code and press tab. With the Notepad++ plug-in, you will have to press `[Ctrl]+[Alt]+[Enter]` to expand from Zen code to HTML. Now, want to go a little further and see what else Zen Coding is capable of?

Let's write a tag that has multiple classes, an id, and a number of attributes: `div#nav.class1.class2[title=navigation onclick=somefunc()]`

This will expand to: `<div id="nav" class="class1 class2" title="navigation" onclick="somefunc()"></div>`

Similarly, Zen Coding can represent the entire HTML structure.

Adding some structure

How better to start with structures, than to look at tables. In HTML, you could have a basic single column, single row table as follows:

```
<table>
 <tbody>
  <tr>
   <td></td>
  </tr>
 </tbody>
</table>
```

In Zen Code this would be simply: `table>tbody>tr>td`

The > simply means that the tag on the left contains the tag on the right. There isn't much need to single-column, single row tables though, so how about we make a single row table with 5 columns: `table>tbody>tr>td*5`

This will happily expand to:

```
<table>
 <tbody>
  <tr>
   <td></td> <td></td> <td></td> <td></td> <td></td>
  </tr>
 </tbody>
</table>
```

The `*5` specifies that the tag is to be repeated 5 times. If you want to have 3 rows, and 5 columns, simply type: `table>tbody>tr*3>td*5`

You can go ahead and use any of the shorthands you have learned previously. For example, to add the class "class1" to the table, an id of data, and a class of "row" to each row, do the following: `table#data.class1>tbody>tr.row*3>td*5`

The result is what you'd expect, we won't show it here, but do try for yourself. Now, just a class of "row" might not cut it in some cases, what if you want a class that depends on the row number? Which is

to say a class of row1, row2, row3 etc. There is a way for that as well: table>tbody>tr.row$*3>td*5. Here the "row$" will become row1, row2, row3... If you have more than ten rows, you might want to write this as "row$$", in which case the rows will be numbered row01, row02... You can use this trick in other places that use class as well.

Let's go up another step, we want to make a list where each entry contains an image and a link. Here is how you could do that: ul>li*5>img+a

The "+" here specifies that the image tag and the anchor tag are at the same level. Let's make this more complicated – cause we can – and have a sublist under each list, that has multiple links instead of just one: ul>li*5>img+ul>li*5>a

What if you wanted the list of links first, and then the image? You can't do: ul>li*5>ul>li*5>a+img because then the image will come under each sublist element instead of list element. Instead, you can use parenthesis to make your case clearer: ul>li*5>(ul>li*5>a)+img

Using parenthesis you can create astonishingly complex HTML code in just a single line. In fact, Zen Coding has a number of shortcuts for some complex bits of code. For example, if you want the basic boilerplate code to begin your HTML document, you don't even need to write it in Zen Code; all you need to do is expand "html:4t" to get the basic structure of an HTML 4 transitional DTD document. For HTML5 use "html:5" and you will have the basics, html, head, body all in a a second. There are a number of such shortcuts in Zen Coding — that is after all what it's about — that you will find useful. Here are a few of them:

link:css expands to the standard code for attaching a stylesheet. link:touch, link:atom, link:rss and link:favicon expand to the code for the touch icon, the feeds, and the favicon.

script automatically adds the script type, while script:src also adds an src attribute

input:text, input:checkbox, input:file etc. expand to the standard code for the input elements.

table+ expands to a table of a single row and column.

One final thing, before we move on to some of Zen Coding's other cool features. Till now all our examples might have a complex HTML structure, but they are missing the actual text content. There is a shortcut for that as well. If you want a paragraph with some text, you can do the following: p>{Some text to feature inside a paragraph}

And Zen Some More

Zen has a number of features in addition to expanding abbreviations; we won't cover all of them here. Two important and closely-related features are, jumping between edit points and the ability to wrap existing content in a tag.

If you just added a table, or a list of items, it is likely you want to start filling in after making the structure. Zen Coding defines edit points for different kinds of content so you can jump between them and quickly add or edit content rather that manually go to each point using the keyboard or mouse. What this does is automatically move the cursor from inside one td element to another using shortcuts (usually Ctrl+Alt+Right or Ctrl+Alt+Left to move between edit points). For example, if you just added a table, you can jump from one td element to another; if you added a list you can jump from one list item to another; if you added an anchor tag, you can jump from the href attribute to the content of the anchor tag.

Now, if you want the some text to be wrapped inside a hierarchy of tags, you can use the shortcut key for wrapping instead of expanding, and enter the shorthand Zen code as usual. So if you were to select some text, and use the wrap hotkey, you could quickly have it embedded deep within a paragraph tag withing a div tag withing anther div tag, within an HTML body. You have all the power of Zen Coding, as described above, at your disposal here as well.

It gets even better though; if you have a list of items that you wish to enclose in a link, and you want each item to individually be linked to it's own page, Zen Coding can help you there as well. An example of this would be a site's navigation structure. You start with the following text:

- Home
- Category1
- Category2
- Blog
- About Us
- Contact

And want to wrap each inside an anchor tag in a list. As we said before, select this text, use the expand abbreviation hotkey and in the popup box, enter the following: ul>li*>a

Notice we haven't added a number after * because it can extrapolate the number of entries based on the lines of text, here five. When you are done, you will be left with:

```
<ul>
 <li><a href="">Home</a></li>
 <li><a href="">Category1</a></li>
 <li><a href="">Category2</a></li>
 <li><a href="">Blog</a></li>
 <li><a href="">About Us</a></li>
 <li><a href="">Contact</a></li>
</ul>
```

The hotkey is `[Ctrl]+[Shift]+[A]` in the online version, however this is also the shortcut for the add-ons page in Firefox, so you will have to close that after using the hotkey to get back to your page.

Zen Coding is an incredibly powerful tool at you disposal if you are a web developer, and one that can save a lot of the time you spend in coding. It doesn't matter which IDE you use, Zen Coding is the real time-saver when it comes to web coding. >

*pointers

>>Nuggets of cool code at work



*Firefox 3D view

>>Helpful for debugging, the 3D view stacks elements as they are nested in the DOM and lets you see elements that are hidden or off the page. > 00:42

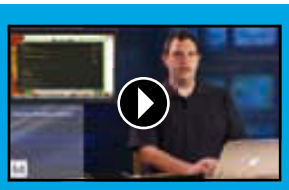
http://dvwx.in/apr-12-p1



*When consoles die what comes next

>>Ben Cousins, General Manager of ngmoco:) talks about the death of console gaming, and what the future could hold. > 25:54

http://dvwx.in/apr-12-p2



*Introducing Adobe Shadow

>>Adobe's Charlie Scheinost gives a quick demonstration of Adobe Shadow, a handy new tool for mobile development.
Duration > 46:22

http://dvwx.in/apr-12-p3

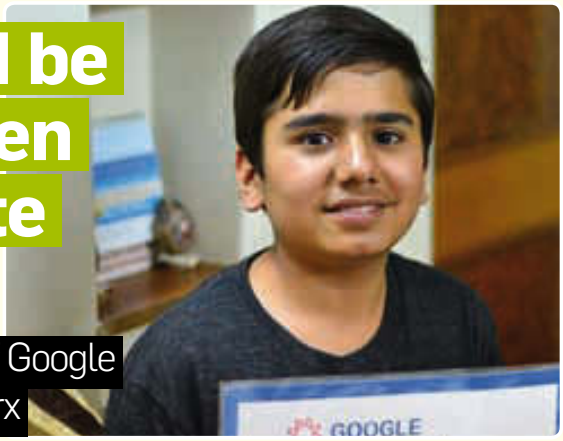


*Inventor Portrait: Ralph Baer

>>Ralph Baer is often called the father of video games. His invention, the Magnavox Odyssey, was the first home console system. Here's an interview with Baer, which was shot as he turns 90, and still continues to invent.
Duration > 03:15

http://dvwx.in/apr-12-p4

>>"As a kid, I'd be fascinated when my sister wrote programs">>



>>**Abhishek Arora,** winner of Google Code in 2011, speaks to devworx

>> Could you tell us a bit about yourself and your interests?

I'm currently a student in Class IX at Delhi Public School, Rohini. I've been passionate about computers since the age of six. I'm a techno geek who likes to keep pace with latest technology and trends.

>>How did you get interested in code?

As a kid, I'd be fascinated when my sister wrote programs, ran it; and then asked me to input values, and see the result. My sister is my inspiration, and prompted me to dive into the world of computer science.

>>How did you hear about Google Code In?

I've been following Google blogs, and would keep track of the latest Google developments via their blogs.

>> How did you acquire the skills that helped you at Google Code In?

I learned many things from my sister. She helped me whenever I was stuck, or my programs had errors and didn't run successfully. She's been helpful to me, but soon ran short on time. That's when I started looking at tutorials for computer languages or software, online. I started trying out these tutorials on my own.

>> Which company would you like to work for?

That's got to be Google, because I've always been fascinated by the search engine and how it showed up results matching our query in a fraction of a second. I'd like to be a programmer at Google.

Read the entire interview online at dvwx.in/apr-12-gci. Join us on Facebook at dvwx.in/dvwx-fb and share your comments.

*distro dose



BackTrack 5 RC2

>>One of the most famous penetration testing distro, it contains nearly all the tools needed for evaluating security. Find it in the accompanying DVD, or download it from:

http://dvwx.in/apr-backtrack



Calculate Linux

>>Calculate is a Gentoo-based distribution geared towards rapid deployment in a corporate environment. To try Calculate Linux, go to:

http://dvwx.in/apr-calculate

*from the shelf

>> suggested reads, that you could consider buying, to augment your skills



Programming Windows Phone 7 <Price> Free

>>This book is available as a free download from Microsoft. You can also download ePUB and MOBI versions for your ebook readers.

http://dvwx.in/apr-12-bk1



Programming iOS 5 <Price> ₹2,500

>>This book aims to help you with the fundamentals of Cocoa Touch and avoid typical problems with iPhone and iPad app development.

http://dvwx.in/apr-12-bk2



The Google Way: How One Company Is Revolutionizing Management as We Know It <Price> ₹1,140

>>This book investigates the story behind the search giant.

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Building Mobile Applications with Java <Price> ₹1,005

>>Using GWT and PhoneGap this book shows you how to use Java to build mobile apps for multiple mobile platforms; even on platforms that do not natively support Java.

http://dvwx.in/apr-12-bk4

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>>We want to hear from you. If you enjoy code, and want to share interesting gems with the developer community, please write to us today. If you're innovative and above the crowd, we could have opportunities for you! You're only limited by your imagination. Write to us at:

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worldview

OUR PICK OF THE BEST TECH ARTICLES FROM AROUND THE GLOBE

(MUST READS)



TWO SCREENS AREN'T BETTER THAN ONE

Revered technology analyst Walt Mossberg talks about some of the critical flaws in Sony's latest tablet - The Sony Tablet P
http://dgit.in/ww0402

SAVING THE SOCIAL WEB FOR LATER USE

Remember JoliCloud, that Linux-based cloud OS? It has now launched another product called JoliCloud Me which gathers a user's social content and presents it in a desktop/explorer view
http://dgit.in/ww0401

THE SNAILS OF WAR

While building robots why start from scratch? Why not start out with living creatures that already know how to walk and fly? Check out this new breed of self-powered animal/machine hybrids to be put into military use
http://dgit.in/ww0403

BIG BROTHER IS WATCHING LIKE NEVER BEFORE

A long, but interesting, report by Wired Magazine looks at the super secret spy centre being built by the NSA which aims to crack 256-bit AES encryption. US secret agencies want to spy on every piece of communication via this data centre.
http://dgit.in/ww0404

(PopSci Corner)

CREATING THE MARS OF JOHN CARTER



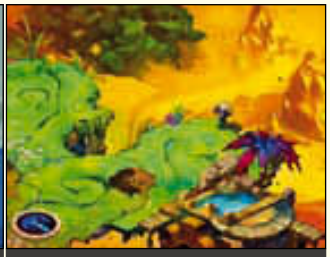
Director Andrew Stanton and production designer Nathan Crowley talk about Mars, John Carter, and building a 100-year-old science fiction universe http://dgit.in/daprw06



Gadgets galore!
A corkscrew with six times the torque, the thinnest tablet on the market, the best deck planks we've ever seen, and more. Here's a quick snapshot of some of the most desirable tech toys that money can buy.
http://dgit.in/GCSDEE



Whatever happened to those green cars?
While critics declared the electric-car revolution over, certain moves indicate that perhaps they will make that leap from novelty to normality pretty soon. Don't believe us?
http://dgit.in/daprw07



The future of fun
In this awesome PopSci gallery, feature game designers from the world's top game development studios talk about the direction in which gaming will be headed over the next few years.
http://dgit.in/daprw08

SHORTS

THE BEST FREE SOFTWARE OF 2012

It's the fifth year of PCMag's look at the best stuff you don't have to pay for, and it's their biggest list of great free software yet. It contains as many as 273 gems neatly categorised just waiting for your picking! Fire up those download managers
http://dgit.in/daprw10

GEEK FITNESS PRODUCTS TESTED



AllthingsD put the Nike+ FuelBand and BodyMedia's Fit Link armband to the test and came out with some interesting results about what kind of data can be tracked
http://dgit.in/daprw11

UPU: A NEXT-GENERATION CPU ARCHITECTURE

It's not everyday that a new CPU architecture comes along, so naturally something like this gets our instant attention. The UPU approach apparently doesn't distinguish between CPU workload and GPU workload. True synthesis? Find out more:
http://dgit.in/daprw13

CREDIT CARD-SIZED COMPUTER FOR $35



The Raspberry Pi made waves in the tech community recently by overwhelming retailers with unprecedented response. Sadly people are forced to wait
http://dgit.in/daprw09

What can you do with a supercomputer?

Supercomputers are 200,000 times faster than your Core i7 Sandy Bridge PC. Is all that power really useful?

- By Sebastian Anthony

PCMAG DIGITAL NETWORK

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In general, when ExtremeTech or another technology website discusses supercomputers, it's always in terms of speed; teraflops, petaflops, the rush to exascale, and so on. There's a reason for this, of course: After decades of indoctrination by Intel, processing speed is something that nearly all of us can relate to.

What's rarely discussed, however, is the purpose of supercomputers. Really, the world's fastest supercomputer recently hit a peak of 10 petaflops — 10 quadrillion calculations per second, or around 200,000 times faster than your Core i7 Sandy Bridge computer — but what does it do with all of that power?

To answer that question, we first need to look at the architecture of supercomputers.

Architecture

Supercomputers are, for the most part, nothing like your PC. In some cases supercomputers are built with x86 CPUs from AMD and Intel, or GPUs from Nvidia or AMD, but that's where the similarity ends.

Supercomputers normally make use of customized compute units (called blades) which usually house multiple nodes (CPUs, GPUs). In the case of the Cray XK6, the most powerful blade in the world, each blade contains four nodes, and each node houses a 16-core AMD Opteron CPU and Nvidia Tesla GPU, and 16 or 32GB of RAM. These nodes are connected together with a proprietary interconnect (usually optical). Multiple blades are then stacked together in racks (again, optically networked), allowing for tens of thousands of nodes to be crammed into a large room.

A little known fact: Supercomputers are water-cooled, which not only saves money (hot CPUs leak more power) but also allows them to run faster. In the case of K, the world's fastest supercomputer, there are some 88,128 compute nodes — 88,128 8-core SPARC64 VIIIfx CPUs — and each one is connected up to what is probably the most complex water cooling system in the world.

Finally, you need some seriously awesome software to control the beast, which nowadays is nearly always a customized version of Linux. Each supercomputer manufacturer (IBM, Cray, Fujitsu) usually starts with a Linux distro of choice, and then makes significant changes to tailor the OS to the specific hardware. It is the operating system's job to minimize the time each node spends waiting for new data to arrive. This is involves a very intricate job of task scheduling and memory management. Don't forget, a supercomputer generally has thousands of gigabytes of RAM, and sometimes hard drive storage in the petabyte range.



The end result is a supercomputer that has tens of thousands of nodes that (hopefully) act in parallel. If you imagine a single, futuristic Intel CPU that has ten thousand cores in the same package, that's the idealistic end-goal that supercomputer designers are aiming for.

The cost of ownership, by the way, is in the hundreds of millions range. Not only do you have the installation cost, but a supercomputer uses megawatts of power, too. Jaguar, the third fastest supercomputer in the world (pictured above), cost $104 million to install and uses 7 megawatts — and every megawatt, at $0.10/kWh, equates to roughly $1 million per year. Add in the dozen or so technicians that you need to keep a supercomputer running, and you're looking at an annual cost of $10 million or more.

GOOGLE'S SEWAGE COOLED DATA CENTERS

Believe it or not at its Georgia data centre, Google is using recycled water from toilets and bathtubs to cut down on cooling costs. Sounds yucky but quite environmental friendly considering data centers use thousands of gallons of water to cool their massive serverfarms
http://dgit.in/daprw14

WHY KONY WENT VIRAL

If you haven't seen the KONY 2012 video please crawl out from whatever rock you've been hiding under. Still, the most important lesson to be learnt here is to not believe everything you see on YouTube. And remember, we live in the age of online memes
http://dgit.in/daprw12

PIRATE BAY PLANS TO BUILD AERIAL SERVER DRONES



Digital pirates may soon have ships under their command. The popular torrent web site plans to move its proxy servers into the sky, creating a cluster of mobile computers tethered to GPS-enabled PCs
http://dgit.in/daprw15

ANDROID AND LINUX REUNITE!

Confused? When were they at loggerheads anyway? Turns out more than two years ago, Android code was booted from the staging area because no one was actually working to get it merged into the kernel. If Android is merged into the main tree, this would make it easier for Google to incorporate new Linux changes into its OS
http://dgit.in/daprw16

What to do with 88,128 parallel processors?

The short answer is: Not much. Or at least, nothing that mere mortals like you or I usually concern ourselves with. Because of the Linux OS, you wouldn't even be able to play Crysis 2 on a supercomputer — sheesh!

Supercomputers are mostly research tools. Historically (in the '70s) this was weather forecasting and aerodynamics (planes, space craft, cars), then nuclear weapons simulations and radiation shielding modeling (the height of the Cold War in the '80s), and in recent years the emphasis has been on cracking decryption and molecular dynamics modeling.

Let's break down a few of these applications so you can see why they're run on supercomputers.

With weather forecasting, it is the sheer amount of data that needs to be processed. There are hundreds of thousands of weather stations around the world, each one recording dozens of variables (wind speed/direction, temperature, humidity, pollen count). All of this data needs to be compared to last night's data, last week's data, and historical data, all of which must be fetched from huge memory and storage banks. Generally, most of these calculations can occur at the same time, and so massive parallelism means that weather forecasts can be produced in seconds or minutes

With nuclear weapons simulation, scientists model every step that a nuclear bomb takes from storage in a silo to explosion. We're talking about a level of simulation that models whether the heat and vibration from a transport truck can affect a nuclear missile's control systems — but also the simulation of what actually happens when a nuke explodes. Is it better to explode it at higher altitude? What if we throw in a bit more plutonium? And so on. Again, it's the sheer number of variables that makes massive parallelism such a boon here. One processor can work on the effects of humidity, while another can work on the fluid dynamics of fissile uranium.

Brute force decryption has fallen out of vogue in the last few years, but in the '90s you could use a supercomputer to break 56-bit DES encryption in a few minutes or hours. Here, massive parallelism simply lets you try different passwords at the same time; so if a single CPU can try a thousand passwords per second, a supercomputer with 10,000 CPUs can try 10 million passwords per second. In general, though, brute force attacks take too long to be worth it — though that isn't to say that intelligence agencies around the world don't try (most supercomputers are state-owned, incidentally).



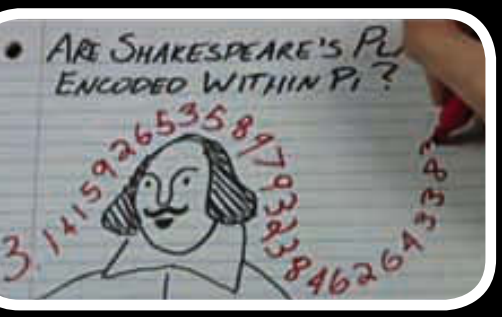
Finally we move on to by far the most exciting use of supercomputers: Molecular dynamics modeling. Basically, molecular dynamics is the simulation and analysis of the movements of atoms and molecules, and as such it covers the physical and mechanical aspects of almost everything in the known universe. To put this into perspective, Tianhe-1A, the second most powerful supercomputer in the world, ran a simulation involving 110 billion atoms through 500,000 time steps. In every one of these steps, Tianhe-1A has to analyze the relationships between each and every atom. These calculations took three hours to complete and accounted for 0.116 nanoseconds of simulated time — and this is on a computer capable of processing two quadrillion calculations per second.

The most prominent example of molecular dynamics modeling Folding@Home, a distributed computing project that tries to work out the processes behind protein folding (incorrect protein folding is believed to cause a range of diseases, including Alzheimer's and cancers). Molecular dynamics is also used in pharmaceutical research — and indeed a lot of the world's largest, privately-owned supercomputers are owned by Big Pharma. There has been a huge surge in molecular dynamics modeling since the completion of the first human genome project in 2000, and the many iterations since. In this area, supercomputers analyze how genes interact with one another, the effects of changing or deleting a gene, and the effect of gene therapy.

Molecular dynamics is also used to model various aspects of astronomy, including the first few seconds after the Big Bang and what happens when a star goes supernova. Molecular dynamics brings new levels of understanding to just about every chemistry or physics experiment, so it's not hard to see why everyone is rushing to build peta- and exascale supercomputers.

FUN WITH MATHS

This time we introduce Vihart, a mathemusician. She's a quirky mathematician+musician with a fetish for Mobius



strips. Watch as her sonorous voice explains complex and advanced mathematical principles like Pythagoras Theorem using Origami, Infinity with elephants and Mathematical series using music, transforming a scary subject into fun
http://dgit.in/vihartww

(QR Code)

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

(PRODUCT LAUNCHES)

THE NEW IPAD



Contrary to speculation, Apple came out with not the iPad 3 but "The New iPad". It features retina display, an A5X chip humming at its heart, a 5 megapixel iSight Camera & 4G LTE. Depending on the model this will cost you anywhere between ₹25k to ₹35k. It still hasn't officially launched in India. One day, soon...

CANON EOS 5D MARK III



Canon 5D Mark III is the much awaited successor to the 5D Mark II. It sports a new DIGIC 5+ imaging processor, a full-frame CMOS 22.3 megapixel sensor, 61-point High Density Reticular Autofocus system and many more modes and frame rates for HD video recording. Price? Around ₹1.79 lakhs

NVIDIA GTX 680



NVIDIA announced its latest and greatest graphics card the Kepler GPU, sporting GeForce GTX 680 packed with 1,536 shaders, PCIe 3.0 support, GPU Boost, Adaptive Vsync, TXAA and more. Pricing is around ₹33k- 35k.

We've already reviewed this bad boy – just flip to the Bazaar section or visit thinkdigit.com

WORDJUMBLE

ABSOLUTE TIMEPASS

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K	V	T	I	O	L	P	X	E	E	U	X	N	O	D	E	C	X	Z	Z

Believe it or not there are 20 tech terms in this word jumble. Try to find all of them all.

Top 3 YouTube Picks

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



Drones for hire
Duration 02:32
Flying machines have now made their way to civilians
http://dgit.in/daprw17



Birdman takes flight!
Duration 01:50
Flapping wings got this guy to fly a hundred meters
http://dgit.in/daprw18



The American Dream
Duration 29:55
Epically informative: a story of money and financial theft
http://dgit.in/daprw19

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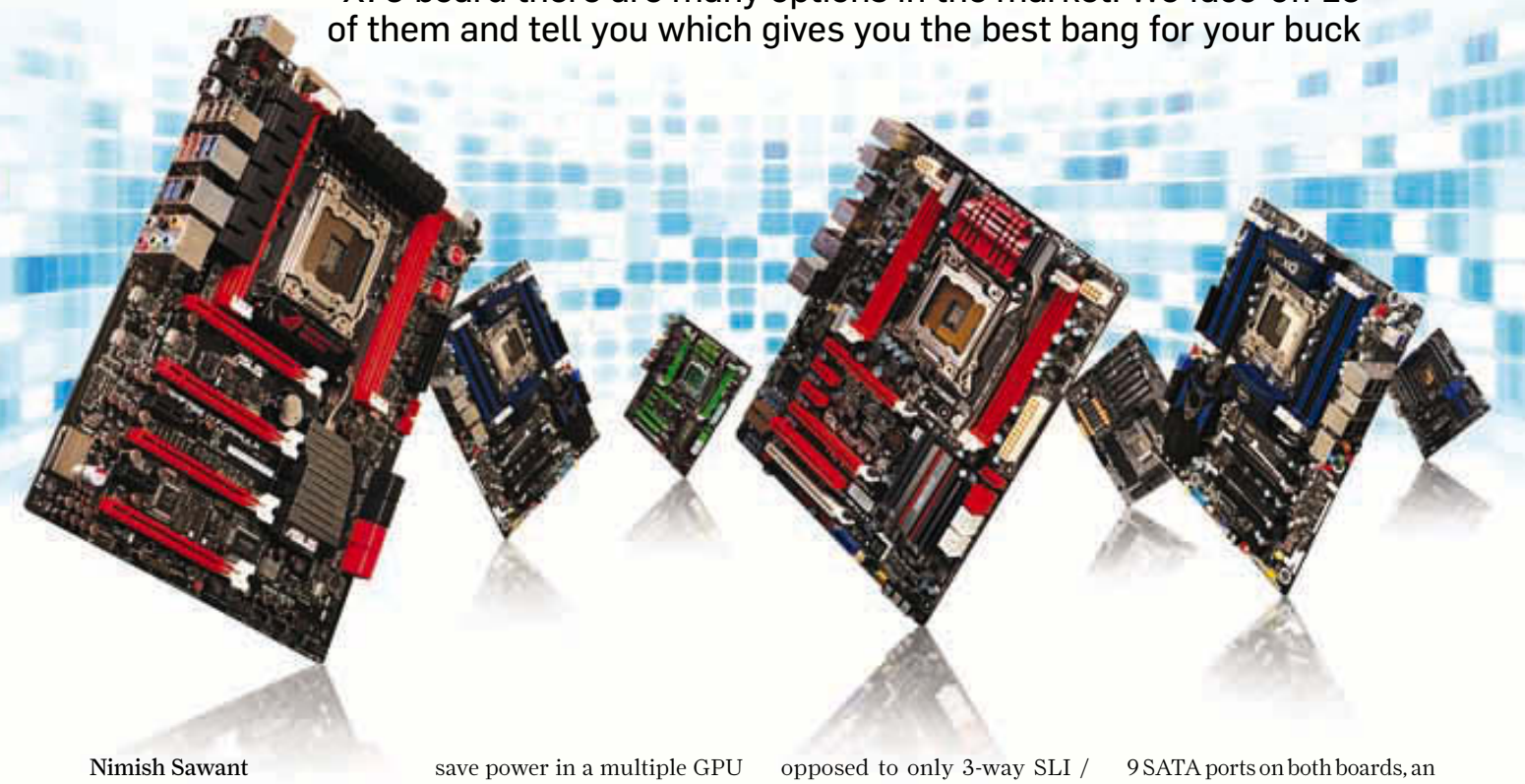
www.asrock.com

94 **Blu-ray players compared**
We compare Blu-ray players from Philips, Panasonic, Sony and LG to find out which is the best Blu-ray player on the market

100 **Bazaar**
All the latest hardware that's released every month – tried, tested and rated just for you

Shine X79

For those wanting to build an ultra high-end rig with the Intel X79 board there are many options in the market. We face-off 16 of them and tell you which gives you the best bang for your buck



Nimish Sawant
nimish.sawant@thinkdigit.com

Features

The Big Bang Xpower II is the flagship board from MSI which has as many as 7 PCIe slots of which four are PCIe 3.0 compatible and you can lodge up to four GPUs at a time. It comes in the XL-ATX form factor. In an effort to stand out from the crowd, MSI has used a machine-gun sort of design for the VRM heatsink, with the Southbridge made of bullet magazine. There are enough SATA 6 Gbps ports for you to set up many RAID configurations. There are dedicated voltage check points and a PCIe switch for quick troubleshooting of faulty graphics cards or switching cards off to save power in a multiple GPU setup. Using the + and – buttons on the board, you can tweak the clock or voltage settings easily while overclocking the board.

The other two MSI boards that we got were the X79A-GD45 (8D) and X79A-GD65 (8D). Both these boards are very similar except for some incremental improvements in the GD65 such as better heatsink over the VRM section, more SATA ports and more USB ports.

Gigabyte sent us the X79-UD3 and X79-UD5. Both the boards have a black PCB, with the UD5 sporting some familiar blue on its heatsinks. The X79-UD3 makes up for the absence of four DIMM slots by having four PCIe x16 slots which allow a 4-way SLI / CrossFireX as opposed to only 3-way SLI / CrossfireX on the UD5. The UD5 offers an extra add-in card for Bluetooth 4.0 and WiFi on board. The card can be lodged into the PCI x1 slot and has a WiFi and Bluetooth antenna outs. A USB port is present on the inner side of the card which seems strange. There is an OC button on the back panel IO below which there is BIOS switch button to toggle between the backed up BIOS in case of system crash.

The Z68 ASRock boards had us impressed with their wonderful feature set and snazzy heatsink design. The X79 Extreme 9 and X79 Extreme 6/GB take a leaf out of that book with angular designs on the heatsinks over the VRM, atleast 9 SATA ports on both boards, an actively cooled southbridge and provision for 3-way SLI/CrossfireX. It offers a Game Blaster hybrid card which has four auxillary ports alongwith an optical and coaxial out and a LAN port. Creative SoundCore 3D offers the sound whereas Broadcom BCM57781 chip offers LAN connectivity. The fan on the Southbridge spins only when the chipset is under load which is good. Layout of both the boards is quite good. We were pleased to see the board offering two USB 3.0 headers. If we were to nit-pick with the Extreme 9 board, it's that the last PCIe slot, blocks access to power/reset button.

It bundles in an overclocking utility called AXTU which lets you tweak fan controls, DRAM

PHOTOS: JITEN GANDHI

HOW WE TESTED

We believe that a motherboard performance is completely a function of its components. The higher specced the components, the better performance you will get. For a same chipset, the variation in scores is not much as will be evident from our scores. This can be easily understood by the fact that benchmark scores from a ₹15,000 board are very close to the benchmark scores from a ₹30,000 motherboard, give or take 5 percent.

So, it ultimately boils down to the feature set you are getting with the motherboard, the build quality, ease of overclocking, and other factors. Keeping this in mind, we decided to not give any weightage to the performance scores. We have run benchmarks, and we have all the scores with us, which we will share. But in our final evaluation, we have not considered these scores as that does not give you an estimation of the motherboard's value.

Our Test Rig comprised of the following components:

- **Processor:** Intel Core i7-3960X
- **SSD:** Kingston HyperX 240GB
- **RAM**: 4x4GB Kingston HyperX RAM @ 1333MHz at 9-9-9-24
- **Cooler:** Asetek liquid cooler (Intel Stock)
- **Graphics Card:** ASUS HD 7970
- **Power Supply:** Cooler Master SPH 1050W
- **OS:** Windows 7 Ultimate x64

We ran the benchmarks and logged the scores for pure reference purposes. As you will see there is not much of a difference as the chipset is the same.

The layout of the board was scored, we checked if there was enough spacing around the CPU region to comfortably attach the CPU cooler and which way the SATA ports were pointing. We also noted the spacing between PCIe slots. If a dual slot card blocked the next PCIe slot, marks were deducted.

For build quality we noted the sturdiness of the heat sinks around the VRM regions and southbridge. Board with all solid state capacitors got a higher score. Back panel I/O ports were noted and also the option to expand USB ports. Number of fan connectors and SATA connections were noted.

Overclocking is one of the key aspects of the X79 chipset based boards. So features such as utilities, on-board chip additions, were taken into consideration. A board having more options to overclock and tweak got a higher score. We indulged in minor overclocking on air. The levels we reached are just an indication to ease of overclocking and should not be considered as the maximum limit. Also the BIOS user experience was noted.

We did a thourough checking and testing (wherever applicable) of the feature set offered by a motherboard and based on the price have decided on the final winners in different categories.

settings, CPU settings among others from your OS.

Biostar Tpower X79 board was the only one which had bright colours on the DIMM and PCIe slots. Aesthetically, it looks very similar to the Tpower Z68 board we had tested sometime back with similar multi-finned heatsinks. It only sports four DIMM slots and comes with three PCIe x16 slots allowing you to do 3-way SLI / CrossfireX. The SATA port sticking upwards is undesirable and we doubt if it can be used when the first PCIe slot is populated with a longish card.

The Intel DX79SI is the reference X79 board from Intel. It still sports the older BIOS system which requires just the use of the keyboard. It has PCIe 3.0 slots and there is very little gap between the 8-pin power connector and the VRM heatsink. It does have interesting heat-sink design on the Southbridge and we were impressed with the dual gigabit LAN ports on offer, dedicated power, reset buttons and a POST error readout.

Considering the ECS X79R-AX Extreme is the highest end board from ECS, we were surprised to find only four DIMM slots, whereas even some mid-range X79 boards from competing brands offer eight DIMM slots. There are around 12 SATA ports, dedicated power, reset buttons alongwith a POST error code LED and four PCIe slots with the grey ones running at x16 and white ones at x8 speeds.



ASRock X79 Extreme 6/GB

The heatsink over the VRM and southbridge have a temperature sensitive colour sticker which changes colour based on the temperature. Just behind the 24-pin power connector, you



	Under ₹20,000					
Brand	**Intel**	**Gigabyte**	**ASUS**	**MSI**	**Biostar**	**ASRock**
Model No.	**DX79SI**	**GA-X79-UD3**	**Rampage IV Gene**	**X79A – GD45-8D**	**TPOWER X79**	**X79 Extreme 6**
Warranty (no. of months)	**36**	**36**	**36**	**36**	**36**	**38**
Price (in ₹)	**17000**	**17500**	**18650**	**18900**	**18900**	**18999**
Specifications (Out of 50)	25.6	25.95	30.6	28.55	29.8	32.5
Overclocking and BIOS Options (Out of 25)	0	12.5	17.5	16.25	10	8.75
Board Layout (Out of 20)	12.8	12.95	12.95	12.5	12.21	13
Package Bundle (Out of 5)	1.9	1.7	2.1	2.1	2.1	4
Grand Total (Out of 100)	**40.9**	**53.1**	**63.15**	**59.4**	**54.11**	**58.25**
Specifications						
Max. Memory Supported (GB) / DIMMs	64 / 8	32 / 4	32 / 4	64 / 8	32 / 4	64 / 8
No. of SATA 2 / SATA 3 Ports	4	4	2	04/02/12	3	4
No of SATA 3 Ports	2	6	4	2	4	5
No. of PCI Express 2.0 / 3.0 x16 graphics slots	0 / 3	0 / 4	0 / 3	2 / 3	0 / 3	0 / 3
No. of PCI / PCIe x1 / PCIe x4	1 / 2 / 0	1 / 2 / 0	0 / 0 / 1	0 / 1 / 0	1 / 2 / 0	2 / 1 / 0
Multi GPU (SLI/CrossFire) Support	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y
Optical / Coaxial S/PDIF Port	Y / N	Y / Y	Y / N	Y / Y	Y / Y	Y / Y
No of LAN Ports	2	1	1	1	1	1
On-board Wi-Fi (Y/N)	N	N	N	N	N	N
No. of ports - USB 2.0 / USB 3.0	6 / 2	8 / 2	7 / 2	6 / 2	2 / 6	4 / 4
No. of ports - FireWire / eSATA	1 / 0	0 / 2	0 / 1	0 / 0	0 / 1	1 / 1
No of Fan Connectors	4	5	5	5	3	6
Clear CMOS Button	Y	N	Y	Y	Y	Y
All Solid State Caps (Y/N)	Y	Y	Y	Y	Y	Y
Power and Reset Buttons (Y/N)	Y	N	Y	Y	Y	Y
UEFI BIOS (Y/N)	N	Y	Y	Y	Y	Y
USB 2.0 header	4	3	2	2	2	3
USB 3.0 Header	1	1	1	1	1	1
POST error code LED	Y	N	Y	N	Y	Y
Dual BIOS	N	Y	Y	Y	N	N
USB Charger	N	Y	Y	Y	Y	Y
Form Factor	ATX	ATX	M-ATX	ATX	ATX	ATX
Overclocking and BIOS Options						
Overclocking button	N	N	N	Y	N	N
Overclocking Utility	N	Y	Y	Y	Y	Y
Overclocking via Bluetooth	N	N	Y	N	Y	N
Voltage check points	N	N	Y	Y	N	N
Keyboard shortcuts	N	Y	Y	N	N	N
Preset options (Energy saving, Normal, Overclocked)	N	N	Y	Y	N	N
Separate home page	N	Y	Y	Y	N	N
Board Layout						
Region around the CPU	7	7	7	7	7	7
Location of SATA ports	8.5	8.5	7	8.5	7	7
Placement of Memory modules	7	6	6.5	7	8	8
Graphics card slot and PCI slots	7	8	7	6	8	7
VRM Heatsink Quality	6	6	8	7	5.5	7
Southbridge heatsink quality	7.5	7	7	6.5	5.5	8
No of 8-pin CPU power connectors	1	1	1	1	2	1
PCIe switches (Y/N)	N	N	N	N	N	N
Package Bundle						
No of SATA cables	4	2	6	6	6	5
I/O Shield	Y	Y	Y	Y	Y	Y
USB 3 Bracket	N	N	N	N	N	Y
eSATA Bracket	N	N	N	N	N	N
CrossFire / SLI Bridge	Y / Y	Y / Y	Y / Y	N / Y	Y / Y	Y / Y
Bundled Sound card	N	N	N	N	N	Y
Performance						
AIDA64						
Memory						
Read(MB/s)	16067	16214	16417	16217	14723	16281
Write(MB/s)	15057	15044	15113	15103	12780	15104
Latency (ns)	61.7	61.2	59.3	60.2	63.7	60.9
Cinebench R11.5						
OpenGL	79.55	79.54	79.43	79.63	70.64	80.14
CPU (All cores)	10.52	10.5	10.38	10.19	9.64	10.45
3D Mark 11 (1920x1080, Extreme)						
Graphics	2485	2448	2487	2488	2491	2487
Physics	12228	12564	12335	12278	11430	12337
Overall	2746	2749	2749	2750	2748	2749
WinRAR 4.0 (Multi threaded) (KB/s)	4108	4024	4204	4134	3936	4218
100 MB file Video Encoding (VOB-DivX 7) (sec)	17.91	19.45	18.16	18.06	19.48	18.11
USB 3.0 Transfer (in MB/s)						
Sequential Write / Read	71.16 / 115.45	72.24 / 114.58	71.65 / 114.63	71.34 / 115.02	72.93 / 112.43	70.8 / 114.23
Assorted Write / Read	43.31 / 104.51	42.21 / 102.24	42.12 / 100.58	43.7 / 100.71	43.11 / 100.32	41.23 / 101.21
Game (in FPS)						
Resident Evil 5 (1920x1080,8xAA,High)	172.4	172.4	173.1	169.5	166.8	169.1
FarCry2 (1920x1080, 8xAA)	104.23	103.25	104.31	102.05	103.17	102.23

BEST BUY digit APRIL 2012

₹20,000 – ₹24,000						Above ₹24,000			
Gigabyte GA-X79-UD5	ASUS P9X79PRO	ASUS Sabertooth X79	MSI X79A - GD65	ECS X79R-AX	ASUS Rampage IV Formula	ASUS P9X79 Deluxe	ASRock X79 Extreme 9	ASUS Rampage IV Extreme	MSI Big Bang Xpower II
36	**36**	**60**	**36**	**36**	**36**	**36**	**38**	**36**	**36**
20000	**20350**	**21950**	**22400**	**23000**	**23550**	**24500**	**24999**	**28600**	**35000**
33.5	33.15	25.6	30.05	34.05	32.25	36.3	34.5	34.15	33.7
15	15	15	16.25	11.25	17.5	15	8.75	17.5	16.25
12.95	13.15	14.45	12.5	12.95	15.8	13.15	14.24	16.1	15.24
3.4	2.1	2.1	4.1	3.8	2.3	2.3	4.1	2.8	4.4
64.85	**63.4**	**57.15**	**62.9**	**62.05**	**67.85**	**66.75**	**61.59**	**70.05**	**69.59**
64 / 8	64 / 8	64 / 8	64 / 8	32 / 4	32 / 4	64 / 8	64 / 8	64 / 8	64 / 8
4	4	4	4	4	4	4	4	4	4
6	4	4	4	8	4	4	8	4	6
0 / 3	0 / 4	0 / 3	2 / 3	0 / 4	0 / 4	0 / 4	0 / 5	0 / 5	3 / 4
1 / 2 / 0	0 / 2 / 0	1 / 2 / 0	0 / 1 / 0	0 / 2 / 0	0 / 2 / 0	0 / 2 / 0	0 / 1 / 0	0 / 1 / 0	0 / 0 / 0
Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y
Y / N	Y / N	Y / N	Y / Y	Y / N	Y / N	Y / N	Y / Y	Y / N	Y / Y
1	1	1	1	2	1	2	2	1	2
Y	N	N	N	Y	N	Y	N	N	N
7 / 2	6 / 4	5 / 4	8 / 2	6 / 4	5 / 4	4 / 6	6 / 4	7 / 4	6 / 4
1 / 2	0 / 2	1 / 1	1 / 0	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	1 / 0
5	6	5	5	5	8	6	5	9	5
Y	Y	N	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	N	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3	3	4	2	2	3	4	3	2	2
1	1	1	1	1	1	1	2	2	1
N	Y	N	N	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	N	Y	Y	N	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
E-ATX	ATX	ATX	ATX	ATX	ATX	ATX	ATX	E-ATX	XL-ATX
Y	N	N	Y	N	N	N	N	N	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	Y	Y	N	N	Y	Y	N	Y	N
N	N	N	Y	Y	Y	N	N	Y	Y
Y	Y	Y	N	N	Y	Y	N	Y	N
N	Y	Y	Y	N	Y	Y	N	Y	Y
Y	Y	Y	Y	N	Y	Y	N	Y	Y
7	7	7	7	7	7	7	6.5	7	6.5
8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
6	8	8	7	6	6.5	8	7	6.5	8
8	7	8	6	8	8	7	8	8	6
6	7	8.5	7	6	8	7	8	8	8
7	7	8	6.5	7	7	7	8	8	7
1	1	1	1	1	1	1	2	1	2
N	N	N	N	N	Y	N	N	Y	Y
4	6	6	6	8	8	8	6	8	9
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	N	N	Y	Y	N	N	Y	N	Y
N	N	N	Y	N	N	N	N	N	Y
Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y
N	N	N	N	N	N	N	Y	N	N
16244	16345	16243	16040	16247	16241	16381	16274	16318	16103
15054	15061	15061	15051	15057	15114	15063	15053	15065	15106
60.9	61.2	61.1	60.9	59.5	59.9	59.9	61	61.6	60.9
79.7	78.43	82.97	78.67	76.36	79.44	80.29	81.19	79.3	79.13
10.4	10.43	10.57	10.49	9.91	10.5	10.47	10.46	10.39	10.49
2489	2484	2497	2488	2481	2487	2484	2487	2484	2487
12323	12310	13085	12217	11719	12269	12309	12340	12247	12385
2751	2748	2763	2750	2739	2748	2745	2748	2746	2751
4179	4182	4384	4121	3990	4127	4172	4218	4172	4127
18.03	19.58	17.97	18.02	20.91	17.89	18.1	17.98	17.87	17.98
73.86 / 117.36	73.43 / 112.34	72.3 / 116.54	71.32 / 114.65	72.52 / 116.86	72.93 / 115.05	72.27 / 113.23	71.87 / 115.23	72.32 / 114.23	70.54 / 116.67
43.81 / 103.39	41.23 / 102.34	43.2 / 102.22	43.08 / 101.43	45.28 / 109.81	42.5 / 102.01	41.24 / 102.93	42.22 / 102.23	43.23 / 102.34	44.43 / 101.65
173.4	172.4	174.9	169.3	167.4	172.6	168.7	168.6	172.4	170.4
104.21	102.2	105.41	103.4	101.89	104.11	102.5	102.23	104.23	104.4

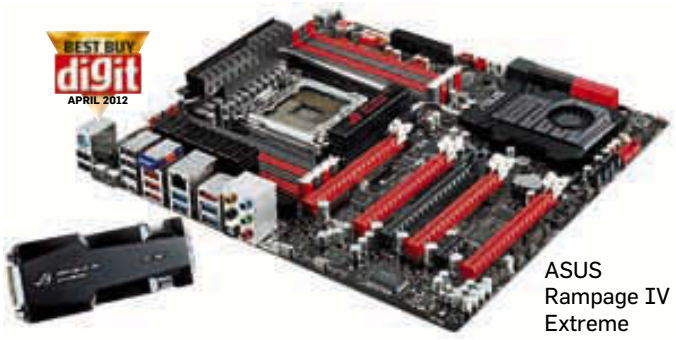


Intel's smartphone foray
Intel announced plans to expand its smartphone lineup via partnerships with carriers and manufacturers. **http://dgit.in/GJEcx7**

Hot Windows 8
Microsoft announced Windows 8 Consumer Preview had already been downloaded over a 1 million times, in the first 24 hours. **http://dgit.in/GGC8EV**

have voltage checking points. You also have a dedicated fan control utility.

ASUS was the only brand which had neatly categorised line-up of boards and we also got around six boards from them. Some features seen on ASUS boards include ASUS's proprietary SSD caching application – X79 chipset does not support SSD caching natively; BIOS flashback; Thermal Radar – which is a utility to monitor on-board temperatures and voltages and also control fan speeds. The UEFI BIOS is as impressive and easy to navigate as ever. But one implementation that we absolutely loved was the option to use shortcut keys when in the BIOS, to quickly pull up a list of commonly opened menus. Just hit F3 from anywhere in the BIOS and you will get a list of options to choose from, thus easing navigation.



ASUS Rampage IV Extreme

The ASUS Sabertooth X79 board belongs to the TUF series of boards promising a whopping 5 year warranty which is the maximum offered by any board we tested. The green and brown design is carried forward but one noticeable difference is the heatsink design. Both the heatsinks have an active-cooling mechanism (the fan on the VRM heatsink is optional) with the fans blowing the air out of the motherboard. You will not find a dedicated power reset or overclocking button on the board.

Moving on, we have the P9X79 series of boards namely P9X79 PRO and P9X79 Deluxe. Both the boards look identical, but the Deluxe sports an onboard WiFi and Bluetooth adapter, which can be attached between the Gigabit LAN port and the USB port tower on the top end of the back IO panel.

Republic of Gamers series board from ASUS are packed to the gills with features. We have seen these features evolve over the years. The X79 chipset sporting ROG boards are a different kind of beast though. The Rampage IV Extreme which is the flagship board in this line, is an enthusiast's dream. Features such as ROG Connect, Extreme Engine Digi+II, load-line calibration, voltage check points on-board are present on all ROG boards. It also comes with the X-socket which allows you to use a Socket LGA1366 cooler on Socket 2011. The USB BIOS flash option allows you to save or update BIOS via a simple button push requiring only the motherboard to be powered on.

The Rampage IV Extreme, offers exclusive features such as: sub-zero sense – which allows liquid nitrogen (LN2) enthusiasts to note sub zero temperatures upto -195.8 degrees Celcius via a subzero sense connector using a K-type thermocouple cable which has extreme temperature tolerance – thereby saving your money on expensive digital thermometers; OC Key – this is the piece-de-resistance connector which gives a graphical overlay on your display allowing you to monitor or make tweaks to settings such as clock speeds, voltages, DRAM settings – in real time; VGA Hotwire – allows enthusiasts indulging in GPU overvolting to regulate the voltage from the board's pin connectors.



ASUS Rampage IV Gene

Apart from this, you have dedicated power, reset buttons and PCIe switches on Extreme and Formula boards. The Rampage IV Formula is a relatively economical version of the Extreme and does not have subzero sense, VGA hotwire or OC Key.

The Rampage IV Gene offers a great ROG feature set and is ideal for those who want the ROG features but are on a budget. It comes in a micro-ATX form factor though and four DIMM slots.

Build quality of all three boards is very good. Heatsinks on all the three Rampage boards are top notch, with the Extreme board having an active fan cooler on the Southbridge.

BIOS and Overclocking

The UEFI BIOS of the MSI boards is very well laid out and has a home page which quickly allows you to select specific options instead of going through all the menus. The OC Genie II button helps in easy overclocking on the fly. We could overclock the Big Bang board to 4.5 GHz over the air whereas the GD45 could be stretched upto 4.4 GHz.

One of the most interesting change in Gigabyte boards seen with this chipset is the introduction of UEFI BIOS (finally!). Gigabyte calls it '3D



Gigabyte X79-UD5



Nikon D4 & D800 Launched

Nikon has launched the D4, D800, and D800E, sporting the with FX-format CMOS sensors at prices ₹3,24,950, ₹1,49,950 and ₹1,64,950 **http://dgit.in/GGybnG**

Desire HD price slashed

HTC Desire HD Android smartphone cheaper by ₹8,000, bringing it to just ₹18,990.
http://dgit.in/GEIrde

BIOS' which we feel is a bit gimmicky as it is not 3D in any way. But yes, they have tried to make navigating the BIOS menu somewhat easier for novices, although we feel that seasoned enthusiasts wouldn't care less with the implementation. With the Gigabyte Boards, we managed to comfortably cross 4.4 GHz on both the boards on manual overclocking. The preset OC settings worked only till 4.2 GHz whereas on 4.4 GHz we were facing the BSOD.

On the ASRock boards, the UEFI BIOS is not as impressive as the ones seen on MSI or ASUS boards, but it is easy to navigate. It offers easy overclocking settings from 4 GHz all the way upto 5.2 GHz. We could pull it to 4.6 GHz on manual overclocking and around 4.4 GHz on easy overclocking using the preset modes, on both boards. The Extreme 9 offers two 8-pin power connectors which are a boon for extreme overclockers.

The UEFI BIOS of Biostar is very straight forward without any home page for easily accessing specific menus. The O.N.E section offers manual overclocking options. You can also use the utility Toverclocker to OC from the Windows OS. There are no preset overclocking options in the BIOS though, as were seen in ASRock or ASUS boards. We could get upto 4.4 GHz, but the system would crash during the Cinebench R11.5 benchmark so we settled on 4.3 GHz overclock.

With ECS it is possible to overclock with the help of Quick OC and OC Profiles. We faced quite some issues during manual overclocking as adjusting the multiplier needs you to change CPU Ratio settings from Turbo to Manual and then proceed. Manual overclocking by changing the BCLK is easy. On the whole the manual overclocking experience is not as smooth as we saw on ASUS or ASRock or MSI boards.

Overclocking the ASUS ROG boards is quite easy thanks to the sheer number of ways in which that is possible. For starters, you have the AI Suite II which has preset OC modes, which just require you to select the desired speed and reboot the system. The BIOS is very user friendly and very exhaustive to the point that it may seem a bit intimidating for an amateur overclocker. Adjusting the BCLK and multiplier, DRAM settings, voltages etc., through the BIOS is very easy. ROG connect offers you the ability to monitor and tweak settings via another laptop which is connected via a USB port to the ROG board. Yet another way, a bit gimmicky though, to overclock your PC is via your cellphone or tablet via iDirect app.



MSI Big Bang XPower II

While overclocking we could easily scale 4.5 GHz on all the boards, with the Rampage IV Extreme going all the way to 4.7 GHz giving a 30 per cent jump in Cinbench R11.5 rendering scores.

Winners

We divided the motherboards into three price brackets. The overall **Best Buy** award went to **ASUS Rampage IV Extreme** for the fabulous feature-set offered for enthusiast community. The ease of using UEFI BIOS, sheer number of ways to overclock and monitor the settings is what sets the Rampage IV Extreme apart from the rest of the boards in its category. MSI Big Bang XPower II is also very good, but its pricing is off the charts.

In the Under ₹20,000 category the **ASUS Rampage IV Gene** scored the **Best Buy** award for its enthusiast oriented feature set at good pricing. You can even do 3-way SLI or CrossfireX on this micro-ATX board. **ASRock X79 Extreme 6/GB** won the **Editor's Pick** for its great overall feature set and being the only board under ₹20,000 to bundle in a gaming cum networking card.

In the ₹20,000 to ₹24,000 bracket, **Gigabyte X79-UD5** offered the best value for money, bagging the **Best Buy** award. ASUS Sabertooth X79 was a strong contender, but lost out on overall score and pricing.

Contact details

Brand	Phone	Email	Website
ASRock	886919-457786	manoj_kriplani@asrock.com.tw	www.asrock.com
ASUS	+91 22 6766 8800	reachus@asus.com	www.asus.in
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ECS	NA	joyce.cl.wu@ecs.com.tw	www.ecs.com.tw
Gigabyte	+91 22 4063 3218	anilkumarr@gigabyte.in	www.gigabyte.in
Intel	+91 22 6713 7009	NA	www.intel.com
MSI	+91 11 4175 8808	bishakhadas@msi.com	www.in.msi.com





VIDEO PIPELINE OF A DIFFERENT KIND

So far we have seen the use of graphics card to help us achieve a smooth gaming experience: delivering richer graphics and faster frame rates. Last month, we had touched upon the use of a GPU in computing and explored the various aspects of the CUDA parallel architecture. When it comes to professional graphics, we pointed out that instead of a GeForce GTX series based card, you are better off with a Quadro series card, as the latter is built specifically for professional applications such as Maya, 3DStudio Max, Adobe Premiere Pro among others.

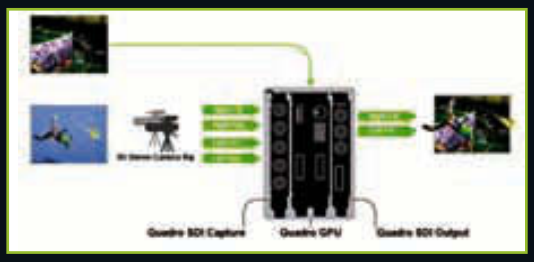
We all watch the news or sports channels and are well aware of the fact that graphics forms a very important component of this content. Without graphics, a post-election analysis would be really boring and watching a cricket match without the Hawk-eye, Wagon wheel, score-graph, etc., is unimaginable. Getting the video content and graphics to seamlessly appear simultaneously, in real-time and quickly, requires a powerful backend workstation with a professional graphics card.

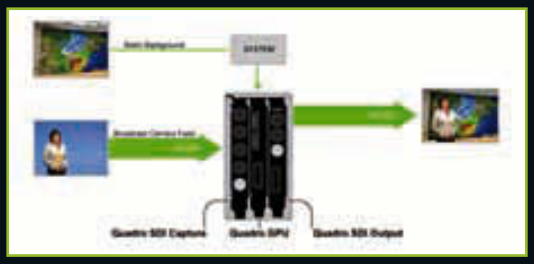
THE NVIDIA QUADRO DIGITAL VIDEO PIPELINE IS THE INDUSTRY'S ONLY GPU-ACCELERATED SOLUTION FOR REAL-TIME ACQUISITION, PROCESSING, AND DELIVERY OF HIGH-RESOLUTION VIDEO

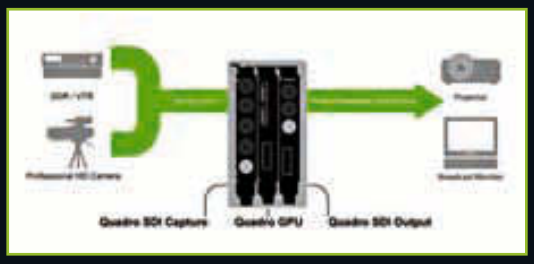
The NVIDIA Quadro Digital Video Pipeline is the industry's only GPU-accelerated solution for real-time acquisition, processing, and delivery of high-resolution video across standard and now 3D video broadcast environments.

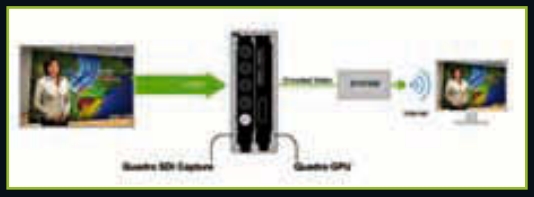
Designed as an ultra-flexible platform, the Quadro Digital Video Pipeline leads the way for 3D video production and delivery. Developed for single or multi-camera environments, and with full support for stereoscopic 3D production workflows, the Quadro Digital Video Pipeline provides a direct feed of up to four HD SDI video streams directly into the GPU. As a tightly integrated solution, the Digital Video Pipeline is powered by a single workstation, enabling cost effective implementation of multi-camera 3D systems.

The pipeline setup comprises an NVIDIA Quadro professional graphics card in the centre along with a









3D STEREOSCOPIC PRODUCTION

The Quadro Digital Video Pipeline is at the center of the 3D stereoscopic production workflow.

- Capture up to four video feeds from multi-camera environments, in real-time, directly to the GPU
- Composite virtual 3D effects or process video directly on the GPU
- Send the final result from the GPU directly to live 3D TV or stream over the internet in 3D

DIGITAL BROADCAST AND VIDEO

The Quadro Digital Video Pipeline is the platform for broadcast and video production houses to easily incorporate virtual sets and effects into sportscasts, weather, and news.

- Capture SD, HD, and 3G-SDI video footage in real-time, directly to the GPU
- Composite virtual effects or video processing leveraging the power of the NVIDIA CUDA parallel computing architecture
- Send the final result directly to live TV

FILM PRODUCTION, POST-PRODUCTION, AND FINISHING

The Quadro Digital Video Pipeline is the choice among film professionals for editing and video production.

- Capture SDI video in up to 12-bit color fidelity, directly to the GPU
- Capture of source content from camera, film scanners, digital data recorders (DDRs), and video tape recorders (VTRs)
- Accurate real-time preview on SDI monitors or projectors

NEW MEDIA MARKETS

The Quadro Digital Video Pipeline offers a high performance platform for video compression.

- Offers the fastest path for capturing broadcast quality video
- Delivers ultra-fast, real-time GPU-based encoding for internet video streaming

Quadro SDI capture card and a Quadro SDI output card. The Quadro SDI Capture card takes in multiple streams of uncompressed video and sends it for processing to the Quadro graphics card. After the video has been processed and graphics are produced, the output is then sent to a Quadro SDI Output card which has the necessary video out ports. At the output you get a composited output of live video and overlaid or underlaid graphical element along with that video.

The NVIDIA Quadro digital video pipeline comprises of the following four components:

NVIDIA QUADRO SDI CAPTURE

The Quadro SDI Capture card provides real-time acquisition of SD, HD, 2K, and 3G-SDI video footage directly to the GPU memory, enabling professionals to capture up to four HD-SDI single links sources (live action or pre-recorded) simultaneously with support for all SMPTE standard formats.

NVIDIA QUADRO SDI OUTPUT

The Quadro SDI Output card sends composited video for live television broadcast and internet streaming.

THE PIPELINE SETUP COMPRISES AN NVIDIA QUADRO PROFESSIONAL GRAPHICS CARD IN THE CENTRE ALONG WITH A QUADRO SDI CAPTURE CARD AND A QUADRO SDI OUTPUT CARD

Delivering uncompressed 8-, 10-, or 12-bit SDI video, the Quadro SDI Output solution enables a direct connection to broadcast monitors, switchers, tape decks, or SDI projectors.

NVIDIA QUADRO SDI SDK

The Quadro SDI SDK provides ease of programmability and control of the entire Quadro Digital Video Pipeline from acquisition to processing to final delivery. With complete support for both OpenGL and DirectX APIs, developers can easily integrate support into any application.

NVIDIA QUADRO PROFESSIONAL GRAPHICS SOLUTIONS

Quadro professional graphics solutions, with up to 6 GB of graphics memory, provide a range of capabilities designed for video production environments. Featuring NVIDIA SLI multi-GPU technology, and the NVIDIA CUDA parallel computing architecture, Quadro solutions deliver a power efficient, full-featured, high-performance experience.



Less adverts = more power
Android apps without ads could be twice as power efficient, say Purdue University/ Microsoft researchers

Drunk on money
NYT has cut the number of articles per month to 10 for free users. It claims to have 4,54,000 paid users



BLUE-BLOODED WARRIORS

No home theatre setup is complete without a Blu-ray player. Despite being limited in number, deciding on one is tough

Vishal Mathur
readerletters@thinkdigit.com

The last few months have been critical for Blu-ray players. After the much needed price reduction bringing some versions below the ₹10,000 price bracket, this device found its way into many home theatre setups. Consumers are using it to play DVDs, Blu-rays and even media from an external USB drive.

But, it hasn't been smooth sailing for them all through. The price of Blu-ray discs is still on the higher side and the limited availability, both in terms of titles and store stocks doesn't help either. The root cause of piracy and the rise of online downloads is pretty much obvious. And while we don't condone it, piracy ensures that most users get these otherwise exorbitantly priced movies for free – either in SD or HD versions. This is where the USB and backwards compatibility with DVDs come into play, helping Blu-ray players compete head on with HD media players.

Even though there aren't too many Blu-ray players in the market, buying one is still a tough decision. More so because of the feature set. Within this test, we have distinct varieties of players – plain vanilla Blu-ray players, 3D playback compatible players and 2D to 3D upscalable players. We hope that this test will provide clarity on the smartest choice when it comes to buying a Blu-ray player in the near future.

The participants

For this edition of the Blu-ray player test, we received two devices from Philips, two from Panasonic and one each from Sony and LG. On contacting Samsung, they informed us that a new Blu-ray player range would be launched in India sometime this summer, and wouldn't be participating at the moment. Look out for individual reviews in Bazaar once we have the units for review. You may be surprised to also see the Sony PlayStation 3 Slim in this comparison test, since it also has full-fledged Blu-ray playback capabilities.

Look and feel

If you took a quick look at all the players, you'd probably think "Ha! They look just the same", but on further inspection, you'll see the subtle and not-so-subtle differences.

Let's kick off with the Philips BDP3200. The fascia is divided into two parts – the glossy top portion and the slightly angled bottom portion with a fake brushed metal finish. The glossy portion is where the Blu-ray drive sits towards the left and you find a USB port towards the right.

While it isn't visible when the BDP3200 is turned off, there's a display right next to the USB. All four hardware keys sit on the angled portion below the drive and the USB port. Circular buttons are well marked, and the power key lights up in red in stand-by mode. The top portion is completely metal with a classy light black finish. On the back you'll find all majority of the connectivity options. Since this player doesn't come with inte-



Philips BDP3200/94

grated Wi-Fi, a second USB port is provided for a Wi-Fi adapter. Incidentally, there's no component video output, just composite and HDMI. It's well built, but looks very understated, and won't raise any eyebrows, switched on or off.

Though the The Sony BDP-S380 doesn't look very different, it's extremely classy when in action. The centre of the fascia has a similar combination of Blu-ray drive and display as the BDP3200. Below this is an angled ledge that hosts the hardware keys. Between these two elements you find the USB port sitting snugly. When switched on, there's a slightly arced pale blue (some might argue it's white) LED in the middle of the fascia, lending it a very elegant look. All AV ports along with the LAN port are on the back. The metal finish of the rest of the body looks good and the built quality is high.

Panasonic's DMP-BD75 is the third Blu-ray player in the ₹10,000 price bracket but is slightly more expensive than the Philips and Sony ones we tested. One of the reasons being that the DMP-BD75 is the most compact of the three. On the front is a single piece design that runs top down and side-to-side. The glossy finish throughout is a dust magnet though. On the left is the disc drive, and somewhere in the middle is the USB port. To the right of that is the play/pause and stop buttons. However, the power and eject key are on the edge of the top panel. The power key lies near the optical drive and the one on the opposite edge is the drive eject key – a strange and confusing design. Interchanging the two buttons in the final design would have made it slightly less confusing to use. Where this Blu-ray player from Panasonic sacrifices is with certain ports – there's no component video out, no optical or coaxial audio or even a USB port for a Wi-Fi adapter.

The next player is the Philips BDP5200, which smoothly takes us into the category priced above ₹10,000. Keep this beside the BDP3200, and most people won't be able to differentiate between the two. The Blu-ray logo on the left of the drive on the BDP3200 gives way to the Blu-ray 3D logo. Else, it looks exactly the same. They're both built impressively.

LG's BD670, in the midst of all the understated looks and gentle advertisements of its features, silently screams to be noticed. The Blu-ray drive begins at the left edge, slightly rounded here, and moves closer to the centre of the front panel.



Sony BDP-S380

HOW WE TESTED

For the comparison test of Blu-ray players, as for all other products that we test, we follow the same testing pattern as a standalone review, all year long.

Preparing the product

We have noticed that Blu-ray players get firmware updates quite regularly. Before testing, we connect these to the network and update them with the latest version available. In most cases, these updates bring in performance improvements or even new features. To test these devices without considering the latest features offered would be wrong.

Feature listing

We take a look at all the features of the Blu-ray player - playback capabilities, full range of AV and web connectivity options, online services, audio and video containers supported, sources for external media and even some services that may be unique to individual players. It is important to rate players based on the features, considering the variety we have seen within this bunch.

Design and usability

We do realize that looks and design of a product is open to individual preferences, but we try to keep it as scientific as possible when scoring the ergonomics of a product. We consider factors like build quality, materials used, placement of keys, placement of ports, quality of remote etc., and score it according to a preset scoring pattern.



Performance

Unlike laptops or smartphones, we don't have exhaustive list of tests for Blu-ray players. Which is what makes analyzing the performance very critical. To start off, we keep a standard test-bed for all players - same television, AV receiver and speaker set. We even ensure that we use the same HDMI cable and the same power source across all products. Content sources remain the same as well - Blu-ray discs, DVDs and the same external USB drive are used to test all the players. We even use the same video files throughout, which include a variety of video formats to test the compatibility of a player. We look at the quality of video at the 1080p resolution from all inputs. We also give points for the startup time taken by the player, and lower is better. For every input source, we log the time taken for the playback to start. From the table with this test, you will see how varied the times are across all devices, with lower being better. We also ran the HDV Blu-ray benchmark on all devices, to give simple scores for performance.

Mozilla to support H.264
Mozilla has reversed its stance, and will be including support for H.264 playback, at least on mobile, using system-installed codecs. **http://dgit.in/GEHGAN**



A rare update
Seagate GoFlex Satellite update allows Wi-Fi pass-through, and boosts battery life to 7 hours



Philips BDP5200

On the the front panel you find flamboyant stickers reminding you that the BD670 can do 3D. It also features integrated Wi-Fi, is DNLA capable and can play back content from an external HDD. The power key, play/pause, stop and drive eject keys are clearly highlighted in silver. The BD670 brings something that we haven't seen on any other players in this test – a cover for the USB port. While we appreciate this, the implementation has two issues. It has a flimsy build quality and the player looks ready to break after some use. Also, constantly opening it will ensure a scratched blot on the front side hurting its looks. On the back of the unit you'll find a the connectivity options, which LG hasn't shied away from – you name it and it's there. There's the component and composite video, HDMI and even the optical audio output, a LAN port and integrated Wi-Fi. Overall, the BD670 is a well put together Blu-ray player.

The most expensive dedicated Blu-ray player in this test is the Panasonic BD110. It costs considerably more than all its rivals, and for good reason. It excels in performance which we'll discuss in a while. While looks are similar to its younger sibling, the BD75 varies a bit. There's a panel that can be opened top down, or alternatively will automatically open when the drive is ejected. Hidden beneath this black door are the play/pause and stop keys. We can't really understand why these keys have been hidden away. The power and disc eject keys are placed at the same place as the BD75, and we still believe that the two should have interchanged placement for easy user experience.

Features and Performance

Within this bunch, as we mentioned earlier, there are broadly three types of Blu-ray players: those simply running Blu-ray, ones that will play back 3D Blu-ray and players that do both as well as upscale 2D content to 3D. Let's start with the basic Blu-ray players.

Philips's BDP3200 is the first of the lot that we tested. The interface isn't all that inspiring – very basic design elements and functionality on the home screen. The upside is that you really can't go wrong with it. Moving into the settings menu brings a two-columned design, with the basic features on the left and the additional features on the right. To tweak any option, you click it and a small pop-up opens. While browsing files off a USB drive, there's the three-column layout. Neatly segregated by folders, video and audio. However, the files here aren't listed alphabetically and are randomly listed. If you connect a USB drive which has a lot of files, then it may be a time-consuming process to search for the one that you want. The player doesn't read some AVCHD files, but can handle AVI, MKV and even MP4 files quite well. Blu-ray disc performance is quite good, and the ability to change colour/picture settings between five presets helps. However, you can't change these settings on the fly, and will have to stop video playback and go back to the home screen to access them via settings. Sadly, web services in this model are quite limited, with only You Tube available on the device. We hear that Picasa is making its way on to the Blu-ray player soon via a software upgrade. The remote is excellent – it is compact, has a clean layout and well marked keys ensure that fingers can easily remember the button placement. There's a smartphone app as well, for Android and iOS devices.

The Sony BDP-S380 is a completely different beast, on the other hand. It has the quickest starting time of the entire lot. Surprisingly, the startup times vary by a few seconds every time you boot the player – with complete shutdown, unplug, plug back and restart. Once powered on, you realise that the user interface on this Blu-ray has been largely influenced by the ones on the PlayStation 3 and the new Bravia television range. There are a lot of options and setting upfront. The UI is very simple and allows you to quickly get to what you want. There's no second or third layer of screens, enhancing navigation speeds. Blu-ray picture quality is excellent, and the image is definitely crisper than what we saw on the Philips BDP3200. The remote is simple and the keys are well laid out. The lack of DivX support means that quite a few AVI videos won't play on the device. The smartphone remote app needs to be registered once with the device before it can work, a step that none of the other remote apps required.

Panasonic's DMP-BD75 is slightly on the pricier side than the Philips and Sony players. And we expected a bit more punch for that extra buck. While it does steal the limelight from Sony, thanks to the latter's inexplicable removal of DivX support, the Philips Blu-ray player is still a step ahead. While Blu-ray disc playback is essentially the same in terms of quality, the BD75



Panasonic DMP-BD75



LG BD670

takes longer to boot and takes more time to start playback of a Blu-ray movie. This difference comes down quite a bit when we compare playback off a USB drive and off a DVD, but the BDP3200 still has the advantage. Another thing we didn't like about the BD75 is the interface. The icons are laid out in an east-west-north-south design, and to select any one, you need to press the necessary direction key on the remote and the item gets selected automatically. Quite neat, but if you're new to the interface you'll inevitably press the select key, which would take you straight into the settings folder. This player also won't play back some MP4 files. We liked the upscalability quality though, particularly of slightly older (we're talking about years 2007–2008) videos on AVI format. Panasonic's remote is slightly more cluttered, and some of the keys can't really be remembered by touch. You'll have to look down at the remote to operate most of the time. The smartphone remote has a very neat look to it, and works well the moment the device is connected to the network.

Now, let's delve into the category of Blu-ray players that also have the 3D video playback capability. All these players will have integrated Wi-Fi capabilities as well.

Philips' BDP5200 has a significantly different UI than its younger sibling, the BDP3200. You might think that it will largely be the same since they're in the same family, but only the colour theme is similar. Since this has a few more web services, the layout is quite different. The remote remains the same as the BDP3200, which we had appreciated for being comfortable to use and recall. Setting up the Wi-Fi is a simple task. This has a fairly quick startup time, slightly quicker than its sibling. Blu-ray playback is very similar as well, and with similar video and picture settings, they look just the same in terms of the final output. 3D playback is impressive. This player literally read every MKV, MP4 and AVI file we threw at it, be it from a DVD or a USB drive. Sadly, there's no AVCHD support, but knowing Philips, it might just come with a firmware upgrade in the future. A USB drive, even up to 500GB portable ones – the Blu-ray player read all them with ease. Net TV services include YouTube, Dailymotion, Funspot etc, but are largely region specific. You won't get to access all the services on the platform in all the regions. We faced no connectivity issues, and the videos would stream as smoothly as on a PC.



Panasonic DMP-BD110

We had high hopes from the LG BD670, particularly because it promised a wholesome app store experience over and above all its features. To start off, we liked the Blu-ray and 3D playback quality. The interface is the most colourful among all the Blu-ray players we tested here. However, it tends to hang quite a bit. The player hung twice as we tried to play AVI and MKV files off a USB drive. The promised app store wasn't a part of the firmware that was on the device. To test the app store we searched for an update. We were immediately shown one and were prompted to download it. However, despite trying to download it thrice, the download didn't begin. We also switched from Wi-Fi to LAN for our third attempt, but that didn't help either. Rather than risk bricking the unit, in the end we decided to continue with the tests. The BD670 had the quickest boot time and the quickest startup time for a Blu-ray disc. While we didn't get the apps store on the player, there was a Premium section. The content – news, updates, photo galleries and videos – was powered by Indiatimes. Navigating through the premium section was painful. It was quite slow, and certainly not due to the broadband speed, which was a consistent 2Mbps throughout the tests. Overall, this Blu-ray player was a bit of a disappointment, and we honestly hope the issues are solved in a future software update. After all, this player has quick boot and playback start times, very good playback quality and the interface is something that all other Blu-ray players should learn from.

Finally, the full-fledged Blu-ray player in this test is the Panasonic DMP-BD110. Given its company at the moment, this is one unique product. You know why? This is a 3D Blu-ray player that also allows you to upscale 2D videos to 3D. No other Blu-ray player does that. However, it

WHAT TO EXPECT

Philips BDP3200
- Wide compatibility with video formats
- Comfortable remote
- Visually unappealing UI

Sony BDP S380
- Quick boot time
- PS3-esque UI helps with quick navigation
- Well built
- Lack of DivX – most AVI videos won't play

Panasonic BD75
- Customisable UI
- Refusal to sometimes return back to Home menu on stopping BD playback
- Incompatibility with some AVI and MP4 formats
- Won't display some JPG images

Philips BDP5200
- Compatibility with all video formats
- Comfortable remote
- Basic bland-looking UI

LG BD670
- Quick boot time
- Visually appealing UI
- USB port cover
- Intermittently hanging UI
- Incompatibility with playing back some MP4 video formats

Panasonic BD110
- 2D content upscalable to 3D
- Refusal to read certain USB drives in Fat32/ NTFS format

Manufacturer and Model name/ number	Sony BDP S380	Philips BDP3200/94	Panasonic DMP-BD75GW-K	Philips BDP5200/51	LG BD670	Panasonic DMP-BD110GW
MRP (₹)	**8,990**	**8,990**	**9,490**	**12,990**	**13,990**	**18,990**
Performance	**35.4**	**36.0**	**25.8**	**35.5**	**31.0**	**20.8**
Features	**26.2**	**25.1**	**25.9**	**30.8**	**34.7**	**40.2**
Design	**7.5**	**7.5**	**7.5**	**7.5**	**8.0**	**8.0**
Final score	**69.1**	**68.6**	**59.2**	**73.8**	**73.7**	**69.0**
Video and Audio playback capabilities						
Blu-Ray disc/3D Blu-Ray playback	Y/N	Y/N	Y/N	Y/Y	Y/Y	Y/Y
2D to 3D upconversion	N	N	N	N	N	Y
24p Movie Mode	Y	Y	Y	Y	Y	Y
MPEG 2/MPEG 4/DivX/Divx HD/MKV	Y/Y/N/N/Y	Y/Y/Y/Y/Y	Y/Y/Y/Y/Y	Y/Y/Y/Y/Y	Y/Y/Y/Y/Y	Y/Y/Y/Y/Y
HDMI Deep Colour/ x.v. Colour	Y/Y	Y/N	Y/Y	Y/N	Y/Y	Y/Y
HD upscale resolution	1080p	1080p	1080p	1080p	1080p	1080p
Video Frame Rates	24p 50p 50i 60p 60i	24p 50p 50i 60p 60i	24p 50p 50i 60p 60i	24p 50p 50i 60p 60i	24p 50p 50i 60p 60i	24p 50p 50i 60p 60i
DTS-HD/DTS/Dolby Digital Plus/Dolby TruHD/LPCM/ MP3	Y/Y/Y/Y/Y/Y	Y/Y/Y/Y/Y/Y	Y/Y/Y/Y/Y/Y	Y/Y/Y/Y/Y/Y	Y/Y/Y/Y/Y/Y	Y/Y/Y/Y/Y/Y
AV connectivity ports						
HDMI outputs/HDMI version/ Component video/Composite video/Optical audio/Coaxial audio	1/1.3/Y/Y/N/Y	1/1.3/N/Y/N/Y	1/1.3/N/Y/N/N	1/1.3/N/Y/N/Y	1/1.3/Y/Y/Y/N	1/1.3/N/Y/Y/N
Web connectivity						
Integrated LAN/Integrated Wi-Fi/Optional Wi-Fi adapter/ BD Live or Gracenote (Active online content for BD)	Y/N/Y/Y	Y/N/Y/Y	Y/N/Y/Y	Y/Y/-/Y	Y/Y/-/Y	Y/Y/-/Y
VoD services	Bravia Internet Video, Sony Entertainment Television, Friday Moviez	YouTube	YouTube	Philips Net TV	Indiatimes-powered content	YouTube, BigFlix VOD
Storage						
USB inputs	2 (1 is only for BD Live and Video on Demand)	2 (1 is only for Philips Wi-Fi adapter)	1	1	1	2 (1 is for Skype camera)
USB 2.0/USB 3.0	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
Memory card slot	N	Y (only for BD Live and Video on Demand)	N	Y (only for BD Live and Video on Demand)	N	Y
Memory card type	N	SD	N	SD	N	SD
Size and weight						
Dimensions (mm)	430 x 36 x 199	435 x 42.5 x 206	430 x 35 x 179	435 x 42 x 208.5	N.A.	430 x 35 x 179
Weight (kg)	1.6	1.6	1.6	1.6	N.A.	1.6
Controlling the device						
Universal remote	N	N	N	N	N	N
Remote app for smartphones (iOS and Android)	Sony Media Remote	Philips MyRemote	Remote 2011	Philips MyRemote	LG Remote	Remote 2011
Performance and tests						
Player startup time (press power key to menu display) in seconds	4.59	17.1	25.84	13.53	5.2	32.41
Disc startup time – Blu-Ray (press Play till movie starts) in seconds	23.06	14.39	31.78	20.6	14.04	22.91
Disc startup time – DVD (press Play till movie starts) in seconds	5.4	6.4	9.03	8.1	7.07	12.89
USB video startup time (press Play till movie starts) in seconds	2.42	3.5	5.6	3.64	8.5	6.4
AVI container compatibility	5	9	5	9	9	5
MP4 container compatibilty	7	9	0	9	0	0
MKV container compatibilty	9	9	9	9	9	9
HQV Benchmark Tests						
HD Noise Test (out of 25)	10	10	10	10	10	10
HD Video Resolution Loss test (out of 20)	20	20	20	20	20	20
Jaggies – test 1 (out of 20)	20	10	20	10	20	0
Jaggies – test 2 (out of 20)	20	20	20	20	20	20
Film Resolution Loss Test (out of 25)	20	25	20	25	20	25
Film Resolution Loss Test – Stadium (out of 10)	6	4	6	4	6	8
Total (out of 120)	96	89	96	89	96	83



AOC enters Indian TV market

AOC has entered India's TV market. The Taiwanese brand is part of TPV Technology, globally known for its LED/LCD TVs. **http://dgit.in/GMk66K**

Intex sound bar speakers

Intex has unveiled its first wireless sound bar home theatre systems in India, starting ₹9,999. **http://dgit.in/GMk9iE**

Sony PlayStation 3 Slim

While this is essentially a gaming console, the Blu-ray drive adds a whole lot of value to it, particularly if you don't have a separate Blu-ray player. As that, it's a very competent device, and doesn't lack anything in terms of features and performance. However, it does lack native support for many codecs, but if you're streaming from a network-connected PC using the PS3 Media Server, then it will flawlessly play back all formats. Picture quality of media viewed through the PS3 is quite excellent. What you will notice is that the PS3 does tend to heat up considerably more, thanks to the immense power locked within the confines of its plastic enclosure. The gaming remote is quite uncomfortable to use for media playback, and you'll have to spend on Sony's PS3 Blu-ray remote to enjoy media playback.



Sony Playstation 3 Slim



Sony Playstation 3 Blu-ray remote

has the slowest boot time of all players in the test. The Blu-ray playback is excellent, and the image is definitely crisper than its lower-priced sibling. Any video that you play, unless it's originally in 3D, will start in the standard 2D mode. The remote has a 3D button, which will give you a pop-up of types of 3D to upscale to – Full HD 3D or side-by-side 3D. Select the one that you want; we used Full HD 3D. The display then blanks out for anywhere between 5 and 15 seconds and voila, it's 3D. Incidentally, the video doesn't automatically pause during this process. 3D quality is quite good, but then again, things like depth and colour reproduction are dependent on the individual 3D TV. Upscale quality of SD files to HD is quite good, be it off a DVD or a USB drive. Speaking of which, the BD110 had some issues reading one of the three USB drives we used in this test. It failed to read a 16GB pen drive in Fat32 format with some MP4 and AVI files on it. It read the other two promptly (albeit both were in NTFS format), which made us wonder what the real issue was here. It couldn't be the USB drive, since all other players including the Panasonic BD75 read it perfectly. We groaned at the sight of the user interface, which follows a similar selection via direction key, which is bound to confuse new users. However, it looks a lot more colourful and better laid out, with multiple screens as you go deep into the options. This product has integrated Wi-Fi and with that a whole host of web-based services such as YouTube, Big Flix VOD service, Twitter and Skype. You'll need to have a compatible web camera for video calling to work. Within the apps interface, we liked the window look. However, windows beyond page 3, where some services aren't available in India, are blank.

The Winners

For a combination of very good performance, wide compatibility with video formats and external devices, decent feature set and simple enough looks, the Philips BDP3200 wins the **Best Performer Award**. Alternatively, the Philips BDP5200, offers everything the BDP3200 has, and bundles along integrated Wi-Fi, a sleek yet simple interface and a whole host of web-based services to justify the price tag. The Sony BDP S380 wins the **Best Value Award**. While it lacks DivX playback capability, it makes up for that with the amazingly functional PS3-esque user interface and nifty features like x.v.Colour, something that the Philips misses out on. The LG BD670 gets our **Editor's Pick Award.** It offers quick startup times, an intuitive UI, a full-fledged app store with a firmware update and impressive Blu-ray playback and SD video upscaling.



Opera Mini for BB
Opera Mini 6.5 is now available for BlackBerry smartphone users via BlackBerry App World. **http://dgit.in/GMjPRc**

Paratek will boost BlackBerry
The RF tech will help users with faster downloads, longer battery life and less dropped calls
http://cnet.co/zaoCUn

Amazon Kindle Fire

Limitations make it a mere web browsing and ebook device



Specifications

Platform: Customized Android 2.3; **Processor:** 1GHz Cortex A9, TI OMAP 4430 chipset, Power VR SGX540 graphics; **RAM:** 512MB; **Display:** 7-inch IPS (1024 x 600); **Storage:** 8GB internal, no expansion slot; **Battery:** 4400 mAh

Contact

Tradus.in
Web site: www.tradus.in
Email: NA
Price: ₹13,699

5.0/10

Features	5.0
Performance	4.0
Build Quality	8.0
Value for Money	6.0

The Kindle Fire is the first Kindle with a colour touchscreen. It looks quite similar to the BlackBerry PlayBook, but is slightly thicker. The bezel around the display is pretty wide, but doesn't support touch gestures like the PlayBook. Absolutely no hardware buttons on the front.

The rubberised back offers good grip except during the summers – sweat becomes prominent and the tablet then tends to slip out of your hands more than a plastic or aluminum finish tablet would.

True to Kindle tradition, the power key, micro USB port and 3.5mm headphone jack are all tightly packed on the bottom spine. On the top are the stereo speakers, while the side spines are completely clean.

The Fire has a premium feel to it, of a device a lot more expensive than its actual cost. Compare side-by-side with budget tablets currently in the market, and you'll understand the build quality difference immediately.

The tablet is powered by the same power package as the BlackBerry PlayBook – the 1GHz Cortex A9 on the TI OMAP 4430 chipset and Power VR SGX540 graphics. We had been impressed by the BlackBerry PlayBook's multi-tasking capabilities. With the same power package, we expect the Fire to do equally well. However, it doesn't feel as zippy. The primary reason is the operating system. What the Fire carries is a customised version of Android 2.3 with some things thrown out of the window and Amazon's services integrated into the package. The second reason is the lesser RAM – 512 MB as compared to 1 GB on the PlayBook.

The UI features a unique and eye-catching shelf design – the bigger middle shelf is the recent items and the one below that are the favourites. The recent items will list every app that you may have used recently, every book you may have opened or even a bookmark you may have saved on the web browser. Flicking through it reminds us of the Album Cover experience when it first arrived on iOS devices. At the top is the search bar, and just below it are the tabs – Newsstand, Books, Music, Video, Docs, Apps and Web. Selecting any one of these takes you into a separate layer of screens.

All this is helped by the fact that the 7-inch IPS display is extremely good. Vivid colours and a nice dollop of crispness are immensely important with text and multimedia alike. The web browsing experience on this tablet is quite pleasing – neat, with not too many elements distracting you. The latest update brings full screen browsing as well.

The device comes with 8GB internal storage. However, there's no slot for memory expansion.

While the Kindle Fire seems like a very competent device, there's quite a big problem with it – the geographical location limitations. Sign in with your Amazon account, and all the ebooks that you may have purchased immediately sync. Go to the Amazon app store (Yes, Android Market has been removed from this device) and search for apps. Like one? Ready to download? Here's the problem. If you don't have a US credit card linked to the account, you won't be able to download apps. Or anything else for that matter! Not even the free apps. We tried two different credit cards, both international ones in their own right – a MasterCard and a Visa, but none worked.

Good battery life though, and while it was connected to a hotspot constantly, it lasted about nine hours on continuous usage.

Yes, it's an expensive tablet, on paper. Yes, it has a very sleek form factor. Yes, the UI looks brilliant. But, this is essentially a US-only device at the moment, and you can't even download basic things like apps without a valid credit card from a financial establishment in the US. It doesn't make sense buying this device in India.

Vishal Mathur

PS Vita Review

The hardcore gamer's companion!

On first impressions the Vita looks like the original PSP on steroids. The device is light enough to carry in a bag, but it isn't small enough to fit in your pocket. It has a glossy black finish making it a fingerprint magnet.

The Vita has a gorgeous 5-inch display, which will make your jaw drop the minute you power on the device. The biggest downer to the screen is that it is susceptible to glare.

The rear of the device has a touch panel. The device has two VGA cameras, one in the front and the other at the rear without a flash.

To sum up, the PS Vita feels like Charlize Theron from *Aeon Flux* in your hands and that is a very good thing!

Sony has finally paid homage to gamer's prayers and added two analog sticks along with the D-Pad, the standard PlayStation controls and shoulder buttons.

As if 15-buttons on the device weren't enough, Sony has thrown in everything here but the kitchen sink. You have a six-axis motion sensing system (three-axis gyroscope, three-axis accelerometer), three-axis electronic compass and a front touchscreen and a rear touch panel, not to mention the two cameras that can be used in augmented reality games. In short, your hands will be all over this device.

The interface of the Vita is like iOS. You have app icons that fill up the screen. 10 apps can be held in one screen and you can rearrange them to your liking.

The Vita has brought two unique formats - a proprietary memory card and a unique SD card style format for the games.

The Vita memory card comes in 4, 8, 16 and 32GB variants. The price of these memory cards is approx. ₹1,000, ₹1,480, ₹2,690 and ₹4,935 respectively. These are expensive in this day and age, where a 32 GB microSD card costs ₹2,100 (approx.) You will have to purchase a memory card if you decide to download games digitally or want to use the device to watch movies or listen to music.

To put things into perspective, *Uncharted: Golden Abyss* is roughly a 3.3 GB download. Most of the AAA games range between 1 to 3 GB in terms of their storage. So if you thought you can avoid picking up a memory card, think again. You may just need one and a higher capacity one if you intend to carry your music, videos and games on the device. You can transfer media from your PC to the Vita via a proprietary USB cable.

The launch lineup for the Vita is spectacular. There's something for everyone. The prices of games range from a few hundred rupees to ₹2,800. You have the likes of *FIFA Football*, *ModNation Racers: Road Trip*, *Ninja Gaiden Sigma Plus*, *Rayman Origins*, *Ultimate Marvel vs Capcomm*, *Uncharted: Golden Abyss*, *Wipeout 2048* to name a few.



At a stretch, the device lasted for around 4.5 hours of gaming, which isn't extremely good, but it isn't bad either.

With all the awesomeness and potential the Vita has to offer it does come at a very steep price. The Wi-Fi only model will cost you ₹19,990 and the 3G+Wi-Fi will cost you ₹24,990. That's more expensive than a PS3 or an Xbox 360. The games for the Vita too are priced at a premium ranging from ₹2,199 to ₹2,799 (yes, you will get cheaper downloadable games but we are referring to the full blown AAA titles). Plus if you need storage, you will have to pick up one of the expensive proprietary memory cards.

It's clear that the Vita isn't gunning for the casual audience that place games on their smartphones. The device is designed to be the hardcore gamer's companion. If you are an addict who needs his dose of gaming on the go, then this device is definitely for you. If not, then you may want to take a look at picking up a full-blown console as that will cost you around ₹16,000 and give you a better overall package.

Sameer Mitha

Specifications

Type: Portable gaming console; **Processor:** ARM Cortex A9 processor (Quad-core); **RAM:** 512MB; **Graphics:** Graphics: SGX543MP4+ GPU; **Display:** 5-inches (960x544 pixels), OLED type; **Storage:** Proprietary PS Vita Memory card; **Connectivity:** Wi-Fi and 3G (optional); **Battery:** 2210mAh

Contact

Sony India
Email: NA
Website: www.in.playstation.com
Price: ₹19,990 (Wi-Fi only); ₹24,990 (3G + Wi-Fi)

8.0/10

Features	8.0
Performance	8.0
Build Quality	8.5
Value for Money	7.0



Get the new iPad
Five reasons why you should upgrade to the new iPad
http://bitly.com/xJYuHK

The Cookie Monster
Collusion shows you an interactive, real-time visualisation of the entities that track your behavior across the web **http://bit.ly/yF4y35**

Battle of the fastest Graphics Cards

ZOTAC GeForce GTX 680 Vs ASUS Radeon HD 7970

Specifications

ZOTAC GTX 680
Core Clock: 1006 MHz;
Boost Clock: 1058 MHz;
Video Memory: 2 GB GDDR5;
Memory Bus: 256-bit; **Bus interface:** PCI Express 3.0;
Display ports: 2x DVI; 1x HDMI, 1x DisplayPort

Contact

ZOTAC India
Email: deepak@zotac.com
Website: www.zotac.com
Price: ₹32,999

8.5/10

Features 8.5
Performance..... 8.5
Build Quality 8.5
Value for Money 7.5

Specifications

ASUS HD 7970
Core Clock: 925 MHz;
Memory Clock: 5500MHz;
Video Memory: 3 GB GDDR5;
Memory Bust: 384-bit; **Bus interface:** PCI Express 3.0;
Display ports: 2x Mini DisplayPorts, 1x HDMI, 1x DVI;

Contact

ASUS Technology Pvt. Ltd.
Email: reachus@asus.com
Website: www.asus.in
Price: ₹38,000

7.5/10

Features 8.0
Performance..... 7.5
Build Quality 8.0
Value for Money 6.0

ZOTAC GTX 680

NVIDIA announced its Kepler GPU based graphics card family towards the end of last month. Based on the 28-nm TSMC manufacturing process, the ZOTAC GeForce GTX 680 is clocked at 1006 MHz and houses 3.54 billion transistors on the GPU. It supports DirectX 11.1 and PCI Express 3.0 interface which has a bandwidth twice that of PCI Express 2.0.



ZOTAC GTX 680

The memory bus width has been reduced from 384-bit (seen in GTX 580) to 256-bit.

There are some innovative technologies on offer including GPU Boost – a technique which dynamically boosts clock speeds based on the workload of the game and the headroom available. It not only changes the clock frequency but also the GPU voltage; Adaptive Vsync automatically switches off the VSync when the frame rate falls below 60 FPS, thus reducing unwanted stuttering and TXAA which gives higher image quality with lower performance hit.

ASUS HD 7970

The HD 7970 is the single-GPU flagship card from AMD and we got to try out the ASUS Radeon HD 7970. The design looks looks very similar to the reference HD 7970 with just the ASUS branding on the front face. The card sports 3GB of GDDR5 memory and is clocked at 925MHz. It sports a 384-bit memory bus and has four display ports.

The ASUS HD 7970 is based on the Tahiti core which sports a different architecture then what we saw in the previous iterations. It sports 8-pin and a 6-pin power connector pins.

It features the Graphics Core Next architecure, which is a major rethink of their previous design processes. What is different in GCN at its core, is the SIMD design, allowing for parallel processing of threads. The earlier architecture depended very-heavily on an in-order execution of instructions, which was alright as far as graphics processing went, but could be extremely inefficient for normal computing tasks as each instruction would have to wait for the previous one to finish, regardless of the time it took, so you would need a very good compiler to make the most of the card.



ASUS HD 7970

Performance

We benchmarked the cards on our rig comprising an Intel Core i7-3960X and 8 GB of Kingston HyperX RAM, throwing a variety of games and synthetic benchmarks at both the cards. As is seen from the scores alongside, the GTX 680 card emerged victorious in most of the benchmarks except for *Resident Evil 5* and *Alien Vs Predator*. In *STALKER: Call of Pripyat* the GTX 680 was almost 20 FPS faster than HD 7970 is most settings.

In fact when we compared it with the ZOTAC GTX 580 AMP! Edition, we still got scores in excess of 25 to 30 FPS in all the gaming benchmarks. So, performance-wise, it is a huge improvement over the GTX 580.

Cards	ASUS HD 7970	ZOTAC GTX 680
3DMark11 score (Extreme)	2736	2767
Graphics	2480	2481
Physics	11282	10821
Combined	2938	3380
Lost Planet 2 (dx11) 1920x1080p max	57.2	74.2
Alien vs Predator 1920x1080p Max	65.5	57.4
Resident Evil 5 (dx10)		
1080p max	173	162.6
720p max	187.4	165
STALKER Call of pripyat		
1080p Ultra	93.4	98.8
720p Ultra	158.1	173.7
Dirt 3 1080p Max	87.57	103.32
Dirt 3 720p Max	122.36	129.84
Temperature Delta (degrees C)	39	37

When it comes to pricing, the ASUS Radeon HD 7970 is priced at a whopping ₹38,000 whereas the ZOTAC GTX 680 comes at a sweet pricing of ₹32,999. The huge difference in pricing and performance scores make the winner quite evident. The card to win this battle is the ZOTAC GeForce GTX 680.

Nimish Sawant & Anirudh Regidi
readersletters@thinkdigit.com



Samsung's Android digicam
Directly upload photos to social networking accounts and a completely new vertical for digital camera apps **http://engt.co/yTiZvz**

NUIverse app for MS Surface 2.0
A multitouch, universe simulating software that can render up to 100,000 stars in real time
http://vrge.co/AyAjOn

Samsung Galaxy Tab 7.0 Plus

A powerful 7-inch tablet, but falls short of oomph

The fact that the Tab 7 Plus is from the same family as the Galaxy Tab 750 is quite clear by the similar design. Despite the generous use of plastic, the build quality is satisfactory.

A 1.2GHz dual core Exynos 4210 processor powers the Tab 7 Plus. There's 1GB RAM to help the processor along. Samsung has preloaded this with Android 3.2 (Honeycomb). The UI tends to stutter quite often, even with no apps installed on the device.



The 7-inch display's brightness level is better than that of the Sony Tablet S, and is at par with the Tab 750's, despite a different display type. It doesn't have the colour vividness of a Super AMOLED display, but the PLS LCD doesn't do badly at all. What is a letdown is the low resolution (1024 x 600) – particularly for videos. What impresses the most is the crispness of the display – absolutely brilliant to read text on.

The battery life of the Tab 7 Plus is quite good, lasting about 3 days under daily usage scenarios.

Despite some pretty stable performance, the Tab 7 Plus's market price of around ₹26,000 is pulling it down a bit. For the same price, you get the Sony Tablet S. If 3G is a criteria, the Galaxy Tab 730 makes a lot more sense, for a bit more money. Or even the Galaxy Note, which is infinitely more portable.

Vishal Mathur

Specifications

Platform: Android 3.2; **Processor:** Exynos 4210 @ 1GHz with Mali-400 GPU, 1GB RAM; **Display:** 7-inch PLS LCD, 1024 x 600 pixels; **Storage:** 16GB with microSD slot up to 32GB; **Camera:** 3.15MP with 720p HD videos; **Battery:** 4000 mAh

Contact

Samsung India
Phone: +91 22 3030 8282
Web site: www.samsung.com/in/
Price: ₹30,350

7.0/10

Features	7.0
Performance	6.0
Build Quality	8.0
Value for Money	6.0

Toshiba Satellite L740 review

Budget laptop that impresses with stable performance

Straightaway, the glossy black finish is a bit of a turn-off – for being a scratch, dust and fingerprint magnet. There is a neat imprint design on the lid, which reminds us of when HP first started to do the wave imprint on the Pavilion DV range of notebooks a few years back.

No dedicated keys for multimedia playback, Wi-Fi etc. Whatever quick access keys are there, are shared with the FN keys. Overall, while this is a well-built laptop with no evident rough edges, the bulk gives away its budget roots.

While it isn't an old processor (launched Q2 2011), it isn't the newer gen Core i3 or Core i5 either. The Pentium B940 (Sandy Bridge family) clocks at 1995MHz and is paired with 3GB of RAM. We were surprised with the PC Mark Vantage score of 4195, which slots it cleanly in the "I am not a slouch by any stretch of the imagination" category.

The 14-inch display is the basic LCD one, with a resolution of 1366 x 768 pixels and 16:9 aspect ratio. The display isn't reflective at all - helpful outdoors or in a typical office environment with lots of overhead lights. Improved viewing angles as well.



The battery will disappointingly run out of juice in an hour and 40 minutes.

This is essentially a budget laptop that does well on the performance front. The real delight is the non-reflective display. Alternatively, you could also consider the Lenovo G560, which will come with a newer Intel Core i3 processor, same 3 GB of RAM, smaller 320 GB hard drive but a bigger 15.6-inch display.

Vishal Mathur

Specifications

Processor: Intel Pentium B940 @ 2GHz; **RAM:** 3GB; **Display:** 14-inches; **Graphics:** Intel HD 2000; **Storage:** 640GB; **OS:** Windows 7 Home Basic (32-bit)

Contact

Toshiba India
Web site: www.toshiba-india.com
Email: notebooksales@toshiba-india.com
Phone: +91-124-4996600
Price: ₹28,490

6.5/10

Features	6.0
Performance	6.5
Build Quality	6.0
Value for Money	7.0

Free Wi-Fi on London Underground
The Mayor of London's office has announced that Virgin Media is to provide free Wi-Fi on the London Underground during the Olympics **http://vrge.co/zN4MFY**



Super Monkey Ball on Vita
Make levels in Super Monkey Ball via the Vita camera
http://vrge.co/xuK4dD

Dish TruHD Plus

A step up, but we recommend a full-fledged DVR



The recording feature is an add-on for existing customers – a step up for the bog standard HD box. Existing customers can activate this service and order the recorder remote for ₹300. You can use your own USB drive (up to 2 TB) to record. That does make the service quite flexible. However, there are certain limitations when compared to a DVR. First, you can only record one program at a time, and not two. Secondly, you can't set one channel to record and browse other channels simultaneously. Third, when the recording is on, you cannot change the channel, else the recording will stop.

We were surprised at how badly TruHD's remote is laid out. The key placement isn't well thought out. For example, the Menu key is in a separate cluster, while the Back key is in a cluster above that. Another example - the sound mute key is a million miles away from the volume keys. Ideally, related keys should be in the same cluster of buttons. Issues with the UI too – at most times when using the on-screen interface you actually use the Green coloured key to return, and not the Back button. Despite using it for a long time, we still could not get used to the layout of this remote.

The Dishtv TruHD service is a neat upgrade for an existing HD service user. However, it is meant only for the occasional recording. We recommend a full-fledged DTH DVR if you want anything more. Also, do check the channel packages before buying another DTH, and save the possible heartache at a later date!

Vishal Mathur

Specifications

Type: DTH + Recorder compatible; **USB support:** Yes, up to 2TB; **Output:** 1080i resolution; **Connection:** component, composite and HDMI video out, optical audio output

Contact

DishTV India ltd
Web site: www.dishtv.in
Email: customercare@dishtv.in
Phone: 0120-2550000
Price: ₹2,690 (+ 1 month free HD Royale or HD Premiere or HD World pack)

6.5/10

Features	8.0
Performance	7.0
Build Quality	6.0
Value for Money	6.0

Fujifilm F500EXR

This clicker costs quite a bit, but delivers as well

Specifications

Sensor: 16MP CCD; **Lens:** Fujinon 15x optical zoom; **ISO:** 100, 200, 400, 800, 1600, 3200, 6400, 12800; **LCD:** 3-inch; **Storage:** SD card; **Max picture resolution:** 4806 x 3456 pixels; **Max video resolution:** 1920 x 1080 pixels (30Fps); **Battery:** Li-ion type

Contact

Fujifilm India Pvt. Ltd.
Phone: +91-124-4325500
Email: contact@fujifilmindia.com
Web site: www.fujifilm.in
Price: ₹18,999

7.0/10

Features	7.5
Performance	7.0
Build Quality	7.0
Value for Money	6.5

Fujifilm has retained the look from the predecessor, the F300. It remains true to the standard digital camera design, and the curves do look good. Multiple colour options available are red, black and blue, with the blue camera having a particularly glossy finish. A healthy dose of chrome adds a bit more real shine. It sports a 16MP sensor, 15x optical zoom and a 3-inch LCD.

It has extensive automatic and manual controls, including shooting modes named "dog" and "cat"! Photo quality is quite good all through. Blurring around the edges is something that most digicams suffer from, in different



degrees. In good light conditions, the sweet spot is at ISO 100/200. Images are surprisingly crisp, and colour distribution is quite neat. However, this camera struggles when it comes to close-ups. The details and sharpness are okay if you aren't blowing up the image size more than the original.

Even in low light conditions, the F500EXR keeps its composure quite well. The optimal ISO is around 800, while this camera goes up to 3200 in most modes. Videos can be shot at 1920x1080 (30 fps), and while they remain crisp for the most part, there's a bit of framing for panned shots.

At this price, the F500EXR offers pretty good performance. Won't work well if you take lots of close-ups, but handles all other situations well.

Vishal Mathur



Toshiba launches Portege Z830
Toshiba claims that the Portege Z830 is the lightest Ultrabook, weighing a mere 1.2 kgs and is priced at ₹96,290
http://bit.ly/x8rceW

Anonymous OS
Anonymous released its own operating system, complete with hacking tools
ifehac.kr/ydhgTB

Nokia Asha 300 Review

A modern day feature phone?

The Nokia Asha 300 is part of Nokia's entry-level lineup. The device has a candy bar form factor with rounded edges. It has just a fixed focus 5MP camera without flash and no front facing camera. Overall, the phone's feature set is minimal.

The Asha's resistive touchscreen is cumbersome to use. The addition of a D-Pad would've been nice. The home screen can be customized with four widgets. One of the biggest disadvantages of the OS is that it doesn't support multitasking, with the exception of music playing in the background.

The images clicked from the camera are good if the lighting condition is right. In low lighting conditions images can be very noisy.



Making calls on the device is classic Nokia. The audio is clear in the earpiece as well as the bundled headphones. Typing messages can be done using predictive text or the three alphabets per key method. Accessing Facebook and Twitter is as simple as clicking login. The phone's screen's good to see status updates and tweets.

The battery life of the Nokia Asha 300 is a definite winner. It lasted for about two days with average use of chatting, social networking calling and messaging.

If you are in the market for a phone that gives you access to basic mail on the go and social networking, the Nokia Asha 300 can be one to look out for. For ₹7,000 this phone offers some nice features such as 3G-connectivity, 1GHz processor and a strong build. The down side is the absence of Wi-Fi and a cumbersome resistive touchscreen.

Sameer Mitha

Specifications

Platform: Symbian S40; **Processor:** 1GHz; **RAM:** 128MB; **Display:** 2.4-inch TFT resistive touchscreen (240x320 pixel resolution); **Camera:** 5MP fixed focus with VGA videos; **Storage:** 140MB internal + microSD slot (upto 32 GB); **Battery:** 1110 mAh

Contact

Nokia India
Phone: +91 (city code) 30303838
Email: http://www.nokia.co.in/support/ask-nokia
Price: MRP ₹7,409

6.5/10

Features	6.0
Performance	6.0
Build Quality	9.0
Value for Money	6.5

Haier LE55H330

Just another 55-inch 3D LED backlit LCD TV

Specifications

Size: 55-inch LED backlit LCD TV; **Panel:** MVA; **3D Modes:** 3d, 2D to 3D; **HDMI Ports:** 3; **Audio Output:** 2x10W

Contact

Haier India
Phone: 1800 200 9999
Web site: www.haier,com/in
Price: ₹1,99,990

5.5/10

Features	6.0
Performance	5.0
Build Quality	7.0
Value for Money	4.5

This is the flagship 55-inch 3D LED backlit LCD HDTV from Haier. Thanks to the matte finish, the TV does not reflect your room's light. It has a thick gray coloured bezel and the front face of the TV is clean with no buttons on the bezel. The HD channels lacked the punch we saw on other TVs in this category. The detailing was missing despite adjusting the sharpness settings.

The remote control is a complete contrast from aesthetics of the TV. It is an all-white plastic body with rubberised buttons. Overall the build quality of the remote looks very cheap.

In the Lagom.nl tests for contrast test blue, green, red, magenta and yellow bars tended to merge into each other at the far end. In the black band test, apart from the first two black blocks all others were easily distinguishable. Gradient banding test was not smooth at all as we could clearly see the bands across the transition.



While watching 2D to 3D converted channels, we noticed the depth, but on the edges of objects you notice flickering jaggies, which is somewhat distracting. Overall the 2D to 3D is not a very enticing feature. There is no dedicated button on the remote to get into the 3D mode. There are a variety options for the 3D modes such as side-by-side, up-down, p-interleaving, i-interleaving. It has a MO card slot which allows you to play games or download programs to your USB drive.

The LE55H330 comes at a very hefty pricing of ₹1,99,990. We would not recommend this TV at this price as there are many better alternatives available from other manufacturers.

Nimish Sawant



PlayBook at ₹19,990
RIM has slashed the price of the PlayBook tablet by 18%. The announcement comes after the price cut of the iPad 2 **http://bit.ly/x0rzET**

HTC upgrades 16 devices to ICS
Some devices receiving the update are HTC Sensation, Sensation XE, Sensation XL, Desire S, Desire HD, Evo 3D, Incredible S, and Rhyme **http://bit.ly/xSkLam**

Olympus E-PM1 Review

Speedy micro 4/3rd option with point-n-shoot ease

This is the most compact in Olympus' Pen series of micro 4/3rd cameras. Aimed at point and shoot users, the E-PM1 is reasonably slim, compact and light for an interchangeable lens camera. The camera comes with the standard 14-42mm zoom lens as a kit, along with a detachable flash. The E-PM1 houses a 12MP 4/3-inch (17.3 x 13.0 mm) hi-Speed Live MOS sensor.



The big change with the E-PM1 is the fast 35-point AF system, claimed to be the world's fastest at the time of launch along with a faster image processor and 1080i video capture support. The back of the camera is dominated by the 3-inch 460K pixel 16:9 LCD screen along with a revolving control dial that takes care of most of the shooting settings. The camera gives you a wide selection for 23 preset scene modes, to shoot in varied conditions without tinkering with any settings.

The large sensor of the E-PM1 takes detailed, noise-free shots upto ISO 1600, while ISO 3200 is usable for small size prints or web use. The excellent JPEG engine produces punchy colors and manages to retain a lot of detail. Its kit lens is pretty sharp in the centre and offers good performance for its target audience. The AF system does live upto its claims in most situations, locking focus almost instantly under adequate lighting conditions, though the performance does slide down by a couple of notches under low-light conditions. The overall image quality and performance of the Olympus E-PM1 is very good for a micro 4/3rd system camera, given its size, weight and the price-point in the market.

Soham Raninga

Specifications

Censor: 12MP Live MOS micro 4/3rd; **Lens**: Olympus M.Zuiko 14-42mm; **ISO support**: 200-12800; **Screen**: 3-inch 16:9 460K LCD; **Video:** 1080i@30 fps; **Other features:** RAW capture support, detachable flash included

Contact

Olympus Imaging India Pvt. Ltd
Phone: +91 22 6142 0400
Email: inquiry@olympus.in
Website: www.olympus-imaging.co.in
Price: ₹29,999

8.0/10

Features	8.0
Performance	7.5
Build Quality	7.5
Value for Money	7.5

LG Optimus Sol E-730

Bland but functional looks, consistent performance

Straightaway, we have to pick a fault. Nothing major – we think the Sol looks a bit bland. There are better looking smartphones in this price bracket – Motorola Defy+, Nokia Lumia 710 and the Samsung Omnia W.

Powering the Optimus Sol is a 1 GHz Qualcomm Snapdragon MSM8255 processor and an Adreno 205 GPU, with 512MB RAM. This phone delivers consistently solid performance. The Optimus 2.0 UI doesn't have the HTC Sense's visual punch, but comes quite close with an impressive variety of widgets.

The 3.8-inch display is the Ultra AMOLED type. The brightness range of the display is excellent, so much so that it can be uncomfortably bright if not adjusted. The on-screen keypad doesn't work well in portrait mode. While the key size could have been a little bigger, the larger problem lies with the surprising lack of precision. While you're certain that your finger is pressing the correct key, it's actually flirting with the neighbour! Things improve a bit in landscape mode, but even then, you can't type out an SMS quickly, without rechecking the spellings.



The 5MP camera is a pretty decent clicker, meant for the casual photographer only. Its lack of flash cripples utility.

While the phone has a 1540mAh battery, the backup time isn't very good – lasts about a day.

The Optimus Sol is a very competent mid-range Android phone. The performance is consistent, with the only issue being a disappointing battery for heavy users.

Vishal Mathur

Specifications

Platform: Android 2.3.4; **Processor:** Qualcomm Snapdragon MSM8255 @ 1GHz, Adreno 205, 512MB RAM; **Display:** 3.8-inch Ultra AMOLED, 480 x 800 pixels, Gorilla Glass; **Storage:** 1GB with microSD slot; **Camera:** 5MP with 720p videos; **Battery:** 1540 mAh

Contact

LG India
Phone: 1800-1809999
Web site: http://www.lg.com/in/index.jsp
Price: ₹19,000

7.0/10

Features	6.0
Performance	7.5
Build Quality	6.0
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!





80,000 Einstein docs public

University claims in a press release that these documents cover more than just scientific matters

http://dgit.in/einsteindocs

SPEAKER



Logitech Tablet Speaker

Price: ₹3,495

SPECIFICATIONS

Type.....Portable
Audio.....3.5mm connector
Battery.....rechargeable
Connection.....USB port

TEST CENTRE RATINGS (All Scores out of 10)

Features.....7.5
We really can't nitpick here – it's portable, usable on the go and works with any device with a 3.5 mm jack.

Performance.....7.0
For a speaker this size, the clarity is good. Bass lacks punch, which will reduce its deployment for music playback. Good battery backup, though.

Build quality.....7.5
Quite lightweight. The speakers on the two sides have a solid grille protecting them. Comes with its own carry case.

Value for money.....7.0
Logitech is charging ₹3,495 primarily for the extreme portability this offers.

WE SAY

7.0

The Logitech Tablet Speaker isn't meant for everyone. It's targeted at those who desperately need a more powerful speaker than what their tablets offer on their own. This one will work well if you're watching a movie or video chatting – vocals are very clear. Won't be the best one to listen to music on, though, since there's literally no bass thump and the clear vocals in case of a movie become a bit too sharp for music.

The speaker sits well on most tablets, and offers good battery backup. Buy this if you really need a portable speaker to take along with your cool tablet.

PHONE



Intex Avatar 3D phone

Price: ₹3,690

SPECIFICATIONS

Display.....2.8-inch, resistive touch
Camera.....2MP with VGA Video
Storage.....internal + microSD slot
Dual SIM.....Yes (GSM + GSM)

TEST CENTRE RATINGS (All Scores out of 10)

Features.....4.0
The phone boasts of Dual SIM capabilities and 3D effects with a bundled colour separation glasses.

Performance.....5.0
The only good thing the phone does is making clear calls. The 3D feels gimmicky with the flimsy colour separation glasses.

Build Quality.....6.0
Has a nice pearl white finish and feels a little heavy. Slap the phone and something vibrates within – not good.

Value for Money.....4.0
Too expensive for a device only good at making calls.

WE SAY

5.0

Apart from the fact that the device gives great use for making calls, it isn't the best in its price range. The lack of a trackpad leaves you at the mercy of a resistive touch-screen that would have worked better with a stylus. The screen is a pain to work with.

As far as the phone's much-touted 3D capability is concerned, you'll be bored of it in under five minutes. Suffice to say that the 3D effects offered on the phone are outdated and the small screen only makes matters worse. Besides, the glasses are flimsy enough to break in a jiffy. Not at all impressed.

PirateBay's cloud strategy
They plan to have servers on airborne drones suspended over international waters
http://dgit.in/GNmBpl

New iPad jailbroken
Yes, it was hacked in three different ways on the day it launched
http://dgit.in/GHm6ib

SCANNER



iBall ClickScan
Price: ₹7,460

SPECIFICATIONS

Type.....Foldable and Contactless
Capture Size.....A4
Capture Speed.....1 sec
Connectivity.....USB 2.0

TEST CENTRE RATINGS (All scores out of 10)

Features.....5.0
Connects to a PC via a USB cable. Scans images in JPG, BMP, PDF, GIF, PNG, TGA and PCX in 1600 x 1200 resolution.

Performance.....5.0
Takes less than 1 second to scan a document. Shoots okay videos at 1600 x 1200 resolution at 5 fps.

Build Quality.....7.0
The device is well-built, small and light enough to fit in your travelling pack without much trouble.

Value for Money.....5.0
iBall's MRP of ₹7,460 for the portable scanner is a little too pricy.

WE SAY



The iBall ClickScan isn't the ideal portable scanner. Apart from its compact nature, its output depends largely on the external environment than the ability of the device itself. While scanning a document, if there is too much light, then parts of the scanned image appears overexposed. If the lighting is inadequate, the images appear very grainy. Unless you are in dire need of a portable scanner, we suggest you stick to the traditional one with a lid. For ₹7460, the device is quite expensive as well.

APP



Handwritten Message App
Price: Free

SPECIFICATIONS

OS.....iOS 4.3 +
Version.....1.0
Size.....13.4 MB
Genre.....Entertainment

TEST CENTRE RATINGS (All scores out of 10)

Features.....6.0
Simple and customisable, the app lets users fiddle with options to change the colour of the text in the message.

Performance.....7.5
Easy to type a message on the device, and beautifying it is a lot of fun. Smileys are a pain to move.

Design.....6.5
Well-designed but has its dumb moments. E.g, you can customize a message but can't save it.

Value for Money.....9.0
The best things in life are for free. Worth installing.

WE SAY



Gone are the days of notes posted to each other through snail mail, we're too hung up on SMS, MMS, BBM, iMessage, What's App and the plethora of other ways that people choose to stay in touch with. Handwritten Message, an iOS app, lets you send personalized messages that you can write on the screen of your iPhone using your finger. The app is really simple. There are plenty of customization options including the ability to change the colour of the text in the message. Text can look really unique. Read more: http://dgit.in/GFQhrq

NETBOOK



Acer Aspire One D270
Price: ₹17,251

SPECIFICATIONS

Screen.....10-inch, 1024x600 res
CPU.....Intel Atom N2600 1.6 GHz
RAM.....2 GB DDR3
HDD.....320 GB, 5400 rpm

TEST CENTRE RATINGS (All scores out of 10)

Features.....7.0
Offers everything expected of a netbook. Bonus includes gesture-enabled touchpad and a 320 GB hard drive.

Performance.....6.5
CPU scores slightly better than older netbooks, including better multitasking. Great battery life

Build Quality.....6.0
The same old from Acer, nothing new, apart from wave design. The build seemed to be

Value for Money.....7.0
A good netbook to buy at the price, as its decent and lacks nothing.

WE SAY



The Acer Aspire One D270 10 inch netbook marks the launch of the first netbook to sport an Intel Cedar Trail chip, the new Atom N2600 with a 1.6 GHz clock speed and 1 MB L2 cache. The netbook helps deliver the promise of better performance in a category that has recently seen stiff competition from tablets.
The netbook has a nice functional keyboard with a flat-top key, but the D270's single-strip mouse button takes time getting used to. Overall a good netbook this, but nothing great.

POCKET ROUTER



TP-Link MR3020
Price: ₹2,400

SPECIFICATIONS

Standards.....IEEE 802.11 b/g/n
Modes.....3G, Access Point, WISP
Frequency range.....2.4 - 2.483 GHz
Dimensions (WxDxH mm)...74 x 67 x22

TEST CENTRE RATINGS (All scores out of 10)

Features.....7.0
Wireless N router that can act as an access point via a 3G USB dongle Setting up various modes is quite easy.

Performance.....7.0
We got decent transfer speeds of around 5 MB/s. Through a wall, the speeds were under 1MB/s.

Build Quality.....8.0
It's very light which makes it quite portable and despite the plastic build, is very sturdy.

Value for Money.....8.0
TP-Link MR3020 offers great value for money at ₹2400

WE SAY



MR3020 is ideal for those users who want to share an internet connection within the same room on different WiFi enabled devices. It allows you to switch modes from 3G dongle, to an access point or WISP using the switch beside the LAN port. The user interface offers a lot of features generally seen on full size wireless routers. It's extremely compact size and light weight make it very portable. Features such as WPA2 security, user selectable WiFi modes, configurable firewall are quite good on such a device.

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reddot design award winner 2010

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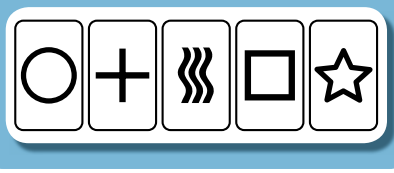
Email:iaudio@lipap.com

Unexplained Phenomena

Some of the stuff you're about to read sounds absurd and downright fake. Could it be true?

ESP

Extrasensory Perception is information that you receive but not from a physical sense (touch, sight, smell etc.) but rather it's sensed by the mind. It encompasses abilities such as mind reading, and ability to sense things before they happen. What you're seeing in the image are Zener cards, they're used to conduct experiments on extra-sensory perception. When turned upside down, some people can "guess" the shapes on these cards with remarkable accuracy





The Dropa Stones

These ancient stone discs found in a cave in China are inscribed with two grooves originating from centre hole, moving out to the rim and back. Under magnification the grooves reveal minute inscriptions. Some believe them to be alien CDs from about 12,000 years ago. Doubtful yes, but no conclusive explanations have been offered so far

Raining Blobs

Residents of Oakville, Washington, were treated to a surprise shower of gelatinous blobs from the sky. Almost immediately everyone in town complained of flu-like symptoms. The test on the globs turned up something truly revolting – the globs contained human white blood cells!



Nazca Lines

Nazca lines are geoglyphs and geometric line clearing in the Nazca desert near Peru. Contrary to the popular belief that the popular belief that the lines and figures can only be seen with the aid of flight, they are visible from atop the surrounding foothills. But why are they here at all? No one knows.



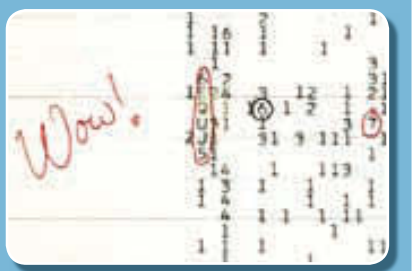


The Vile Vortices

The Vile Vortices also known as the "The Twelve Devil's Graveyards" are purportedly responsible for various disappearances and atmospheric phenomenon. The best known among the vertices is the Bermuda Triangle. If you'd observe closely nearly whole of India lies inside one of the vertices

The WOW! Signal

The Wow! signal was a strong narrowband radio signal detected by Dr. Jerry R. Ehman on August 15, 1977, while working on a SETI project at the Big Ear radio telescope. The signal bore all the potential hallmarks of contact from intelligent life from beyond our solar system



DIGIT DIARY

Let's start with the most foolish incident of all – we successfully managed to lock ourselves out of the test centre, one late evening, with every single one of the keys locked inside. Of course we were more than excited at the prospect of trying out our lock-picking skills, courtesy YouTube videos. After much trying the door was finally knocked open by a well placed shoulder push by none other than Big Daddy Jayesh. Revamped security measures include biometrics and a huge three-headed dog that can curdle fresh milk by merely staring at it. In other news, Robert left for Nepal to christen the Himalayas just before issue closing, leaving us "young turks" to ride the production week without a safety net. It was a lot of fun! And to end on a sad note, Jait, the "DVD guy" for the past few months, who came from sleepy Ahmedabad to experience Maximum City, has finally called time and decided to head abroad for an MS. in Comp Sci. Sniffle. We'll miss the dhoklas.

Digit 101
Learn the basics of how an Anti-virus suite works. Right from signatures to heuristics



Antec One S3 Enclosure
Antec has launched a new cabinet, the Antec One S3 Enclosure, priced at ₹3,150. **http://dgit.in/GL5cPa**

How we unwind

The Hobbit production videos



There's no dearth of LOTR fans in the office. A mere mention of any of Tolkien's work sends Big Daddy into a tizzy and he's absolutely pumped up about The Hobbit releasing in December. We hogged most of the bandwidth during the end of the month, watching the Hobbit production, leading to a lot of cursing in general. The last video that we saw was the production video number 6 where in the end the production team enters the last 100 days of shooting.

3v3ryb0dy turns into a H4x0r

When first we got our intimation that we would be testing security suites this month, all of us released a collective groan at the tedious tests that would be involved. However, after a bit of research, we suddenly rediscovered the joys of hacking. Jait in particular was mighty pleased with himself as he went around probing every PC he could find for vulnerabilities and then dancing with joy as he hacked his way into the system with some skill and a semblance of precision.



New speakers, new music



We at Digit are a big fans of the "Game of thrones" TV series, and even bigger fans of the music, so, when we got our hands on a set of Creative Zii sound T6 speakers, the first thing we did after firing them up was to try out the cover track from the series (courtesy of YouTube) and ended up trying every possible variant of the song: Violin, heavy, metal, piano, harmonica and many more. Next up we were lapping up character features within minutes of them being released. We can't wait for April 1, when winter continues its march.

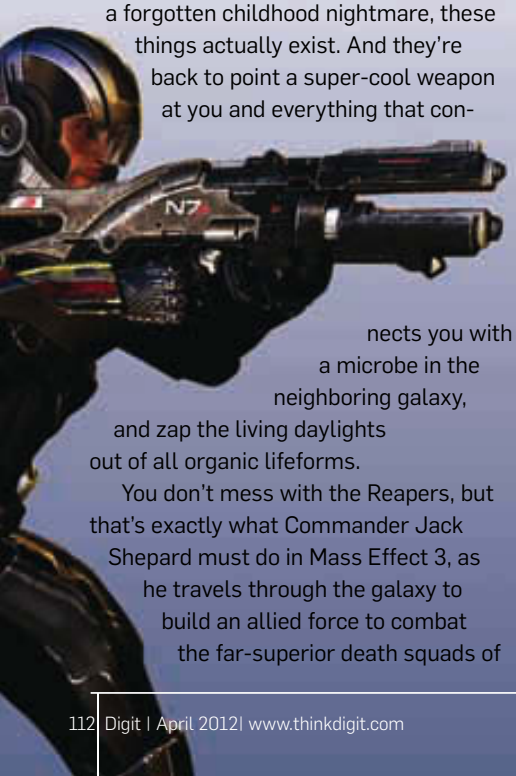




Jayesh "Big Daddy" Shinde
feedback@skoar.com

Hugely popular in its previous two installments, BioWare's sci-fi trilogy reaches an epic and memorable conclusion in this thriller, action-packed game. Mass Effect 3 is bigger, better, more gripping than any previous episode of the celebrated RPG franchise. Choice, morality and doing things for the greater good are pivotal themes in the emotional ride that is Mass Effect 3.

Mass Effect 3 begins with you reprising the role of Commander Jack Shepard. The Reapers aren't just a dreadful monster in a forgotten childhood nightmare, these things actually exist. And they're back to point a super-cool weapon at you and everything that connects you with a microbe in the neighboring galaxy, and zap the living daylights out of all organic lifeforms.



You don't mess with the Reapers, but that's exactly what Commander Jack Shepard must do in Mass Effect 3, as he travels through the galaxy to build an allied force to combat the far-superior death squads of Reapers popping up all over the place. This is easier said than done, for Mass Effect 3 brilliantly interweaves the elements of RPG into the overall combat, war-like mood and pace of the game – Shepard has to rely on his weapons as well as his tongue to broker peace and win over opposing forces to have any chance of challenging the bad guys. If you're a hardcore RPG fan, deriving a game's high points from dialogue and character building, you'll enjoy Shepard's quest to win support among all aliens and unite them against their existential danger.

Mass Effect 2 was a big jump from the original Mass Effect, in terms of gameplay mechanics. While Mass Effect 3 isn't as quantum a leap from the overall gameplay experience as Mass Effect 2, it still tweaks the engine and refines the tools of the trade to heighten the overall end-user experience. The words you speak or actions you perform can take the storyline on a whole different tangent. Mass Effect 3 leaves you with endless possibilities to reach the end goal – a trait that's unique and rare in modern games. It's also something that's difficult to pull off successfully in game design.

BioWare hasn't touched what worked wonderfully well in Mass Effect 2, but has fixed elements that needed minor tweaks. Commander Shepard's movements have been slightly altered; he's a lot more fluid and agile in Mass Effect 3 compared to Mass Effect 2. There are plenty of missions aside from the main storyline to keep you engrossed. However, the side missions or quests aren't as interesting as in the previous two games. But this is a minor kink. Levels are greater in depth than ever before and carefully sculpted. The graphics and art feel of the overall game is nothing short of exceptional. Mass Effect 3 continues to provide excellent voice overs for all its characters – no two voices sound the same and this heightens the experience of the game. *

Verdict

Mass Effect 3 successfully delivers a gripping, never-before-seen trilogy with a powerful interconnecting story. It's like being in Battlestar Galactica or Star Trek, with you playing the lead character and shaping his or her destiny the way you want. It's the highest compliment we can pay to Mass Effect 3. It truly is an experience you'll remember for days to come.

MOAR!

- **Developer:** BioWare
- **Publisher:** Electronic Arts
- **Genre:** Action RPG
- **Price:** ₹2,799 (PS3), ₹2,799 (Xbox 360), ₹1,299 (PC)



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Abhinav 'Tayschrenn' Lal
feedback@skoar.com

Kingdoms of Amalur: Reckoning is a single-player action RPG set on the mythical world of Amalur, and limited to the Faelands – one of the kingdoms. The player, or protagonist dies before the game begins, and is resurrected in the first and only successful experiment at the Well of Souls. Every individual fate is apparently a thread tied into the tapestry of the world's overall destiny. By dying only to return, the protagonist no longer has a predetermined fate, and becomes the highly influential "Fateless One."

In the main quest, what follows is the Fateless One's journey to save the world from a fated defeat in the Crystal War, where the Tuatha Deohn, the Winter Fae worshippers of false god Tirnoch led by Gadflow, battle for domination against humans, elves, and the immortal Fae.

The storyline of KoA: Reckoning was a little too pulpy to deliver a fresh or interesting take on themes common in this genre. However, even pulp usually possesses a few redeeming qualities, at least some strong humour, ominous intrigue, well-crafted atmospherics – none of which feature strongly in KoA: Reckoning's script.

Gameplay

At the beginning of the game, the protagonist can choose from four playable races, two human and two Elfin, each with different initial 'skill bonuses'. Skills are alchemy, blacksmithing, detect hidden, dispelling, mercantile, persuasion, sagecraft, and stealth. There are three ability trees, namely finesse, might and sorcery, and depending on how players invest in these, various destiny types will open up, from Fateless One, to Rogue, Mage, Fighter, their combinations, and Jack of All Trades, each with their own classes.

Players level up by investing in abilities and skills, with XP points awarded for combat, disarming traps, picking locks, and quest achievements. Players also earn fate points. There's plenty to keep you gripped.

A lot has been made about the combat mechanics of KoA: Reckoning, something that is admittedly missing in the RPG genre, and games like Dragon Age. Great care was taken to ensure the combat mechanics of KoA: Reckoning were more controllable and satisfying, and the game makers have succeeded in making the action-RPG feel like a hack-and-slash. Don't expect Devil May Cry-level of timing and direction perfection here though.

Through the game, the player picks up a variety of weapons, each with its special abilities and bonuses, but split across categories. Combat is a remarkable sight, with particle effects and motion trails, and in most cases, extra effects like ice, lightning, fire, and venom. Each weapon will get various moves unlocked during the game, such as block, charge, parry and dodge moves. Abilities also unlock powers such as Quake, Ice Barrage, Lunge, and Shadow Flare.

Graphics

The game has very decent graphics, with realistic textures, and excellent animation effects. I played it on a moderately powerful PC, and got smooth frame rates above 100 fps at maximum graphics settings. The game's design is also quite good, with interesting landscapes, well thought-out character models, and lovingly detailed weapons and armour.

The voice acting in the game is top-notch, as are the sound effects. However, the game's neoclassical music style gets boring after a while, becoming highly repetitive, even in some of the major sequences.*

Verdict

Overall, Kingdoms of Amalur: Reckoning is a fun game that is definitely worth a single play-through, if only to enjoy the myriad of weapons, powers and abilities on offer. After a certain level though, you may just get bored of your omnipotence – lose interest in progressing through the game.

MOAR!

- **Platforms:** Xbox 360, PlayStation 3, and Windows
- **Price:** ₹2,599, ₹2,799, and ₹999 respectively
- **Developer:** 38 Studios, Big Huge Games
- **Publisher:** EA Games



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Samsung unveils Galaxy Tab2 310
Samsung announced its first Android 4.0 Ice Cream Sandwich-based tablet, Galaxy Tab 2 310, at an event in Bangkok. **http://dgit.in/GHre5m**

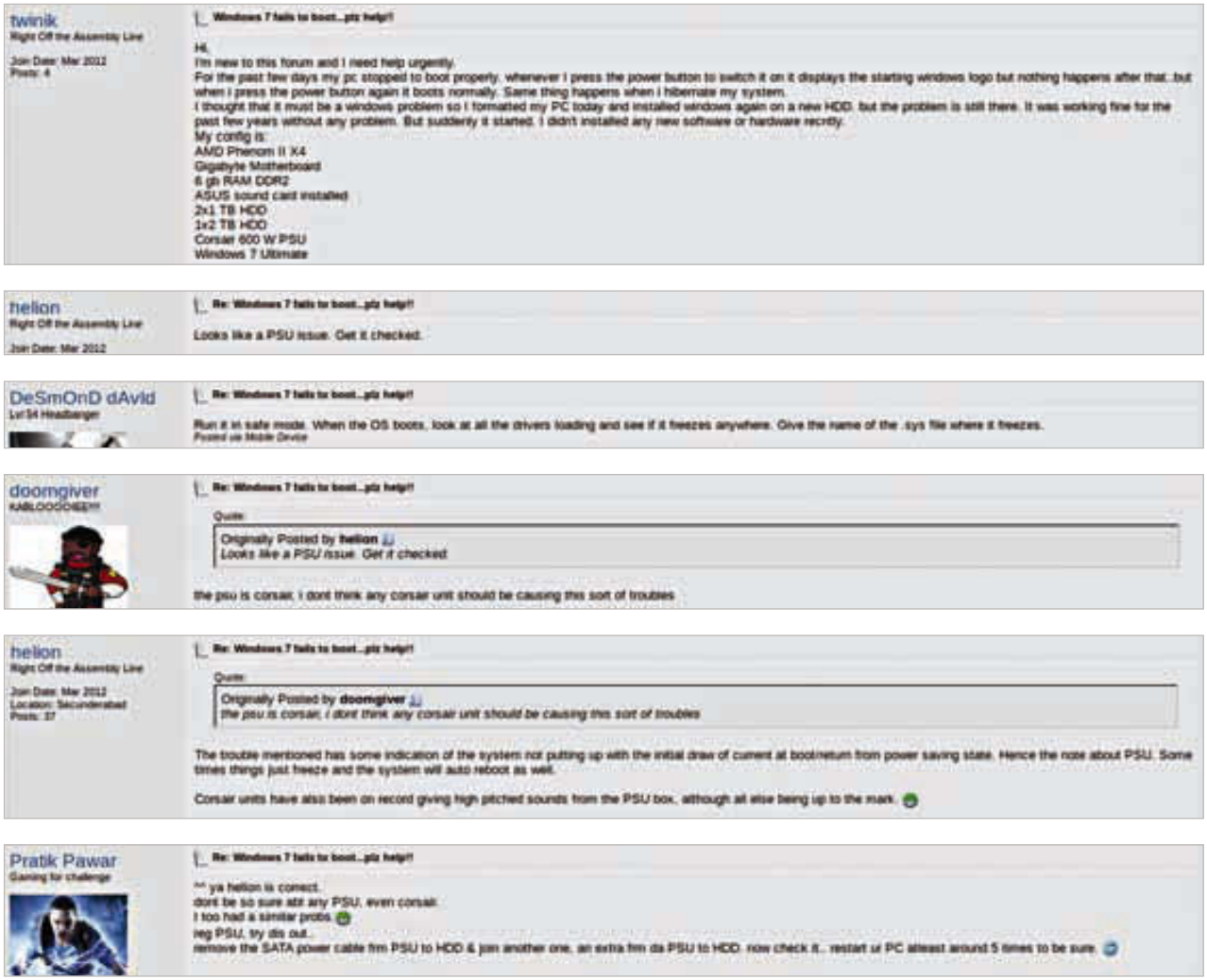
Intex launches i-Tab
Intex Technologies has forayed into the Indian tablet market with launch of i-Tab. **http://dgit.in/GHsQw2**

Digit reader wins accolades at CanSat 2012

One of our readers Rishi Dua, a second year undergraduate student from the Indian Institute of Technology, Delhi took part in CanSat 2012. CanSat is an international student design-build-launch competition sponsored by National Aeronautics and Space Administration (NASA). The CanSat competition is designed for college and university students wanting to participate in an applicable space-related competition. The CanSat competition is designed to reflect a typical aerospace program on a small scale it includes all aspects of an aerospace program from the preliminary design review to post mission review.

Rishi's team – Garuda scored 147.5 out of 150 points in the PDR (Preliminary Design Report) and Team Garuda stands at International Rank 2 at the end of the first round. They'll be representing IIT-Delhi in the final round which will be conducted during 8th-10th June 2012 in Texas, USA. It's heartening to know that Digit readers are performing so well at an international stage. We wish Rishi and Team Garuda all the very best for the next leg of the competition.

Check out the thread below where some of our active members are discussing on what possibly could have stopped twinik's system from working. For the full story follow this link http://dgit.in/GK78Ut



twinik
Right Off the Assembly Line
Join Date: Mar 2012
Posts: 4

Windows 7 fails to boot...plz help!!

Hi,
I'm new to this forum and I need help urgently.
For the past few days my pc stopped to boot properly. whenever I press the power button to switch it on it displays the starting windows logo but nothing happens after that..but when i press the power button again it boots normally. Same thing happens when i hibernate my system.
I thought that it must be a windows problem so I formatted my PC today and installed windows again on a new HDD. but the problem is still there. It was working fine for the past few years without any problem. But suddenly it started. I didn't installed any new software or hardware recntly.
My config is:
AMD Phenom II X4
Gigabyte Motherboard
6 gb RAM DDR2
ASUS sound card installed
2x1 TB HDD
1x2 TB HDD
Corsair 600 W PSU
Windows 7 Ultimate

helion
Right Off the Assembly Line
Join Date: Mar 2012

Re: Windows 7 fails to boot...plz help!!

Looks like a PSU issue. Get it checked.

DeSmOnD dAvId
Lvl 54 Headbanger

Re: Windows 7 fails to boot...plz help!!

Run it in safe mode. When the OS boots, look at all the drivers loading and see if it freezes anywhere. Give the name of the .sys file where it freezes.
Posted via Mobile Device

doomgiver
KABLOOOOEE!!!

Re: Windows 7 fails to boot...plz help!!

Quote:
Originally Posted by **helion**
Looks like a PSU issue. Get it checked.

the psu is corsair, i dont think any corsair unit should be causing this sort of troubles

helion
Right Off the Assembly Line
Join Date: Mar 2012
Location: Secunderabad
Posts: 37

Re: Windows 7 fails to boot...plz help!!

Quote:
Originally Posted by **doomgiver**
the psu is corsair, i dont think any corsair unit should be causing this sort of troubles

The trouble mentioned has some indication of the system not putting up with the initial draw of current at boot/return from power saving state. Hence the note about PSU. Some times things just freeze and the system will auto reboot as well.

Corsair units have also been on record giving high pitched sounds from the PSU box, although all else being up to the mark.

Pratik Pawar
Gaming for challenge

Re: Windows 7 fails to boot...plz help!!

^^ ya helion is correct.
dont be so sure abt any PSU, even corsair.
I too had a similar probs.
reg PSU, try dis out..
remove the SATA power cable frm PSU to HDD & join another one, an extra frm da PSU to HDD. now check it.. restart ur PC atleast around 5 times to be sure.

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How does an antivirus engine work?

The first thing that you do when a friend brings in his USB drive chock-full of songs that he just downloaded from (ahem!) a discreet source on the Internet is run a scan for viruses on the drive. Although you just had to click a button, some of the world's most intelligent and complicated code is running in the background to keep your computer safe from harm

We'll be talking about the core of antivirus program i.e. it's engine. Most of the modern AV engines are just rehashed versions of existing AV engines, except a few that were written from ground-up. The basic building blocks of an antivirus program are:

- Engine core
- File system interface
- Memory scanner
- Emulators
- Update mechanisms

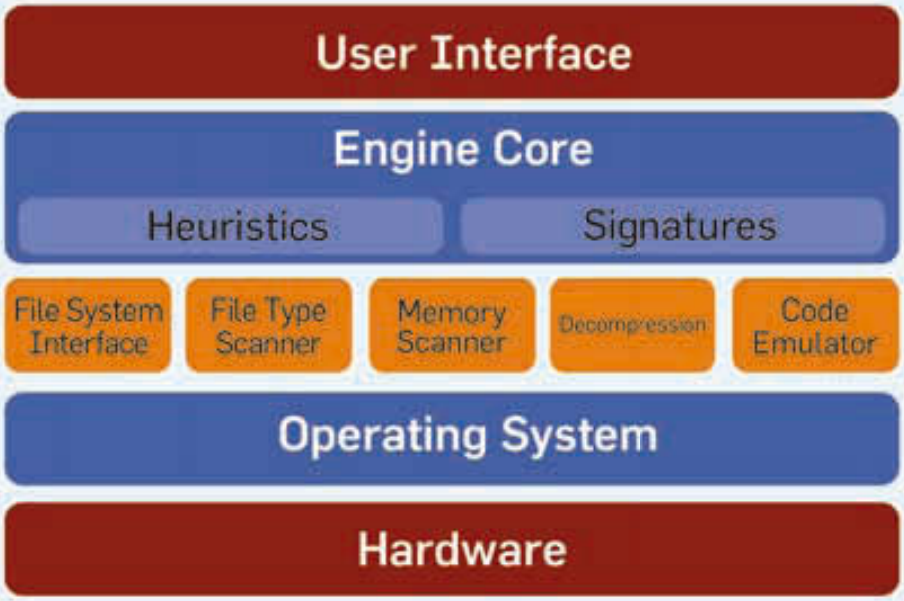
The engine core is the framework that keeps the entire software together. In essence it acts as the 'glue' and calls the external module as and when required. Usually there are scan engine frameworks already in place such as the Exchange virus protection, that use different scan engines from different vendors, which will be directly called out of the framework. But some antivirus programs utilise their own engines for added benefits along with readily available scan engines like F-Prot or AVP. The engine core contains both signature and heuristics based scanners.

Traditionally, antivirus engines depended on scan string-based technologies. The signature-based scan engine searches within given files for the presence of certain strings often in found in certain regions only. If these predefined strings are found, certain actions like alarms can be triggered. However, signature-based scanning only detects known malware and may not work against new attack mechanisms.

Heuristic scanning is similar to signature-based scanning where instead of looking for specific strings in files it looks for certain instructions or commands within a program that are not found in typical programs. Say for example in most cases virus are encrypted, so the heuristics scanner looks for a decryption loop and in case it does find a decryption loop it takes the decrypted code and runs it through an emulator to verify whether its actually malicious code or not. As a result of this mechanism heuristics based scanners have more chance of detecting previously unexamined, malicious functionality such as the replication mechanism of a virus, the distribution routine of a worm or the payload of a trojan. When you submit a file to the AV for scanning, it goes through a complex series of steps of fetching the file, scanning based on signatures and/or heuristics and then further processing it based on the outcome.

Antivirus software are all about files, in fact the better part of their operations are spent on processing files. This block or module is a major bottleneck and hence is very carefully designed. In most cases there is an abstraction layer between the core AV engine and the file system, which layer has to include conditional compilation for dedicated platforms. The memory scanning block scans the RAM for malicious code, and halts execution of the program in question. But more or less the memory scanning component doesn't fall under the purview of the core engine.

Emulators are used by the engine to check whether the code is malicious or not. It's a virtualized environment in which the code is executed by the AV engine. Based on the instructions running inside the emulator it determines whether it has any malicious functionality or not. Another important module is the update module which updates the software so that it can deal with the latest threats, the update mechanism is usually in two part choices of update functionality: update data files or update data files and update executable code. The data files are usually virus definitions or signatures while it's more complicated to update the executable code when the actual modules are replaced.



Block diagram of a typical antiviryus engine with different functional layers

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