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Back to the drawing board

s an avid sci-fi fan. I often find myself involved in arguments about the future. One especially sensitive topic for us journalists is the print vs. new media debate. One faction of purists believes that nothing will ever replace print, while others argue that print is destined to die at some point in time, and mobiles, TVs and the web are the only way forward. Of course you'd expect that as a magazine's editor I'd be biased towards print... and perhaps I am, a little. I certainly still believe that there's no better and more comfortable reading experience than a good book or magazine, and the only digital device that comes close thus far is my Kindle.

However, you already know this, since you're reading this on physical paper to begin with. It's the relaxed, unhurried nature of the medium that perhaps appeals most. One look at a site, or worse a TV program, and you know that you're being bombarded with too much information. TV also suffers from the handicap of being sequential, where you just cannot skip past the stuff you're not interested in. The web has no sequential problems, but it does need you to turn on a device to access content. The mobile web, if anything is the most promising medium, because a mobile device isn't considered a luxury; it's something you need. However, size ruins the viewing experience significantly there. Tablets are a stop gap solution to that, but they're still big and bulky, expensive, and run out of juice constantly.

Even if everyone agreed with these points, would it stop the masses from spending through their noses to buy such devices? Of course not; the world has gone digital in a huge way, and everything is stored on hard drives, DVDs, and tape drives. It's almost impossible for any of us to think of getting a project for school or work done without the help of technology.

Wikipedia, Google, Facebook, YouTube, etc., all host trillions of GBs of data, some of it actually valuable, and the backups of said data is always additional technology-based storage. We're excited to be moving towards the cloud, with storage, OSes and everything other than the hardware in our hands moving online. All spaced out geographically, but all in the same place, in a sense, since the servers are all connected. What if a global catastrophe occurred? A technology apocalypse of sorts - a mega solar flare, or nuclear doomsday brought on ourselves... perhaps even a super-virus that could bypass everything and just destroy all our data, what then?

Since most of the civilisations of our past perished, I don't think we should be naive enough to think that such a thing could never happen to us. It was all the stone tablets and plant fibre based papers that we unearthed in archaeological digs that gave us an insight into the past - our past. Without those physical forms of expression (letters, numbers and drawings), would we be able to figure out their languages?

If the apocalypse were to occur, I wonder what future historians and archaeologists will think of us when they find remnants of our civilisation. How will they decipher dead hard drives, DVDs and USB sticks when they discover them? It's hard enough for us to extract data from such devices that die on us, so how will people who may not even know our language (just as we didn't know the Mayan's language) figure out anything about us?

This is where paper comes in; and no, not the paper this magazine is printed on, but super paper. Kind of like the paper that a company called DuPont, for example, has come up with. It's called Tyvek, and is un-tearable and water resistant, allows air to pass through (unlike plastic sheets), and get this, is also recyclable! Thus, it can be used to store prints that would last eons, and is even useful for making long lasting covers and has medical implications too. More details at dupont.com.

Of course, we can't go backing up GBs of personal data on it - the Facebook wall history kind - but we can certainly backup all of our collective scientific knowledge to such a medium so as to protect our future, just in case... Maybe we could backup the contents of archive.org and Wikipedia on such a medium; and why shouldn't we? There are some humans frozen in time in liquid nitrogen, awaiting a re-birth, and we've had the idea of time capsules for decades now. Perhaps it's finally time to go back to drawing board, per se, and keep some physical documentation of the history of humanity safe; and while we're at it, do the same on a more personal level, ensuring that we're not completely handicapped without technology - and keep our books and magazines safe.

Just maybe that's some food for thought for those who think paper is dead...



Robert Sovereign-Smith **Executive Editor** editor@thinkdigit.com

"If the apocalypse were to occur, I wonder what future historians and archaeologists will think of us when they find remnants of our civilisation"

Liked or hated this column? Write in to editor@thinkdigit.com and express yourself.



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Iomega iConnect Wireless Data Station Jabra Freeway In-Car BT Speakerphone Jabra Stone 2

LG Optimus 3D Logitech Z120 Logitech Z623

Microsoft Lifecam HD-3000

Motorola Xoom MZ601 Nokia N8 with Anna Razer Imperator 2012 Razer Onza TE Reliance 3G Tab Silicon Power E20 SSD Sony BDP S380

Thermaltake Level 10 GT

Cellphones

Acer Liquid Metal Acer Liquid Mini Apple iPhone 3GS 8 GB BlackBerry Curve 3G (9300) Dell XCD35 HTC ChaCha LG Optimus Black LG Optimus One P500 Motorola Charm Motorola Defy Motorola Flipout Motorola Milestone XT800 Motorola Ouench XT502 Nokia F6 Nokia E72 Samsung Galaxy Fit Samsung Galaxy Pro B7510 Samsung Galaxy S I9000

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Sony Ericsson XPERIA X10 Mini Pro

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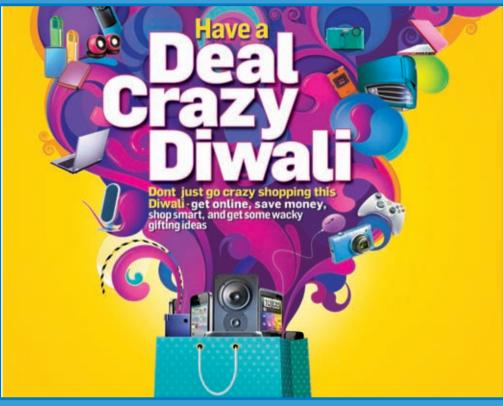
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Taiwan: Technology, Excellence, Intelligence!

he Taiwan External Trade Development Council (TAITRA) is Taiwan's foremost non-profit trade organization and has been working towards promoting an Integrated Marketing & Communication exercise for the Taiwan ICT Industry and its Taiwan Excellence Brands in India. 2011 is the second year of TAITRA's 'Taiwan Excellence' campaign in India to highlight Taiwan's ICT expertise and superiority. Taiwan Excellence is a symbol of reliability, innovation and super value that every ICT product manufactured by the 25 partner brands, comes with.

In India, TAITRA has been conducting the Taiwan Excellence campaign through media communication, mall events, airport promotions, brand forums, trade shows. In July, TAITRA launched a highly engaging and unique online game, the IT Travellers Go! Renowned Bollywood actor and model, Malaika Arora-Khan, endorser for Taiwan Excellence India 2011 campaign, threw open the contest and was the first participant to sign in. After a keenly fought two rounds of elimination process, ten contestants selected from 2,317 received valid entries, took part in the final round of IT Travelers Go! at Inorbit Mall, Vashi on September 17th. Malaika and five other judges selected four contestants of the IT Travelers Go! India team.

The India team will go head-to-head against Vietnam, Indonesia teams during their upcoming 21-day, all-expense paid trip through

Vietnam, Indonesia, India and Taiwan. The three teams will indulge in their IT Travel Kit, equipped with 27 Taiwanese ICT gadgets, to explore places, make new connections and blog daily about their experience. On November 2, at the world capital for ICT products, Taipei, Taiwan, the most-voted, most-creative, most-liked team will be crowned and win a grand prize of USD 20,000.

Rohan Shah from Surat, Leah Lanojan Sodhi from Panchkula, Aamir Melani from Amori and Siddharth Mukund Srivastava from New Delhi are the lucky winners. We wish them all the best and may they make India proud. For details and to vote for India visit www.ittravelersgo.com. Stay connected and win exciting Taiwanese ICT gadgets on www. facebook.com/taiwanexcellence.in.

This year's theme of the Taiwan Excellence Campaign is "Indian Intelligence + Taiwan Technology = IT for Excellent Lifestyles", where

the 'T' in India and the 'T' in Taiwan combine to form IT. This is also the centennial year of Taiwan and several activities are being carried out by the Government of Taiwan across the globe, as part of the celebrations.

On Saturday, September 17th, senior representatives of some of Taiwan's prominent ICT brands like Acer, BenQ, Dlink and MSI, participated in an exclusive brand forum hosted by Digit magazine and thinkdigit.com.

Several Digit readers and Technology enthusiasts made it to the event and interacted with Team Digit and these Taiwan brand heads. Captured across these pages are some key highlights of the forum through words and visuals and a few quick questions and answers with Emma Yang, Director, Taipei Trade Centre, Mumbai; Rajeev Singh, General Manager BenQ India; Jocelyn Chung, Global Marketing Director, D-Link; and Eric Kuo, Managing Director, MSI India. All marketing and promotional activities under the Taiwan Excellence umbrella campaign, including the Integrated Marketing & Communication project and the IT Travelers Go! contest, are being conducted by TAITRA (Taiwan External Trade Development Council), Taiwan's foremost non-profit trade promotion organisation, in association with the Bureau of Foreign Trade, Government of Taiwan.



(L-R) Rajeev Singh, Leah Lanojan Sodi, Rohan Shah, Malaika Arora-Khan, Aamir Melani, Siddharth Mukund Srivastava, and Fric Kun

Tell us about the cloud capabilities of D-Link routers

Jocelyn: Our IP cameras include an embedded platform known as "mydlink," which will also soon be available on some of our routers. This platform allows you to connect to a portal at any time and view what is happening in your home or office. You can even log in from your Android phone or iPhone on the go. So in this case, we have already developed a system that integrates a network device, cloud technology, and mobile devices. In the future, the mydlink platform will enable even more application-driven cloud services.

What about D-Link's wireless products?

Jocelyn: Consider the example I just mentioned. IP cameras, in the past,were used primarily for monitoring. Now there's a mix

between wireless technology, consumer lifestyle, and cloud computing. That's just one example –the IP camera is wireless and your mobile is wireless.Wireless is gradually becoming less of a "category" of its own and more of an expected feature for consumer products, although wireless is still the "it" category right now.

What are your plans for the Indian market?

Jocelyn: Well, for India we're definitely looking into the consumer segment, and making sure that we bring a broad selection of products to the market. 3G products weren't our focus



Miss Jocelyn Chung, Head of Global Marketing, D-Link

earlier, but now they are, because carriers have started rolling out services. We're also looking into different business solutions. We are targeting to provide unique and affordable alternative solutions for businesses.

What's D-Link's strategy for the global market?

Jocelyn: I believe consumers

will become more and more tech savvy, not just in understanding the specs of a device, but also from a usage perspective. That's definitely the trend, and hence D-Link will be more focused on making user-friendly products - all this while providing the most advanced technology that can be used every day.

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The crowds flocked to experience the latest in Taiwanese lifestyle-technology on display, Malaika Arora-Khan announced the four selected Indian contestants of IT Travelers Go! program



Taiwanese products highlighted at the event:



ASUS: Eee Pad Transformer

The world's first tablet that transforms to a laptop in seconds



ADATA: SH14 Dual Interface Flash Drive

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HTC: EVO 3D

The EVO 3D takes the mobile multimedia experience to a new level offering glasses-free 3D viewing



MSI: GT680

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Are consumers beginning to prefer **LED over LCD monitors?**

Rajeev: Yes definitely. The overall penetration of LED monitors in the Indian markets is reaching almost 50 per cent. By the end of next year it should be almost entirely LED monitors and the transition is happening across the entire spectrum, so it's not just the high-end segment. The advantages are very apparent. You can save more than 50 percent power also your contrast ratio is far higher. The dynamic contrast ratio is 10,000,000:1 as compared to say 50,000:1 that we find on LCD monitors.

LEDs are LED backlight right?

Rajeev: Yes you are right, the front side remains LCD. Earlier what was being done was for the backlighting CCFL lamps were being used which is why if you'll notice whenever you switch on an LCD monitor, it takes a little time to turn on. Now the CCFL has been changed to an array of LEDs and it's instant on.

d What are the emerging trends in display technology being considered by BenQ?

Rajeev: VA panels are preferred for viewing movies and videos and will become more popular, and over time, will become cheaper. Another trend is 3D. We already have 3D monitors but as more content begins to come in this space, it'll become very popular. Currently gaming drives the 3D

monitor penetration. We already have FPS gaming monitors now we are launching RTS monitors. In a different space, LED-Lazer hybrid projectors are also something to look forward to.

Monitors specialised for specific game-play modes?



Rajeev Singh, Country Head and GM, BenQ India talks about monitors

Rajeev: : Yes. For FPS games, monitors should have a response time of 2 milliseconds! 5 milliseconds just doesn't work. Also for gaming Smart Scaling is relevant. In our gaming monitors with the Smart Scaling feature, you can choose the screen size and aspect ratio. This is not possible in any other monitor. In our monitors you won't find games looking stretched.

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The brand forum received positive participation from readers and technology enthusiast and facilitated keen engagement between participants and Taiwan **Excellence Brand** representatives







Thermaltake







What other initiatives are you taking to spread knowledge and awareness about the Taiwanese ICT industry in the Indian market?

Emma: TAITRA is a trade promotion organisation (non profit). Its sole purpose is to boost trade ties between India and Taiwan. Similarly, it also promotes trade by Indian companies in the Republic of China (Taiwan). In order to promote the companies globally, TAITRA conducts international shows. In addition to electronics and ICT, Taiwanese companies have carved a niche in several other sectors including food and beverages and bicycles. With the aim of promoting these companies, TAITRA invites traders and buys on to a common platform, to enhance communications and interaction. It also conducts local events. Recently, TAITRA organized the EMMA show's 5th edition in Chennai which was a conglomerate of over 200 exhibitors comprising of both Taiwanese and Indian participants. Taiwanese exhibitors from the EMMA show have their focus on the Indian markets.

d How do you intend to spread knowledge and awareness among Indian users about the Taiwanese brands in India?

Emma: With integrated marketing and communications, the Government on India, Vietnam and Indonesia to boost trade

in ICT products. We see potential in other countries using Taiwanese products in the future. Events like the IT Travelers Go! increases awareness and interest among young people in India and Taiwan as well. We're targeting youngsters as our ambassadors.



of Taiwan is focussing Emma Yang, Director, Taipei World Trade Centre, Mumbai on the background and vision behind TAITRA's activities

Mow do you intend to connect with Indian audiences and how's the response been?

Emma: Communication channels are changing. Most of our target audience being youngsters, social media is the preferred option, television being the least. Thus making social networking web sites and campaigns their obvious choice.



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Visitors at Excellent Lifestyle Expo were seen experiencing the latest in cutting edge lifestyle-technology. The sleek, quality, and competitively priced products from top global brands evinced much interest

Indian consumers are quite familiar with Acer as a quality brand in laptops, HTC for its sleek and desirable smartphones, and Trancend, for its reliable flash drives. We feel proud to tell you that these are all brands with globally proven credentials, but originating in Taiwan, and they're partners to TAITRA's Taiwan Excellence India 2011 campaign.

Source: MIC, April 2011

Global Ranking of Taiwan ICT Product

Notehook PC Global Market Share: 93.7%

Motherboard Global Market Share: 94.0%

Cable CPE Global Market Share: 95.1%

WLAN NIC Global Market Share: 91.1%

Servers (System/MB) Global Market Share: 88.7%

Netbook Global Market Share: 88.3%

LCD Monitors Global Market Share: 71.9%

DSL CPE Global Market Share: 64.3%

IP Phones Global Market Share: 61.0%

Digital Still Cameras Global Market Share: 46.6%

Desktop PCs Global Market Share: 46.0%

Tablet Device Global Market Share: 95.5%

IP STR Global Market Share: 48.3%

Server (System) Global Market Share: 40.9%

Smartphone Global Market Share: 29.1%

ODD Global Market Share: 22.9%





Do you think Indian users are ready for innovative tech products?

Eric: Yes, we are quite confident that Indian users are ready for innovations in technology and that is why we are here. Over the past 20 years, we've progressed from an OEM company to manufacturing our own products. India is growing, and we want to invest more here.

Could you comment on the tablet industry?

Eric: It seems that everyone nowadays is interested in tablets. I got a report from our headquarters regarding the different tablets we launched this year at Computex, Taipei. We launched around 10 models and they got sold out very fast. However, the Indian market works differently and launching 10 models simultaneously wouldn't pay off as desired. We will launch two models initially. Currently several companies are launching tablets. but there's nothing unique in them. So our focus is on products that are really special, and those that people will use and remember. It all depends on the demand.

Mare you launching more gaming laptops?

Eric: Yes, gaming is growing in India. We have been holding BYOC Gaming Events in India and the response is quite good. sales of gaming laptops are

looking good. In fact, MSI sponsors professional gamers in Taiwan whose only job is to play and participate in gaming events. We would like to do that in India as well, when the time is right.

Do you plan to add more product categories to MSI's portfolio?



Indian gamers are adopting Eric Kuo, MD, MSI India, discussing MSI's innovative gaming on a laptop as the products and the Indian market

Eric: Well in India we're concentrating on computer components. But in Taiwan we have a very extensive product portfolio. We also have a robotic wireless vacuum cleaner which you just need to power on - it cleans your room on its own. Like I said, we'll sell products only if we see a demand for that category.



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The beautiful, mysterious classic Another World is reborn on iOS. http://bit.ly/nyfzU3

Renault to launch new cars

Renault will launch five new cars in India by 2012 http://bit.ly/pzpr3D

☑ I'm realllllly happy with this month's issue, because this time vou've outdone yourself. The best part to date was the 101 Gizmos and Gadgets article. We geeks love gadgets, but despite being internet savvy and a reader of your magazine for the last 7 years, I hadn't ever come across such a huge collection. By mentioning prices and sources for products ranging from ₹20 adapters to aeroplane engines, you have done your readers a favour. I bought 4 copies this month just for my friends, and the most talked about topic amongst us is who's going to purchase which gadget. I just keep dreaming of owning all of them ASAP. This issue is a hit among my friends who are either not very technically inclined, or still consider Digit to be a computer-only magazine.

Bob V Baga, Pune

Thanks for the feedback Bob, we hope to continue bringing to you such memorable issues, for you and your friends. Get them to subscribe though, or you'll end up with a rather large dent in your wallet every month.

Robert

ĭ I'm an avid reader of your magazine. I really liked the article on Steve Jobs in this September issue. After reading the magazine, I liked some features and disliked some. I would like to share them with you.

Pros: Droolmaal is the best with all its fancy tech. The Editor's article has maintained its standard. SKOAR! continues to be one of the best things in the magazine, while the DVD and Fast Track are also very attractive features for many.

Cons: Presentation. A person who is new to this tech world would appreciate simplified information with more pictures. Sometimes, FT is the best thing about Digit and at others it's the worst. It should be briefer and easier to understand for those not very knowledgeable about programming, who are also part of your audience. There has been a slight growth in Apple coverage but there need to be more of it because of how popular Apple products are in India. The lack of a software section is a bit of a downer.

Having said that, your magazine is one of the best tech magazines in India and I really like it. I've been reading it from 2008 and really enjoy it.

Naman Lahoti



d Thank you for your feedback, you have some very valid points. I will look into implementing as many of them as I can.

Robert

☑ I have been a fan of Digit since the 4th grade, and now I'm in the 12th grade. It gives me immense pleasure to write to you acknowledging the great work put in by you and the crew. Never has a magazine caught my attention as Digit has, with its great printing, humour and style. Not to forget the content, by god! Any rare errors I find are instantly forgiven by the time I'm at the next page. The September issue is great, and the cover image is a great idea. Fast Track to Nano Technology was just amazing, please incorporate similar topics in the future. My suggestions include more game reviews and a more regular SKOAR!. Other than that, you guys are my gods (after the real gods, parents and soccer, of course). Exquisite work, keep 'em coming!

Amruth Kiran

Thanks for the vote of confidence, it gives us motivation to work even harder. If you want SKOAR! to be a regular feature, make sure all of you write in to editor@thinkdigit. com and demand it.

Jayesh (Big Daddy)

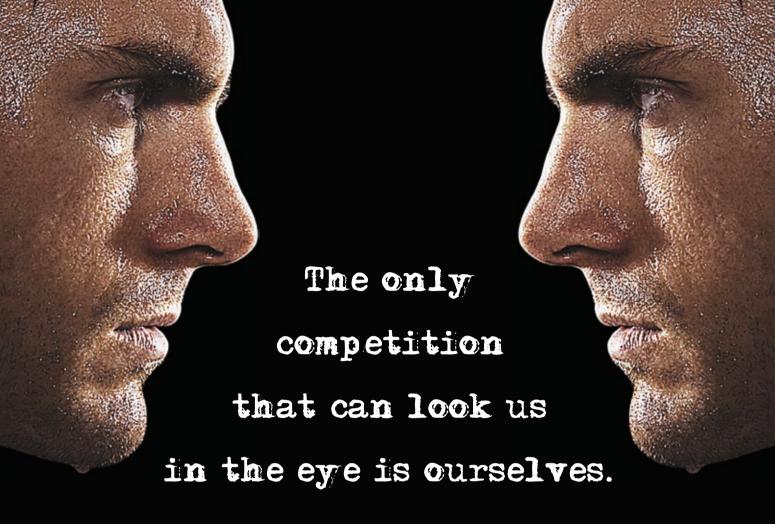
☑ I've been a Digit reader since the beginning of my Engineering course. I'm in my final year of Computer Science and CSE is loads of fun with Digit, thanks to which I'm the tech guy of my class. I love the feeling when friends call me to get reviews on gadgets and find help with their PC problems. Recently, I had campus placements, where I amazed the HR people with my technical knowledge and thanks to you guys, I got selected to TCS. My percentage is not that good but I still got placed only because of my technical traits. Thanks a lot people.

Joseph Jayadev

I'm always thrilled to receive such mails, because I also believe that practical and real-life knowledge is just as important as degrees and education. Keep reading, and the very best of luck for your career.

Robert

ĭ Hello to all the tech gurus of the superb and marvellous technology magazine called Digit. I'm extremely happy with you all. I wanted the Fast Track to Nanotechnology as badly as the Indian Cricket Team wanted a win in the series against England. Just when I was about to write to you this month for my need, God became



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A tumbling UARC satellite is captured by an amateur astronomer

Radeon 7000 postponed

LETTER OF THE MONTH

Radeon has pushed the launch of its 7000 series cards to next year

a messenger. After opening the packaging, I find a yellow coloured, beautifully written 'nano' book named Fast Track to Nanotechnology. Thanks a lot for it, I love you guys. I had spent ₹400 for a book on the subject, but let me tell you, this is far better. Keep up the good work, gurus.

Prateek Arora

d Glad you liked the Fast Track. I request all readers who want more such topics to drop me a line, and even send in suggestions for what you want. God's a little busy, and might not be able to play messenger all the time. :-)

Robert

☑ I've been a regular reader of Digit and I love it. I really love the concept of more Fast Tracks but not so much the DVDs. At the same time, I understand that there's an equal number of people who think the other way round. As much as I'm tempted to ask for two FTs and multiple DVDs (you guys have spoiled us over the years), it is my incessant wish that the quality of content be maintained. Therefore, I hope you alternate between the two. One month you can have two FTs and the next, two DVDs. More than being an amicable, please-all solution, it would help you in delivering content of better quality since you get more time to research content which appeals to the masses instead of producing not-so-great (read: FB, Google+, BlackBerry) Fast Tracks. Also, an extra DVD with great content is far more appealing than cramming mediocre distros/videos etc. To top it off, I would like to add that over time, Fast Tracks have become more text-bookey on some topics and lost their soul (or so I feel). I sincerely hope you understand what I'm trying to convey. All the best.

Govind Raveendran

d Excellent feedback, and yes you have hit the nail on the head. I also think that the Fast Tracks have focused a little too much on making things easier to understand rather than maintaining the humourous writing style of Digit. I'm currently trying to fix this, so that although still easy to understand, the FTs get easier to read as well.

Robert

Change track...

⊠ While I was reading the magazine, I was at the Letters to the Editor section when I read about the change in the magazine regarding the DVDs and Fast Track booklets. Quite frankly, I never have the time or patience to go through the DVDs that you send. Any software that I need, I just download off the internet, and, sorry to say this, but I find the rest of the content on the DVDs very unappealing. That said, I realised that you've been giving two Fast Track booklets each month and just one DVD. Firstly, that is more eco-friendly (paper degrades better than plastic, of course) and secondly, it seems to be the better thing to do in terms of content.

I heartily welcome the move of more textual content, than DVDs. The one thing to note however is that the writing style of the Fast Track is quite unimpressive - it looks like you're trying to cram in text without focusing on grammar and the language. So having an additional Fast Track is not necessarily a good thing.

On the other hand, you could drop one of the DVDs, have just a single Fast Track (let's keep the booklet as an exclusive per month), and instead have more content on the magazine.

ĭ I've been reading Digit for the past few months and am now planning to subscribe to it. I really like your magazine and the articles in it. The September 2011 issue was also superb and the Fast Track on Nanotechnology was supreme which I liked the most. I appreciate the idea of one DVD instead of two, for which we get two Fast Tracks in return. I request that you also provide Fast Tracks on 'Artificial Intelligence' and 'Augmented Reality' which are the two upcoming buzzwords.

Arpan Rewatkar

d Look for them in the upcoming months. We do have a plan to do these topics in some form or another soon. We've also done a lot of such content in

Have additional content where you review web sites, and web services instead of just providing links to each and every article on the web (when I'm reading a magazine, I'd rather just read it, than having to sit in front of an internet-enabled PC to follow the links that you've strewn about the magazine). The World View section is quite good and you can add some more content there. Also try to give more hardware-related content, including designs of processor and motherboard technology etc. All said and done, a bit of change every now and then is always refreshing and helps keep the attention and curiosity of the reader.

Prashanth K S

I think you're citing personal tastes more than a general observation. Not everyone in India lives in a city and has a broadband connection. The DVDs and Fast Tracks are equally important to most readers - based on our survey responses. However, I do agree that our writing styles and quality of copy-editing need to improve. We are actually very guilty of doing way more than we should attempt to – perhaps we need to stop striving to do so much, and opt to do it better instead.

Robert

the past, and that's why the archives we give away are so popular.

Robert

☑ Please rip Adobe Collection (all) trial software, All-in-one Security Suites trial, Macromedia Auto Cad and Windows 7 Ultimate trial version to the DVDs. I'm 200 per cent sure that everybody will buy this edition.

Kumar Gaurav

We have provided all these trials on the DVD previously, and they're all so large that nothing else would fit. Given that we've got such a diverse readership, with hundreds of different tastes in software, we don't think it would be possible to do it all in one DVD, but we will put out updated versions when they're available.

Sambhav

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Mobile watch

App news for BlackBerry users, a new Facebook app, an in-development South Korean OS and more...

Security watch

Adobe's popularity could prove lethal. Read about the latest cyber-threats as per AVG Technologies

Google+ opens to everyone! Gets new Search and Hangout features

oogle+ has been opened up for everyone to join after nearly three months in closed testing. Alongside its full-fledged public launch, Google has incorporated several new features in the social networking site, including an improved and expanded Hangout video-chat feature.

"We're nowhere near done, but with the improvements we've made so far, we're ready to move from field trial to beta and introduce our 100th feature: open sign-ups," Vic Gundotra, senior vice president of engineering at Google, wrote in a blog post.

The improved Hangout feature allows Google+ users to videochat via their mobile phones as well. However, the feature currently only supports Android 2.3+ devices. Google says it will soon update the feature to support iOS devices. In addition, Google+ has added a number of features in Hangout, including screen-sharing, Google Docs, sketch-pads and 'Named Hangouts'.

Google has also rolled out the "Hangouts On Air" feature, which enables Google+ users to publicly broadcast their videos. "Once you're 'On Air' up to nine others can join your hangout, and anyone can watch your live broadcast," says Gundotra. The On Air facility is initially available to a limited number of broadcasters, but any Google+ user can watch the videos. "In fact, we'll be hosting our very first On Air hangout with will.i.am on September 21", adds Gundotra.







Google has added a new Search functionality to its social network. Just type what you're looking for into the Google+ search box and it will return relevant people and posts, as well as popular content from around the web. If you're into photography, for example, then

vou'll see other enthusiasts and lots of great pictures. If you care more about cooking, then you'll see other chefs and food from around the globe.

To further promote its new social networking site, Google has added the "You+" button to its search home page, at last

we should add. Google+ shot to popularity soon after it was launched in late June. Inspite of being launched with only a limited number of users, it has become one of the fastest growing websites of late. If you took a look at its popularity (25 million users so far), you'd think that Google had finally made it to the social net-

working segment with a product which could compete with Facebook. However, Google+ is still trailing Facebook and Twitter, which have 750 million and 100 million users respectively. Only time will tell if the search giant will be able to catch up with those numbers.

Facebook hit 1 trillion pageviews in June, as per Google report

oogle published some very interesting stats in the '1000 mostvisited sites on the web' report for DoubleClick Ad Planner, its ad management service. Facebook.com supposedly managed to hit 1 trillion pageviews in the month of June, miles ahead of the next most visited site - YouTube.com, and its 100 billion pageviews.

The top-five is rounded off with Yahoo.com, Live.com, and Wikipedia.org. Facebook's showing in June was certainly remarkable.

Rank	Site	Category	(helque Visitors (ment)	Reach	Page Views
1	# testeck.com	Social Networks	879,000,000	46.9%	1,000,000,000,000
2	(Pushis con	Online Video	790,000,000	42.6%	100,000,000,000
3	@ phonon	Web Portile	900,000,000	31.8%	76,000,000,000
4	(Pleacon	Sawch Engines	540,000,000	29%	59,000,000,000
6	& missoda.org	Dictionaries & Encyclopedias	460,000,000	24.5%	6,400,000,000

As shown above, 870 million unique visitors create all those pageviews - a figure that is larger than the total number of registered users at last official count (750 million). Unless the site's membership has also grown since, that makes up for about 120 million non-registered visitors arriving via advertisements, search engines, etc.

Purely in terms pageviews, Baidu.com comes in second after Facebook at 120 billion pageviews. Smaller social networks like the Russian Vkontakte.ru and Orkut.com.br, showed some surprisingly high figures, with 52 billion and 48 billion pageviews, respectively.

Chrome's rising browser share

Chrome has hit 25 per cent of the browser market share, trailing Firefox by only 5 per cent. IE remains the king with 45 per cent

BlackBerry App World 3.0

RIM has finally rolled out the full-fledged 3.0 upgrade to its BlackBerry App World, weeks after it was made available to Beta Zone members

Web Watch

Yahoo uses Facebook to test six degrees of separation theory

ahoo Research is testing whether the theory about six degrees of separation - that any two people can be shown to be connected through friends in six links or fewer – is true. And if you have a Facebook account, you can participate in the project, called "the Small World Experiment".

The Small World Experiment is designed to test whether anyone in the world can send a message to anyone else, randomly selected from a pool of Facebook users who agree to make themselves a "target", in six steps by passing it from friend to friend. Sociologists have long pondered whether

the theory has any teeth, but there's never been any solid evidence to support or disprove the idea.

This social experiment, open to anyone with a Facebook

account (pending your approval to Yahoo's app accessing certain information about you), starts with becoming a "sender" or person at one end of the chain. You're then given a "target" or person you must try to reach in six steps or less. The volunteer target also provides some personal information, such as work



history, schools attended, age, current city of residence and spouse's name.

After perusing the fact sheet, senders must choose only one of their Facebook friends to start the chain. An email is sent to the person in question, and if they choose to participate, they'll follow the same procedure.

Through questionnaires, the researchers at Yahoo are collecting information about who participates in the chain. Additionally, if you opt to become a target (which anyone can do on completing one sender transaction), you're asked to fill out another questionnaire, which will become your profile sheet for the sender who receives you as a target. (Pro tip: We had better luck signing up and participating in Firefox than with Chrome).

The study is led by Principal Research Scientist at Yahoo Research, Duncan Watts, who was inspired by a 1967 experiment by Stanley Milgram at Harvard.







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Connections



Vodafone Facebook Phone

Vodafone has come up with its own Facebook integrated smartphone called Vodafone Blue, moderately priced at ₹4,950.



Philips Xenium Rings India

Philips has re-entered the Indian mobile phone market after a gap of nearly a decade with its Xenium range of products

which is dominated by Google

announced plans of developing

another web or cloud-based

operating system in parallel

The government also

and Apple."

South Korean Mobile Operating System in Development

oogle's acquisition of Motorola for more than \$12 billion has numerous implications, especially amongst Android handset and tablet makers, who despite Google's many reassurances of continued equal treatment under the Open Handset Alliance, will no longer want to rely as heavily on the 'opensource' Android operating system. While this works well for Microsoft, as many manufacturers are now looking towards Windows Phone 7 as an alternative, tablet and handset manufacturers are beginning to think about developing independent solutions.

Two of the biggest Android device manufacturers in the world, LG and Samsung, are also two of the largest companies to hail from South Korea. To help matters, the South Korean government has maternally stepped in to protect the two of the most important pillars of its economy, and announced it will be developing a mobile operating system of its own, one that South Korean manufacturers can use in their future devices without worrving about paving royalties, or being treated to anti-competitive practices.

Specifically, Kim Jae-hong, the deputy minister at the Ministry of Knowledge Economy of South Korea, believes that reliance on the U.S.-made operating system is not wise, and South Korea would now "foster a habitat" for a new

open-source system. Speaking for the need for a new OS, Kim Jae-hong said:

"Because Google Android is an open-source system, it cannot just switch over to a closed-source system overnight. Still, we cannot completely rule out the possibility of Google jumping into the smartphone business with Android in the future."

Plans for such Korea-developed OS have been around for a while, but not everyone was interested. Samsung, which already has its own smartphone operating system, Bada (which is not as popular as Android, mind), was sceptical of the need. It

has apparently changed its tune after Google's announcement of its deal with Motorola Mobility.

Now, after considering Samsung's announcement about making Bada an open-source operating system by next year, it seems possible Samsung's operating system might just become South Korea's, with the entire platform including its ecosystem of apps being developed further in collabo-

ration with LG and a consortium of other companies and individual developers. The speculation of course extends to the other possibility - a joint-effort being spent to develop a brand new OS, with Bada ultimately being discontinued at some point.

ating system, which has yet to be named, can be thought of as a "government-

sponsored

mobile OS."

with the mobile OS. With all this going on, we had to ask ourselves - do we as The South Korean operconsumers really need another mobile operating system? How much variety is

too much? Will

fragmentation or even too many choices spoil things for developers, and limit the fecundity and vibrancy of each individual platform's ecosystem? With the speed at which economies and technologies are evolving, the answers to these questions are still a little too uncertain at this point.

For now, however, we feel variety, be as short-lived as they may, will still bring enough competition to the table for us all to benefit as consumers. We look forward to some interesting innovations in the field, and wish South Korea the best of luck in developing a worthy rival to the iOS, Android, Windows Phone 7, Symbian and Black-Berry operating systems.

a completely open-source project - open to the general community - just like Android. Work is said to start by the end of the year. Announcing the government's plans at a press conference in

It will be

"We will forge ahead in developing a new kind of operating system, which is being seen as a next-generation product, in order to build the kind of advantage we do not enjoy in the market for smartphones and tablet PCs

August, Kim Jae-hong said:





Smartphones for everyone

he mobile world has grown exponentially in the past two years. With the constant need to stay connected via voice and data channels, smartphones seem to be the obvious choice as the preferred communication device. Samsung smartphones reaches out to its customers with a wide range of mobile devices. Samsung's Wave offering has turned out to be the preferred choice when it comes to affordable smartphones. Wave phones feature superior build quality and bada OS which enhances user interactivity and seamless customisation. All of this at a cost which is easily accessible by everyone - hence the motto, smartphones for everyone. Samsung's simple philosophy of unmatched features at affordable prices is manifested in the Wave range of smartphones which truly compliment the young urban Indian mindset giving them a mobile platform to connect and share at a price point which highly competitive. In today's day and age of integration where almost every moment of our

lives is shared on social networks Samsung social feeds featured on bada, ensures that you never miss a single update, picture or video from your friends. The constant urge to share becomes even more faster and easier with the advent of 3G. Wave smartphones offer 3G capability giving you speedy data access while on the go. As hardware components in the mobile segment keep getting better, so do Samsung Wave smartphones. Featuring SUPER CLEAR LCD which has minimum sun reflective rate, using a Wave smartphone becomes a breeze with its superior readability. Featuring powerful batteries, Wave smartphones ensure that you never run out of juice when it's required the most.

Wave II

A better Wave in the entire segment the Wave II as the name suggests ups the ante for multitasking and gaming. With 16 million colours and a 3.7-inch SUPER CLEAR LCD screen, Wave II gives exhilarating performance thanks to its 1 GHz application processor. It also features HD recording at 30 frames per second. All in all, a very good performance based smart phone. Features on the Wave II can easily match a premium smartphone.



Wave 575

Wave 575 is an entry-level 3G smartphone. Samsung's social Hub feature integrates your social feeds at one place. The Touchwiz UI makes typing a lot faster and smoother than compared to other phones.



Wave 525

Wave 525 is positioned at the lower market segment as it is the cheapest Wave phone in the category. It's also one of the most popular selling models in the Wave segment. It sports a 3.2 inch TFT screen and social hub for seemless integration



with social networks. It packs in a lot of features, be it GPS, multiple home screens, widgets, and social media integration.

bada 2.0

The bada 2.0 update, brings along with it, several improvements such as HTML5 support, improved Flash usability and OpenGL ES graphics support ensuring you have an enriching web and browsing experience on your smartphone. With a vast bouquet of Wave handsets and a perfect blend of hardware features, bada powers millions of devices globally!

bada Developer Day

Samsung Electronics successfully held 'Global bada developer day' for the local developers, in Bangalore, India, on the 16th of September. Samsung bada developer day is an event to enhance cooperative relations with developers



and expand business opportunities by helping global smartphone developers to better understand about the whole mobile ecosystem including bada



platform and Samsung's app store called Samsung Apps. bada 2.0 includes many compelling, new features. Borne of Samsung's heritage in innovation, bada 2.0 brings together a wide variety of new capabilities including multi-tasking, Wi-Fi Direct, Near Field Communication (NFC) and voice recognition.

The 1.07 update for the Playbook intros "differential updating", allowing for smaller patches for updating

Epson iPrint App Epson rolls out iPrint app for Android phones; lets you print

Give that Android phone a boost, without rooting

traight out of the box, Android phones aren't the best performing ones around. Mostly because of the badly optimised customisations handset manufacturers tend to wrap around the OS - to make it look better, add more features (usually a bunch of widgets) etc. Google agrees with this too -No customisations allowed on Android 3.0.

However, what you're left with is a smartphone that has the potential to work a lot better than it actually does. After all, isn't "potential performance" what you paid that whole lot of money for? Fret



not, here are a few basic tricks (more like alternate app installations) you can try. Trust us, the smartphone will truly feel like an unleashed beast.

LauncherPro: Handset manufacturer home screens don't always have all the features or looks. And the likes of

HTC Sense tend to look good, but at the cost of performance. Launcher Pro is the home screen replacement. Multiple customisation options are available, and we've always seen the phones perform quicker when this is set as the default home screen app - be it on a mid-range

Android smartphone or a dualcore beast.

Download from: http://goo. al/LxhDl

Price: Free (₹160 for Pro Plus to unlock the widgets feature: http://goo.gl/mXnDZ)

Alternatives to this alternative: ADWLauncher, SPD 3D Shell Helix Launcher and Launcher 7. All these are available on the Android Market in both - paid and free versions.

Spare Parts: This one is used to enable/disable some hidden features of the Android OS. Tweaks like window animations, input animations, haptic feedback can be tweaked. All these settings do make the Android experience a quicker one.

Download from: http://goo.

Price: Free [1]

APP WATCH

Karma Kingdom: Facebook app for creating a better world

he Gods are now on Facebook. No. they haven't set up any profiles there as yet, but they will be the guiding force in the online game, Karma Kingdom. The real essence behind the game is to allow you to create a completely new world, the perfect world as some may say. The game begins with

the user on a completely undeveloped island, but with enough raw materials to put together the building blocks for a future civilisation. Lord Ganesha (the God of Success) guides the player



in setting shelters up first and making food available. Lord Hanuman (the God of Friendship), then takes the charge and guides the player in bringing a sense of compassion, a strength

of healing and draw from collective power in this new world. Goddess Laxmi (the Goddess of Wealth, Knowledge and Happiness) brings in the angle of learning - the learning of peace and happiness, both for the individual and for everyone around. Lord Surva (the God of the Sun) and Lord Chandra (the God of the Moon) team up and introduce quests that help the gamer understand what the needs of the people are and show ways in which to fulfill them. Lord Garuda (the Lord of Defence) teaches the player how to deal with conflicts through a series of tasks.

The game Karma Kingdom essentially tries to teach the ways of an otherwise perfect world, through the route of mythology and a series of successive tasks. What also comes out of this is a far deeper learning of the society around us, something we may or may

not have noticed till now, for whatever reasons.

Play Karma Kingdom on Facebook: http://goo.gl/qMtIZ

APP NEWS

Blackberry App World 3.0

Rim (Research In Motion)
has finally rolled out the App World 3.0 globally. The new version has a completely redone interface, better app listing and a better reviews and ratings feature for apps. It is available for smartphones running OS5 or higher and the PlayBook tablet. The OTA download should be available on your phone, or you can download it from here:

http://goo.gl/SaeK. <a>I



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Connections

Alleged LulzSec and Anonymous hackers have been arrested in California

Google checking self

When Google's Safe Browsing checked its site it found 50 pages installing malware on systems without user consent

Threat-Talk with AVG

At the launch of AVG Internet Security 2012 in Prague, we met with Yuval Ben-Itzhak, Chief Technology Officer, AVG

Siddharth Parwatay siddharth.parwatay@9dot9.in

acking will be where the money is. Hackers are no longer kids just looking for their 15 minutes of fame - they're after just one thing... your money. CTO, AVG, Yuval Ben-Itzhak described the cleverly engineered attacks and schemes that hackers are using to dupe people of their hard-earned cash. Here are some examples.

Mac Malware

As the Mac market share approaches the 10 per cent mark, so do the threats they face. Even Firefox was considered very secure initially, but as soon as it crossed the five per cent mark, hackers started taking notice. Now Firefox has almost the same amount of vulnerabilities as IE (if not more).

Last May, AVG captured an attack on iOS that fooled users into believing they're getting a message from the nonexistent Apple Security Center. The message convinced users to buy a fix for a threat that didn't exist either a classic socially engineered attack, or scareware, as it's popularly called.

Facebook dislike?

This malware prevs on the lack of an official Facebook dislike button. A need that many social networking users have felt, thanks to the inane and mundane status messages that their friends churn out by the cartload. A seemingly innocuous app comes to the rescue and

say's: "Hey install this, and you can go about disliking whatever post you want". "Wowie, that's neat", you think to yourself and click install without really paying attention to what permissions and rights you've given to said application. Big mistake...

Facebook gold account

Another similar ploy preys on your desire to be part of something exclusive. When you use Facebook for as long as you do, you start craving some recognition for the endless hours you've put in. The Facebook Gold account seems like a perfect reward, but sadly has nothing to do with Facebook. All you end up with is malware.

Click Jacking

Click Jacking starts with you receiving a simple email with a link. The email usually goes something like this: "Hey watch



Yuval Ben-Itzhak, Chief Technology Officer, AVG Technologies

this video of a guy falling off his bike". However, when you click on the link, you're asked to fill out a small survey. Your information is gathered, and even your mobile number is collected on the pretext of ensuring you're not a bot. What you don't see is the miniature text (font size 2 or lower) that tells you your phone will be charged a certain amount every month for some service that you obviously don't want. Enough said.

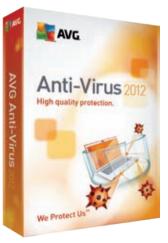
Field injections

Regular online login pages of banks have been compromised recently by way of field injections. Here, there's no evidence at all of foul play because the URL is authentic right down to the https, even the SSL certificate is correct. However, there are additional fields sneakily added to the login screen, and information such as social security number, ATM PIN, your secret question, etc. are asked for. Some of these, or all of

> these together can compromise your bank account.

DIY hacking kits

Everyone's heard of script kiddies, and now that phrase actually rings truer than ever before. Any idiot with a PC and a desire to hack can get his hands on kits that cost about \$100, and contain all the tools and basic knowledge one would need to exploit unsuspecting victims. These kits are so sophisticated that they have their own reporting tools and even automatic updates!



AVG Anti-Virus 2012 launched for ₹799 and is available via Milestone Interactive

Android malware / Premium SMS scam

Android being an open operating system allows users to install applications from other marketplaces or app stores, other than the official one from Google. So, say you want Angry Birds, but you don't want to pay for it. You'll look for a version on other marketplaces and sure enough you find Angry Birds Rio. It's malware, and is reverse engineered with a piece of code added that will execute once you get to Stage Three of the game. A silent message is sent to a premium number, and since these numbers charge extra for their services, the malware maker gets paid by your mobile operator instead of him stealing directly from you. Malware makers are now using legitimate transaction modes to make money.

One additional threat that is starting to appear is a malware that targets Bitcoin - an electronic wallet service that people use to make micro payments online. The malware attempts to gain access to your e-wallet, much like an e-pickpocket. As Yuval puts it, "You don't even need to leave your home or use your credit card online. Hackers will always come to where the money is..."



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A new Mac vulnerability Trojan disguises itself as a PDF file to fool users into downloading and opening it

which installs an Apache server on your Mac

Avast to secure cellphones

Avast has acquired mobile security company ITAgents which makes security app for Android and Symbian phones

Adobe under attack?

Adobe software's popularity and wide usage make it a prime target for cyber criminals, ahead of even Microsoft software, if you can believe that!

Sriram Gurunathan readersletters@thinkdigit.com

cAfee Labs recently published its Q2 2011 Threat Report, in which the security research firm claims to have picked up a pretty large number of exploits that malware authors have written in an effort to target vulnerabilities in Adobe software. The number of Adobe exploits discovered in June 2011 alone, upwards of 14,000, dwarfs the sub-1000 exploits in the same period that were targeting Microsoft software. McAfee is quick to point out, however, that this vast difference in numbers doesn't prove Adobe's products are in any way more vulnerable or buggy than Microsoft's, just that they're drawing cybercriminal attention because of its popularity and wide usage. Adobe's products include — but are not limited to — Photoshop, Premier Pro, Flash, Acrobat, Audition, Dreamweaver, Illustrator and InDesign.

The report also emphasised the steady rise of malware, not just in the past six months, but in the past eighteen. McAfee Labs claims to have identified over six million unique samples in Q2 2011, taking the total number to over 65 million samples, a 22 per cent increase over 2010's numbers. According to McAfee, "researchers estimate that this 'Malware Zoo' will reach at least 75 million sam-

ples by the year's end." Out of this, the most interesting - or alarming, depending on the way you look at it development was the rise of fake anti-virus software for Macintosh. McAfee goes on to say it's now only a matter of time before malware makes it onto iOS, adding that it's probably a case of "when" rather than "if". So if you use an Apple product, you'd best not get complacent.

Rootkits and stealth-based malware, which operate as code that hide elements from the operating system and thus make other malware more dangerous, have also seen a dramatic rise — 38 per cent over 2010 to be precise. The first half of 2011 was the busiest six months in their existence.

On the other side of the pond, Android has grown 76 per cent to become the Mobile OS most targeted by malware in Q2. Such is the popularity of Android among malware devs, that the amount of new malware for the OS in O2 outnumbered those for the next most targeted OS, Java Micro Edition, by three times. "While Symbian OS and Java ME remain the most targeted to date, the rapid rise in Android malware in Q2 indicates that the platform could become an increasing target for cybercriminals - affecting everything from calendar apps, to comedy apps to SMS messages," said McAfee.

Malware for Android take advantage of exploits, employ Botnet functionality and use rootkit features for stealth, much like their PC counterparts. The report says the malware infect Android devices using several means, one of which is by corrupting legit apps. For example, there was one which disguised itself as an update to Angry Birds! Once installed, Android malware proceed to send text messages to your contacts - or to premium rate

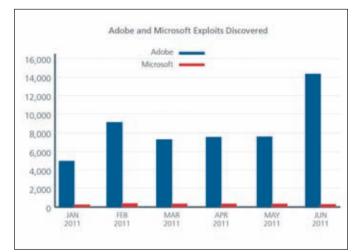
numbers - sign you up for premium subscriptions and send sensitive information to the attacker

Web threats included the discovery of around 7,300 new web sites per day with bad or malicious reputations, along with 3,000 new web sites per day that delivered malware or potentially unwanted programs (PUPs). Phishing web sites weren't too far behind, with around 2,700 new URLs discovered per day.

The report says the downturn of spam messages has stalled in Q2, but in terms of volume and not effectiveness, which has actually gone up. McAfee says though, that it expects a sharp rise in the number of spam messages (and botnet activity) soon, as the current measures start to wear off. While India isn't at the very top in terms of spam volume, it's still quite close to it with nearly a hundred million being recorded in Q2.

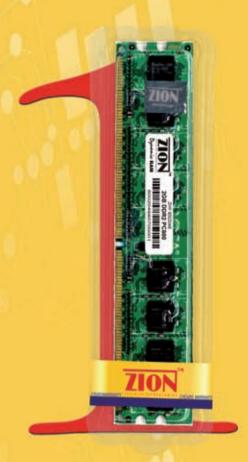
Of course, the report includes details of activities of hacktivist groups like Anonymous and LulzSec, as well as cases of "cyberwar" recorded during the quarter. These include the attacks on European Commission, US and European space agencies, the Oak Ridge National Laboratory and the Norwegian military. Around 20 global attacks were reported in Q2, with a majority of them allegedly at the hands of LulzSec.

Visit http://bit.ly/pTnPal for the complete McAfee Labs Q2 2011 threat report.



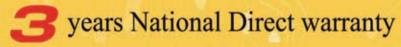


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Hacking Kinect

Learn a new way to hack into your Kinect console with this guide

IFA 2011

A look at some of the coolest product launches at IFA, Berlin this year

Origin Big O 360 + Computer

How would you like a disassembled Xbox 360 put together into a brightly lit water cooling system? The overall system looks funky and would make for a great gaming rig. It even comes topped with Windows 7. The system is available for ₹4,45,599. Happy playing!





Elementum

Designed for sports junkies, the Elementum Terra is loaded with a host of features such as an altimeter, a barometer and a digital compass. The cool thing about its compass is that it is 3D and updates your direction in real time. The chronograph measures time up to $1/100^{th}$ of a second. Available for ₹54,000.

Leica MP-9

The MP-9 from Leica is the world's smallest full-format digital camera. It sports an 18 mega pixel CCD image sensor which is capable of recording in full 35-mm film format. The LCD display is covered with sapphire crystal and is extremely scratch resistant. Get ready to shell out ₹3,60,000. After all, it's a Leica.





Featured Google News

Google News has introduced a way for news agencies to label certain stories with a 'featured' label



10mn SII's moved

Samsung claims to have moved 10 million units of the Galaxy S II since its launch in April this year

Drool maal



Sony DEV-3 digital binocular

This has to be the coolest pair of binoculars you've ever seen. It can zoom up to 10x and can record 3D video in full HD 1080P. How cool is that? Keeping the classic binocular integrity alive, the DEV-3 comes equipped with a manual focus. The binocular's form factor is compact, thus enabling you to go under cover into stealth mode for merely ₹65,955.

PSP Bugatti Veyron cc6

Now, before you guys get all jumpy and eagerly await the PSP Bugatti Veyron edition, let us tell you that it's still in the pipeline. It incorporates multi-player option enabled via bluetooth along with a crisp 16.9 inch display. No word on the pricing yet.



Art du Temps Clock

In our quest for quirky designs and products, we often bump into things which make us go 'say whaat?' Here's presenting a clock which comes straight out of some sci-fi movie. Art du Temps' mechanical square plates move in random position, denoting each second, A simple voice command makes the Art du Temps reveal itself (current time). Be ready to shell out ₹42,75,000 for this clock.

Sony woes

As if the PS3 network hacking wasn't enough, the Xbox 360 has outsold the PS3 in the US, despite price cut of the latter



Huawei tablets in India

Huawei is set to launch its 7-inch Android 3.2 tablets in the Indian market



Kinect isn't just a console accompaniment. It has the potential to unlock fun new ways of human-machine interaction.

Kinect Hacking: A Beginner's Guide

Harishankar Narayanan readersletters@thinkdigit.com

icrosoft launched the Kinect motion sensing controller for Xbox 360 last year and it landed in the Guinness Book of World Records as the "fastest selling consumer device" of all-time, selling over 10 million units in just two months. While the PlayStation Move and Nintendo Wii require you to hold a wand or pointing stick to use gestures to manipulate the respective consoles, Microsoft's Kinect requires no such thing, strongly emphasising on its "you are the controller" tagline in adverts. So how has this simple-looking device shaken the world of gaming (and personal technology sector to some extent) to become a revolution of sorts? Well, much credit goes to Microsoft and plain old human ingenuity.

We got in touch with Harishankar Narayanan, a Chennai-based game developer who likes tinkering with gadgets. After hopping on to the Kinect bandwagon, he wasted no time in recognising the potential of the tool and - after hacking it - developed a unique, personalised solution for his needs. Here's his story.

HOW DOES IT WORK?

To simply put it, Microsoft's Kinect is just an advanced camera that can do more than the normal web cameras we're accustomed to. For instance, a normal web camera scans an array of colours in front of the lens, and each pixel provides the colour information (red, green and blue values) of the objects in front of it.

Kinect, however, is designed to give you information on the distance between the camera and each pixel target in addition to the aforementioned colour values. With this information, computers can now guess how far each object is from the camera. To top it off, Kinect also has four microphones that can detect the origin of sounds.

HOW DOES KINECT MEASURE DEPTH?

The Kinect has three main inbuilt components. a normal VGA colour camera (CMOS), an infrared projector and infrared scanning camera. The VGA camera is nothing but a web camera that



Here's a pic that highlights the main aspects of Kinect. It has a 3D depth sensor, RGB camera, motorized tilt and a multi-array mic.

Google Flight Search

The online search giant has launched an early version of Google Flight Search, complete with prices and booking



Sony eReader launch

The 6-inch Android powered ebook reader from Sony is expected to launch on October 16th

Feature

scans 640x480 pixels of colour using its CMOS sensors. Its infrared projector is an IR laser that's passed through a diffraction grating that shoots IR dots — think of it as splitting light through a prism but only much cooler. The IR scanning camera is another CMOS that scans the dots shot by the IR laser and figures out how far the dot has traveled.

DOES KINECT'S LASER GIVE YOU CANCER?

Some lasers are believed to cause cancer if subjected to prolonged exposure. However, Microsoft Kinect's laser comes under the Class 1 category and is safe to use. (Read more: http://goo.gl/HfKrR).

HOW DOES KINECT'S SYSTEM RECOGNISE THE USER'S POSITION?

A small history lesson before we answer that question. Computer scientists have long been trying to figure out how to detect the skeleton of an object or human from a depth map – there are decade-old papers you can read on the subject. Generally, there are two different approaches by which a software system can detect a human and calibrate the position of body parts like hands, legs and other organs.

The first method is by using a rather daft software technique whereby algorithms detect hands and other organs based on their shape and joints. This technique requires the user to stand in a particular posture called the calibration posture, during which the software measures the user's height and length of each bone for further calibration and finetuning. It then uses a tracking algorithm which tracks the movement of each joint. The drawbacks of this method are that it needs recalibration every time the user moves away and comes back in front of the camera. Then there's also the small matter of this technique being slow and CPU hungry. Not the best approach.

The second method estimates the position of each joint using a slightly better. more refined route. The Kinect system is fed with previous inputs - in which the user's positions are known (this is usually calibrated using other marker tracking techniques which we won't delve into in this article). The system then compares fresh input received from Kinect to the nearest known data points in its database. This search-and-retrieve technique is considered more reliable for mapping spacial gestures since having more data fed to the system means less likelihood of errors. However, this method may need plenty of storage space and an efficient searching technique as things may get slower with a larger input data bank.

With respect to Kinect, Microsoft made its system very reliable by combining both the techniques in the right proportion. Its system has simpler algorithms that usually detect just the key points from the depth map, thus reducing the errors of other mapping techniques. The advantage of its system is that it doesn't compare the depth map from Kinect directly, but detects



The Kinect doesn't see the world as the human eye. Here's how a guy waving his hand in front of the game controller paints an IR dot pattern on the Kinect's digital retina.



Cool Skool

Digital life

Intel's Skoool Healthcare Education platform is a collection of online and offline educational materials for healthcare workers to assist them with rural healthcare

20nm DRAM and NAND

Samsung has invested \$10bn in making 20nm flash memory chips, a first memory production unit opened in five years



Here we see two different images of the same scene to give you an idea of how the Kinect perceives the world in front of it. On the left is the output from its VGA camera, which is close to how we see things in our surrounding. However, the image on the right shows the depth map of the same scene.

key points and then compares them in a pre-built database. The database contains the key point combinations for every human position, thereby making Kinect's feedback almost instantaneous.

IS KINECT HACK-FRIENDLY?

This may be surprising to many readers but Kinect is intentionally designed to be open, believe it or not. It isn't tough to read Kinect's output using computers or embedded devices – and there are a bunch of those out there already for users to buy. The reason behind its open nature is that most of the innovation and hardwork is inside Kinect's software system that detects skeleton position from the depth map and its database – and as things stand, it's very tough to reproduce a comparatively reliable system for skeleton detections. It works just like any USB camera with some additional information.

Interestingly, Microsoft didn't deploy any encryption or security layer on the Kinect to make it work only with Xbox. The software giant has decided to keep the device open and easily hackable – a great move for making custom gesture-enabled solution.

Moreover, Microsoft has now deemed hacking Kinect as completely legal. So honestly, what's stopping you from tinkering with it?

HOW DO WE HACK KINECT?

You need a Kinect (just the controller and not the whole Xbox) and any computer that can run a modern operating system (Windows or Mac OS X). In this case, we've used a Mac Mini just to have a portable and compact solution. If you want to do it the Windows way, you can download Kinect's SDK for Windows which is now available free for non-commercial use.

HACKING KINECT WORKSHOP

Here's how Harishankar controlled a Tata Sky set-top-box through a Kinect motion sensor attached to a Mac Mini.

- 1. Setting up your system: Kinect hacking doesn't require a super performance system. You can even use your old Pentium 4 machines to run the software. It's important that you decide and choose the right operating system and programming language before you begin. The decision mostly depends on whether open source modules are already available for the system you are planning to build. We chose the hardest way by trying it on our Mac Mini on which most of the code had to be ported from their Windows counterparts.
- **2. Reading Kinect's Output:** The very first step to start hacking Kinect is reading the depth map video stream and the VGA video streams. This has been made easy

by the many hackers around. There are drivers or Open-Source code available to read Kinect's data into your program. You can also play around with changing the LED indicator colours and the orientation motor which rotates the Kinect's axis.

- **3. Skeleton Detection**: This task might be little tricky to setup, depending on the computer environment you're trying it on. You need to find the right version of the open-source software to work with your program. Writing algorithms of your own will take ages to complete unless they are crowd-sourced - ask us, we've been trying it for the past six months. You can check PrimeSense' SDKs, for instance. The thing is reliable enough to give it a try unless you're trying to build a surgical robot; hope no future doctors are disappointed. On implementing these techniques, you should get the details about a person's skeleton viz. 3D positions of each joints of the user's body.
- **4. Alternatives**: If you chose the Windows Kinect SDK that was released recently, you can jump straight to the next step. The SDK manages to read input and detect skeletons directly. Microsoft Kinect SDK seems to be quite sophisticated for hacking, so do take a look around.
- **5. Gesture Recognition**: Now that you have the user's positions in 3D space (x, y, and z co-ordinates), you'll have all the information regarding the user's

AVG pulled up by MS

Microsoft Windows Phone 7 has pulled AVG off from its app marketplace due to location tracking fears



iOS controlled RC car

iW500 remote controlled car which can even scale walls and it is controlled by an iPhone

Feature



Kinect-based games for the Xbox are the latest rage as an activity that can burn calories, not just pile them on.

right hand or head, for example. This is when you can start playing around with the data from Kinect. You can assign the information to a 3D puppet to imitate the user's movements. If you're building an interactive system, the best part is detecting user's gestures. You can't make direct postures to make interaction; it usually has to be gestures like waving your hand, stretching or complicated gestures like drawing some shapes. Though there are some open-source tools to detect gestures from skeleton data, it was tough to find one that worked for our setup, so we decided to write one ourselves. We programmed our system to detect user waving his hands to change TV channels and some complicated gestures like drawing the TV channel logo to jump directly (U for UTV, circle for SunTV, etc). We also tried to get the system to recognise numbers drawn in space. This is probably the most crucial step in the process.

6. Setup: Once you detect gestures successfully, it's time to decide with

which device you want to put your interactive system to work. We did this with a 32-inch HDTV, Tata Sky set-top box and air conditioner. You can combine the interactive system with any day-to-day equipments to manipulate them in ways you've never done before.

7. Universal Infra Red Transceiver (UIRT):

Since most of Harishankar's target devices had IR remote controllers,

he decided to pass the information to those devices using an IR emitter. The best device in the market was USB-UIRT. This device can be connected to your computer via USB and there are drivers available from the manufacturer to make it work with your program. In our case, there was no driver available for Mac computers, so we had to do our own hack again. This device can both, transmit and receive IR signals.

8. Dirty work: Once you've decided which button on the remote to replace with gestures, you need to tap the actual data sent using IR signals from the remote. For this, we wrote a simple program that displays the number (usually hexadecimal combinations) that is being transmitted when each button is pressed on the remote and stored it within our program. Similarly, we tapped the TV remote, Tata Sky remote and air conditioner remote. Almost every device will have a set of unique codes transmitted, so you don't have to worry about multiple devices responding to the same signals.

- **9. Test**: Just to make a quick test you can send the same signal as output using the UIRT device to see if the TV or set-top box responds to your signals. The UIRT device can replace just any IR remote controls and it should work pretty well it did in my case.
- **10. Enjoy:** Once everything is in place, integrate your gesture recognising code with your UIRT drivers. Now, combine your hardwork so that your program sends a particular signal when it finds the specific gesture through Kinect. Hope this works for you.

OTHER KINECT HACKS

- **1.** Integrating other electronic equipments to replace remote controls and switches.
- **2.** Replacing your computer's mouse and keyboard. Usually works best for a computer connected to a TV in your living room.
- **3.** Allowing your robot to see in the 3D space or making it obey your gesture commands—this is for advanced robotics fanboys.
- **4.** 3D holographic visuals using head tracking.
- **5.** 3D scanning of objects or human face.
- **6.** Virtual Mirrors. You can overlay a funny 3D cartoon character over the user's skeleton on the video to imitate the user's movements. Just imagine Spider-Man doing your movements live when you watch a mirror. You see most laptop's webcams doing this at a micro level.
- **7.** Interactive projectors. Imagine how convenient going through slides will be on a Kinect-controlled smart projector?



Ricoh to invest in India

Ricoh India has unveiled plans for permanently setting up shop in India http://bit.ly/o8SdsJ

bada OS to be Open Source

With Google acquiring Motorola, Samsung will look to strengthen its own OS. http://goo.gl/gHZ4U

Digital life

Interesting products of

The Internationale Funkausstellung Berlin is an important tech trade show of the calendar year. Here are some of the top products showcased at IFA this year

Jayesh Shinde jayesh.shinde@thinkdigit.com

ULTRABOOKS

ust like the term 'netbook', Intel has coined (and patented) the "ultrabook." They're basically the latest generation of ultra-slim, thin and light laptops that can rival the likes of Apple's MacBook Air. Almost all of them sport an ultra-low voltage or ULV processor, integrated Intel graphics, SSDbased storage, and better-than-average battery life upwards of 5 hours (claimed).

Four OEMs (original equipment manufacturers) wasted no time in giving the world an early peek at their range



of Ultrabooks that are scheduled for release shortly. All of them are extremely ultraportable and easy to carry around.

Acer Aspire 3951 is one such ultrabook, it sports an aluminium shell and has a 13-inch form factor. The whole unit is very MacBook Air-like, measuring barely 13mm in thickness (or thinness!) and weighing about 1.4kg. It is powered by a secondgeneration Intel Core processor, has a



unveiled its UX21 and UX31 ultrabooks at the recently concluded IFA trade show. The UX21 is literally a 11.6-inch MacBook Air look-alike, while its elder sibling the UX31 has a 13.3-inch widescreen display that packs in 1600x900 pixels - wow! The UX31 can go up to a Core i7-2637M 1.7 GHz, while the UX21 comes with a Core i5-2557M 1.7 GHz processor. The 11-inch UX21 is a featherweight, weighing just 1 kg; the 13-inch UX31 is slightly heavier at 1.3-kg.



IdeaPad U300s, U300 and U400. The U300s has an orange shell - different from the silver aluminium look sported by other Ultrabooks - but nearly the same dimensions as the others. There's a Core i5-2467M clocked at 1.6 GHz. 4 GB of DDR3 RAM and 128 GB SSD storage solution. There's no official claim on battery life, but we're guessing it will be upwards of 5 hours at least.

The IdeaPad U3OOs' 13.3-inch widescreen display has a standard 1366x768 pixel resolution, and the entire unit is about O.6-inch thin while weighing 1.34 kg. The IdeaPad U400



Toshiba's Portege Z830 and Z835 are the first Ultrabooks announced by the Japanese manufacturer. Both the Ultrabooks are slated for launch in November and they sport standard 13.3-inch widescreen displays. While specs of the Z835 are still hazy right now, the Z830 will sport a ULV Core i3 processor, 128 GB SSD and weigh around 1.1 kg. The notebooks claim to offer about 8 hours of battery life on a single charge.

HP cans webOS employees

After HP announced the closure of its webOS division, 500+ lose their jobs. http://goo.gl/uY5UD

Glitch in Mac OS X Lion

A user with access to your machine can change the password of any user. http://goo.gl/tPpTk

Feature

HDTVS

here was quite a bit of action surrounding HDTVs at IFA 2011, with several companies announcing newer models with interesting features.

LG's PenTouch plasma TVs were an attraction at the show. The new 50-inch and 60-inch LG plasma TVs allow you to control the TV or draw on it by means of a stylus, called Touch Pen. One of the two



LG PenTouch Plasma TV

Toshiba ZL2

variants also features support for 3D with a bundled pair of active shutter glasses. Toshiba ZL2 is also a high-definition 3D TV but with a difference. The upcoming Toshiba 3D HDTVs wont need glasses to view 3D content. The 55-inch ZL2 is scheduled for launch later in December and will sport an LED-backlit panel with a massive QuadHD resolution of 3840x2160 pixels.

Samsung announced an update to its Smart TVs through which they can now tap into YouTube's online library of 3D videos (Head here: http://www.youtube.com/user/3D). Announcing this tie-up with YouTube solves a major problem of finding relevant 3D content to play for prospective buyers and existing 3D TV owners. After LG earlier this year, Samsung is the second 3D TV manufacturer to endorse YouTube's official 3D channel which has a mix of professional and user generated 3D videos for your perusal.



Samsung Smart TV

CAMERAS

f all the interesting cameras launched at IFA, we earmarked two interesting ones each from Fuji-film and Samsung that introduce some new features.

The Samsung MV800 tries to add some extra spice and lustre to the otherwise drab and boring breed of point-and-shoot cameras. The MV800 sports an original and practical camera design with its MultiView flip-up LCD screen, which can tilt up to

180-degrees, literally standing upside down on the camera's top edge. It lets you shoot self-portraits better than ever. Props to Samsung for pushing the envelope of point-and-shooters with the MV800.

Apart from the 3-inch touchscreen display, the Samsung MV800

facilitates 16.1 megapixel images, 5x optical zoom and a 26mm wide angle lens. The camera can be hooked up to a 3D TV

MV800 to view images in 3D.

The Fujifilm X10 is an interesting camera in its own right. Sibling to the X100, the newer all-black X10 has a 12MP APS-C sensor and f/2 lens built inside what looks to be a pretty sturdy body. The X10 also sports a unique hybrid optical /

electronic viewfinder, a pop-out flash, and a zoom ring on the lens that can also power on the camera—that's right, no need to hunt for the power on button, just rotate the zoom ring to turn the X1O on.



Fujifilm X10



Sci-Tech

Sambhav Daffu sambhav.daffu@thinkdigit.com

ur fascination for space and its orbital objects is well known. There's an almost zero percent chance that anyone would say no to see our planet from an altitude of 3,60,000 feet. Companies like Virgin Galactic and XCOR Aerospace have been at the forefront of taking space travel to a commercial level.

The scenario

Virgin Galactic seems to be the closest to realise the dream of commercial space travel. They have started building a spaceport (that's what an intergalactic travel port will be called) where the first flight will take off from. Their spacecraft, 'SpaceShip Two', can carry six passenger astronauts and two pilot astronauts. This will increase as the programme becomes cheaper with time. XCOR Aerospace doesn't truly provide you with an outer space experience as its spacecraft will only take you for a spin around the lower earth orbit. Virgin Galactic's current base at the Mojave desert cost it \$9.7 million and work on assembling the first Spacecraft has begun.

The cost

You can book a seat on the Virgin Galactic programme for \$20,000 with the entire trip costing you \$200,000. Already, 40 aspiring astronauts have registered for it. The XCOR plan is much cheaper than booking a ticket on Richard Branson's spacecraft - you'll be burning a hole worth \$95,000 in your pocket with \$20,000 of it being the booking amount.

The preparation

A trip to outer space, even if the intended tour only lasts for a couple of hours, requires basic safety and zero gravity training. There's a minimum training period of four days to make you feel





SPACE TRAVEL:

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comfortable at higher levels of G-force. Apart from that, you need to be physically and mentally prepared for the task. Virgin Galactic records every part of your training process, including the final flight, so you can relive those memories again. Training camps for XCOR happen at Arizona while Virgin provides it at the Mojave desert.

The hazards

There's always an element of fear involved during a trip to space. Something might just go wrong with the spacecraft, like it happened in 2007 when three astronauts lost their lives in a tragic accident during

a test of the SpaceShip Two. However, we believe that someone paying in excess of a few hundred thousand dollars would be prepared for the journey.

The experience

The ever-so-clichéd image of the orbit of Earth, which we've seen a thousand times, would hold no value once you experience the real thing. An investment so heavy for a trip which only lasts a few hours is sure to leave a mark on your memory, and somersaulting in zero gravity while staring out of your giant window orb will probably be something you'll relish forever.



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Worldvi

OUR PICK OF THE BEST TECH ARTICLES FROM AROUND THE GLOBE

(MUST READS)

FUTURE OF LIGHT BULBS

An insightful article explaining how the future light bulbs are going to be LED based. Low power



consumption, longer life and saving money spent on light bills is the main focus.

http://bit.ly/qUEbdX

USB MONITORS

Ever felt the need to have more than one display coming out of your laptop? DisplayLink's DVI-to-USB adapter connects your laptop to a USB bus, which can be connected to up to three USB-to-DVI adapters, whose output can connect to monitors. Tomshardware explains it here.

http://bit.ly/p8G4n4

LESSONS FROM UNIVAC

America's first mainframe computer was stifled despite predicting the correct result of the Presidential elections in 1952. At a time when IBM was still using punching cards, UNIVAC had moved to data storage on magnetic tape. So what actually went wrong?

http://bit.ly/qj20jE

EYEBORG MEETING THE CYBORGS

Rob Spence lost his eye in a shotgun accident. But instead of putting a patch over it, he got a miniature video camera installed in the socket and now calls himself the EyeBorg. The Deus Ex team commissioned him to shoot a documentary on prosthetics, human augmentation, etc. Watch it:

http://bit.ly/py1vtS

(IGN Corner)

TOP 100 MODERN VIDEO GAMES



If you too are one of the types who keeps bugging his friends and peers for the latest video game recommendations then look no further. IGN has created a meticulous list of top 100 modern video games which can keep you engaged to your console for a really long time. http://go.ign.com/mhn1V8



Nintendo 3DS as dead as a dodo? Industry experts are of the view that the latest Nintendo handheld is on its

way to kicking the bucket. However, the folks at IGN give strong reasons against the argument. If they're to be believed, that is, Read more here http://bit.ly/qpGVg5



Mature gaming on Kinect a bad thing? With M-certified titles making their

way towards the Xbox Kinect, the everso-friendly and family-oriented gaming console won't remain quite the same. Is that bad for business? http://bit.lv/mVUtKz



The rise of in-game advertising We've already seen iterations of

in-game ads in the GTA series, but placing ads inside the game is serious business and with time it will only generate more revenue for studios. Insightful editorial here http://bit.ly/oMqLMa

5 FLAWS IN WINDOWS 8

If you are under the impression that Windows 8 is the next generation platform for tablets and PCs think again. The fact that there are some imperfections in every OS stands true. Find out five flaws Windows 8 suffers from: http://bit.ly/qRErV9

RAYS AT SHOE STORES?

The above headline may intrigue you but if folks at io9 are to be believed,



then somewhere back in time X-rays were given at shoe stores. Next thing you know, barbers were dentists, but they were or were they? Read more here: http://on.io9.com/pdN5wz

HOW DID THEY HACK SCARLETT JOHANSSON'S PHONE?

Hollywood A listers' phones getting hacked has been talk of the town of late. Was there a racket involved in the whole operation? Do we really know how hackers can get hold of our phones and our precious data? http://gizmo.do/o8VuiB

EXPLORING THE STAR TREK UNIVERSE

Are you a Star Trek fan? If not, then you're missing out on a whole sci-fi legacy. However, folks at Ars Technica have been gracious enough to deconstruct the Star Trek universe for us. Delve into it and read more at: http://bit.ly/o9LVbx

A Concise Guide to Android Rooting

- By Jill Duffy

While putting together a list of the best Android apps, I asked dozens of Android devotees what their favorites were, and a few fired back a short list of apps "for root users"



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ooting an Android phone is kind of like jailbreaking an iPhone. In layman's terms, it means you're cracking open the hood to access parts of the operating system that were intentionally locked to prevent you from messing them up, or doing anything to your phone that the manufacturer or carrier doesn't want you to do. A slightly more technical explanation is to say that rooting means giving yourself "root access," or greater privileges, or administrator control, to the lowest level of Android's Linux subsystem.

WARNING

If you didn't pick up on the clues above, rooting isn't for everyone and can have



serious repercussions. While it's perfectly legal, it can void your phone's warranty (more on that below). If you don't know what you're doing or aren't careful, you could potentially destroy your phone. Rooting also opens up more security risks because you can download apps that have access to files that would normally be hidden from them.

So, if you're perfectly happy with your Android phone as is, there is no reason to root it. If you're a tinkerer and understand the possible ramifications, then there are several reasons you might want to root.

WARNING:

Why Root Android?

The purpose of rooting is to make the most of the device that you own by getting around the limitations that the manufacturer or carrier has put in place—and again, many of those barriers were put in place to prevent you from accidentally destroying your own device.

Here are some examples of what a root user can do:

- Access the flash memory chip, which you need to do if you want to modify the Android OS or replace it with a customized version.
- 2. Make the apps on your phone run faster.
- 3. Remove pre-installed apps to free up space.
- 4. Turn the phone into a 3G/4G WiFi hotspot without paying an extra fee.

 There are many other reasons to root,

too, but the ones listed here are certainly among the most popular.

TIPS FOR ROOTING

Before you dive headlong into rooting, here are a few tips:

- 1. **Be phone-specific.** This tip comes first for a reason. It's crucial that you look up information for your phone, and not just for Android across the board. Look for tutorials that are specific to the make and model of your phone, as well as any common problems. The rooting process varies by phone, and following the wrong procedures could cause irreparable damage. Just as important, not every rooted phone will be able to do want you might have been hoping it would. For example, not every rooted device has an unlocked bootloader (necessary to flash ROMs), so make sure you understand what you are getting into and exactly what you want the outcome to be if you root your phone.
- 2. **Read or watch the how-to before- hand.** Make sure to read or watch the entire tutorial before you begin, because there are often steps that are crucial that may appear out of order. For example, sometimes you need to disable antivirus software on your computer at a certain step for the rooting process to go smoothly.
- 3. **Learn how to un-root.** Rooting is reversible on most phones—again, check whether yours is before you even begin.

FASTER THAN THE SPEED OF LIGHT!

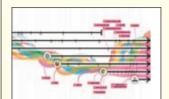
Scientists at CERN seem to have discovered neutrons that travel faster than the speed of light. Does that mean that we've finally found the fastest matter ever to exist? We don't know that yet as it's still under study. Read more: http://cnet.co/nXetk0

DREAM WITHIN A

Wouldn't it be great if we record our dreams someday? With brain imaging technology getting better and superior the day is not far when we'll be able to do it. A fascinating read: http://bit.ly/pvG8v7

EVOLUTION OF THE WEB

Developed by the Chrome team this interactive website tracks the origins of the internet fron 1990. Read more: http://bit.ly/njnQ32



OLD RADIO TO NEW SPEAKER

In this tutorial, Lifehacker explains how you can convert your old radio set to a speaker set which can play music off your MP3 player. All it needs is a few tweaks and your handy toolkit is more than enough to get the job done. So head over here. Read more: http://lifehac.kr/mPmyYh

So before you root, make sure you know how to undo it. Just as it's important to read the complete instructions before you start rooting, it's a good idea to figure out how to reverse it before doing anything, as well. Because rooting may void your phone's warranty, you'll have to revoke the root access anytime you need to take your phone in for service.

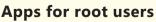
- 4. **Power up.** Never tinker with anything less than a full battery. One of the most devastating things that can go wrong while in root mode is running out of battery midway through installing a custom OS or ROM (read-only memory, or the phone's internal memory where your apps are stored). If your Android dies before the new system is installed fully, it's extremely difficult to repair and restore the phone.
- 5. **Stay away from extremes.** Root users will be enticed to push their phones past its previous limits for maximum performance—a phone that works faster. But remember, the phone makers put limits on your phone for a reason, in this case, to prevent the phone's processor

from overheating and burning out. Root users who know what they're doing bypass these limits, but should set new limits or other failsafe measures to keep the phone from overheating. If you don't know how to manage these settings, don't tempt fate by trying to turn your phone into a lightning-fast machine. It's pretty fast already.

6. When in doubt, ask for help. If at any point during rooting or unrooting you get stuck, search for help because you're likely to find it. Android root users have been known to hang around a few helpful hacker forums, such as xda-developers.com and rootzwiki.com, where you can find answers to your questions and solutions to your problems. While these online resources will be invaluable, do bear in mind the other tips outlined in this article. Remember that even the most helpful guy on a forum isn't necessarily a technical writer, and his tutorial may be out of order or not specify which specific phone model he has in hand, or take for granted some other assumption. Comb through the

advice you find meticulously before you decide to take it.

With those tips in mind, if you're looking for tutorials to walk you through rooting, try Lifehacker's guide to rooting Android devices.



Deciding to root your phone shouldn't be a split-second decision. But ultimately, it's your phone, you own it, and you can do what you want. So if you do root your Android, here are seven starter apps you'll want to download. You'll need the first and second apps immedi-



ately in order to actually do anything with your root access, but the other apps are all optional and can be downloaded in any order.

Superuser:

Lets you manage superuser (root user) permissions; this is the first app a newly rooted phone needs installed on it.

Root Explorer (File Manager) (\$3.80):

Shows you the files you can now access as a root user; this is the second app a newly rooted phone needs on it.

Titanium Backup root:

Backs up all your apps, removes bloatware, and otherwise helps you manage apps.

ROM Manager:

Lets you manage and install ROMs from your SD card, and organize and perform backups and restores.

AdFree Android:

Removes most ads from your browser and apps.

Wireless Tether for Root Users:

Turns your phone into a mobile hotspot. **SetCPU for Root Users:**

Changes the CPU settings for overclocking

(going faster than the limit) and lets you set thresholds (like a temperature) to tell it when to stop; works only on select phones.



(worldview)

A very creative and innovative concept in ambient advertising where the deodorant brand Lynx uses augmented reality to interact with consumers.



The idea is simple vet effective - the passengers at London airport see themselves on a giant screen where an angel just falls on to the ground and starts playing with them. http://bit.ly/fex118

(QR Code)



For a list of all the links from this section head over to http://minmu.net/WVOct11/ or point your phone to the QR code.

(PRODUCT LAUNCHES)

NIKON V1



BLACKBERRY TORCH 9860



LENOVO B320 WITH ONFKFY



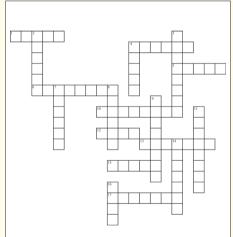
Nikon has finally entered the mirrorless compact camera market with V1 for the enthusiasts. The sensor on this camera is really small when compared to other mirrorless compacts, but it boasts of a 10 frames per second burst mode and there is a feature called Motion Snapshot.

BlackBerry Torch 9860 is a 3.7inch touchscreen phone with an 800x480 pixel resolution and housing the BlackBerry 7 OS. It runs on a 1.2GHz Qualcomm processor and has 768MB of RAM. It is priced at ₹28,490.

Lenovo has an updated variant of the model we tested recently, the B320 all-in-one. Specs are largely the same but it has a unique addition in the form of a single press key which switches the AIO from the computer to an HDTV mode without having to turn on the PC.

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- Palm OS is also known as
- Blu-ray disc's now abandoned rival
- Company that makes Norton AntiVirus software
- A company whose mobile division was recently acquired by Google
- Audio manufacturer based in Framingham
- Who took over as Apple's CEO after Jobs?
- 15. HTC's GUI for mobile phones17. First name of the author of 'The Hitchhiker's Guide to the Galaxy'

- Calvin's anthropomorphic tiger
- Studio behind Elder Scrolls Skyrim
- Company that manufactures GR10 IEMs?
- Last name of the author who wrote Game of Thrones Last name of the former host of The Daily Fix on IGN
- Chewbacca's species
- Game which spawned the meme "All your base are belong to us'
- Largest cable operator and ISP in the US
- 16. Company that made Voodoo graphics cards

Top 3 You Tube Picks

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



Best Simpsons clips

N-79 secs

A round up of all the best moments from the hit series The Simpsons. http://bit.ly/nNLPUs



Renault Ballet

1:32 secs

The Renault ballet commercial focuses on the car's superior safety features. Must watch ad. http://bit.ly/mT3whd



Tim Cook's first day at office

2:40 secs

How does Tim Cook fare at the office after taking over as Apple's CEO? Really funny. http://bit.ly/oNUy0v



TOU(# 830

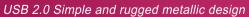












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The Empire was filthy rich

Death Star from the Star Wars universe costs \$15.6 septillion - 1.4 trillion times the US debt http://gizmo.do/Yk7n



M\$ making \$\$\$ via Android!

Microsoft is earning almost 5 times the income from Android devices than it is from WP7 - due to patent issues http://bit.ly/oZRYQi

Will Windows 8 trounce its predecessor?

Microsoft seems to have taken a page from Linux's book by releasing such an early version of the next Windows publicly. We take a look at what the Developer preview offers

Kshitii Sobti readersletters@thinkdigit.com

s good as Windows 7 is, it mostly just tried to repair some of the damage done by Windows Vista. Windows 8, in comparison, is very ambitious. Nearly every corner of the OS has been touched up, and it shows right from boot.

Windows 8 is highly inspired by its mobile cousin, Windows Phone 7, and uses the same UI style called Metro. Metro is a big and central part of Windows 8; it's hard to escape and it likely won't be something you can turn off even in the final release. It's not just about the UI, but also the work that has gone into creating a new way for developers to create Windows applications using even web technologies such as HTML5, CSS3 and JavaScript.

We immediately downloaded and tested Windows 8 on a desktop computer so our experience is mostly based on how it works in a non-touch environment. However, some of the new major additions to Windows 8 actually have to do with tablets. Windows 8 is essentially meant to be an OS that can run on tablets, netbooks and desktops, with Windows Phone catering to smartphones.

Let's first dispense with the rumours that Windows 8 will only have the toned down Metro UI, with the familiar Windows desktop done away with. This isn't true. The familiar old Windows 7 UI and



Windows 8 Metro start screen



Searching for applications, results from settings, files and installed applications can also be browsed from here



The new Metro-styled control panel

desktop remains (mostly). So the question isn't what's lost in Windows 8, but whether what's added (Metro) is worthwhile or just gets in the way. That question, however, will be for you to answer once you've used it a bit. For that purpose, we'll divide our attention between the new Windows Metro UI and the "classic" UI.

Windows 8 'Metro' UI

Metro is a complete departure from the classic Windows UI and is optimised heavily for touch screens. Not only does



The Windows 8 lock screen



The Metro version of Internet Explorer 10. Currently the desktop version looks the same as IE9



A Metro application is docked to the right of the screen while you work on a normal Windows application

the OS need to be designed to work well with touch screens, but the applications do too. Since they are, after all, what people intend to use their device for. Windows 7 came with support for multi-touch screens, but no one made much of it because neither the Windows UI nor the UI of most Windows apps were very conducive to a good multi-touch experience. Windows 8 rectifies this with a fresh new tile-based Metro UI.

When you first boot Windows 8, you're greeted with this UI which shows

Confused

LCD/LED

Please help

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should I buy

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Personalised memory!

Silicon Power has announced its range of limited edition storage devices http://bit.ly/q6YGgx



The more the merrier

Google has purchased over 1,000 patents from IBM to further enhance its patent portfolio http://bit.ly/pEEBq4



As you hover your mouse on the edge, a preview of other running apps appears. You can click it to switch to the app or drag it to dock it



Standard view of copy progress. One copy operation is paused



Expanded view of copy progress

your installed applications as a collection of tiles. What's great about these tiles is that they're not only a way to launch applications, but also act as small windows into the application. A tile for your email app could show you your unread email count, your social networking app could show the latest posts, your image management app could show a slide show of images etc.

We say "could" because right now apps don't support this functionality remember this is the preview that's sup-



The refresh and reset options in the Metro control panel. They're also available in the regular control panel



Conflicts while copying are now better



A fine-grained control over managing conflicts, yet easy to exercise

posed to get developers to start developing apps for Windows 8 and the sample apps that are included, showcase it quite well. The news app shows news from configured feeds, the Twitter apps shows tweets and the stocks app shows stocks. Apps launch in full screen but can be made to share space as well. Applications, whether Metro, traditional or web, can be pinned on to the Metro start screen.

If you start typing on this Metro start screen, vou'll immediately see a filtered list of installed applications and what's

more, you can search in settings and files as well. Here comes the awesome part, you can search from this screen within applications as well! Applications expose their data to Windows which can then search within that data as well. An example would be if Amazon's Kindle e-Book reading app supported this feature - you'd be able to search for e-books directly from Windows.

Windows 8 comes with Internet Explorer 10 and a Metro interface that does not allow plug-ins such as Flash and Silverlight. This UI is highly optimised for tablet devices, but is functional on desktops and laptops as well.

The login / lock screen has received some Metro love and now finally displays the current time. It can even be extended to show data from some applications another useful feature for tablets.

A completely new Metro-styled control panel is also available, which offers a simpler way to configure most common settings for you PC.

Even the boot process has been revamped to use a Metro-style UI. You can select which OS to boot using your mouse / touchscreen. This makes sense for tablets, where, there would be no keyboard to make an OS selection.

Hovering near the edge of the screen shows a preview of other running applications; this preview can be dragged onto the screen to make it share space with the current app or take over the screen.

All of this is available in addition to the more traditional Windows UL which we talk about later in the article. However, you needn't use the traditional UI if Metro is all you want. What's great is that these two can co-exist and even co-operate by sharing screen space between metro and traditional apps.

Windows 8 "classic" UI

One of the biggest losses in this whole Metro thing is the Start Menu (RIP 1995 - 2012). The Windows 8 Developer Preview does not feature the traditional start menu; instead it launches the Metro start screen described above. We emphasise "Developer Preview" because this could very well change by the time the final version releases.





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Tablet pc

Excellent in application





	The second second
Speed class logo	Transfer rate
CLASSE	≥2MB/s
CLASS@	≥4MB/s
CLASS®	≥6MB/s
CLASS(0)	≥10MB/s

Total amou	unt of comp	pressed pict	ures for eac	h memory c	ard (Pixel)			
	Capacity of Memory Card							
MP=megapixel	4GB	8GB	16GB	32GB	64GB			
2MP	4550	9100	18200	36400	72800			
3MP	3412	6824	13648	27296	54592			
4MP	2048	4096	8192	16384	32768			
5MP	1638	3276	6552	13104	26208			
6MP	1280	2560	5120	10240	20480			
8MP	1048	2096	4192	8384	16768			

3264

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13056

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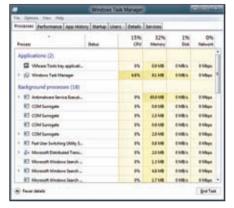
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Sci-Tech

There's just so much new here that we have to list it in points:

- Proper multi-monitor support! Each screen can now have its own taskbar that can show all apps or only the apps running on that screen. In fact, Windows even comes with a theme that carries a dual-screen wallpaper just for multi-monitor users. The Metro UI can only work on one screen at a time, but you can switch between multiple screens at any time.
- Explorer has a new ribbon-based UI. Love it or hate it, it's there; and in our opinion it is quite functional. With the loss of menus in Windows Vista, this UI brings back many useful operations that we missed. It can always be collapsed and ignored.
- The ribbon UI can show context and content-sensitive tools such as 'pinning' apps and 'running as adminis-



The new process manager is very detailed. This is just one of the tabs

trator' for exe files, extraction options for zip files, mounting and burning options for ISO files etc.

- Common operations can be pinned to the Windows Explorer toolbar.
- An up button is situated next to the back and forward button to move to a folder's parent.
- Yes, Windows 8 can now mount ISO and VHD files without any third-party software. Oh what joy!
- The copy-and-move interface is revamped so that:
 - All file transfer operations appear in the same window
 - These operations can be paused

- A detailed view will show a graph of changes in speed over time
- The UI for resolving conflicts is much improved
- There's a new "Automatic" option for Aero window colour, which automatically selects the colour of the window borders based on the wallpaper colour. If your wallpaper is set to a slide show, your Aero window colours will change with each change of wallpaper.
- There's a new task manager that, in its detailed view, is very powerful. You can see not only how much CPU and memory each application is consuming, but also its network utilisation and other attributes. The new task manager is very detailed.

Windows 8 core features

A number of features in Windows 8 change the core of the Windows experience. One major addition is that of inbuilt cloud syncing. You might notice it the first time you set up your user account, when Windows asks you to enter your Windows Live credentials. You can use your Windows Live account instead of a local account (which too is an option), and in that case, some of your settings etc. will be automatically synced to the web and other computers associated with the same login. This is quite similar to Chrome OS, which does the same with Google accounts.

Another great example is the new File history feature. Volume shadow copy / system restore from Windows XP was improved in Windows Vista with a "Previous Version" option to retrieve old versions of files. Windows 8 takes it further by building a proper UI around it, allowing you to browse the history of your data folders and restore previous versions of your library folders at any time. All of your libraries are automatically backed up. You can now even select where to store these previous versions of files; even network locations can be selected, and you can offer your computer's storage to others in your HomeGroup.

Windows 8 now also offers an option to "Refresh" the Windows install, which will reload all Windows files without touching your personal data. In this case, the same setting will be reverted to and



Through the taskbar configuration you can have the taskbar appear on all monitors, and can configure which apps to display on each taskbar

your applications will need to be reinstalled (not the ones installed from the Windows Store though). Another option is to "Reset" your install, which instead removes all personal data from the computer so you can resell it.

Anti-virus technology is also inbuilt in Windows 8, and includes the new Smart-Screen filter that was introduced in IE 9. Now, files downloaded using any browser will be checked by Windows against an online malware database.

Another core improvement in Windows 8 is in how it shuts down and boots up. Now, even on shutting down, Windows hibernates its core processes so they can launch that much faster next time. This can lead to some serious improvements in boot speed.

There are numerous improvements in Windows 8; even the Blue Screen of Death has been changed to a less threatening emoticon-laced design. There are many things to hate and as many to love. But this is just a hint of what Windows 8 is. though released mostly for developers.

Yes, the Windows 8 Developer is not complete; it's not even a beta, but a prebeta. While all we've mentioned here is available in the Developer Preview build - and you can check it for yourself, it's on the DVD - take it all with a grain of salt. The final version of Windows 8 will most likely improve many things and possibly even remove some features.



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Web Designing

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- Redundant power sources (A+B).

- ♦ BGP network with five tier1 providers.
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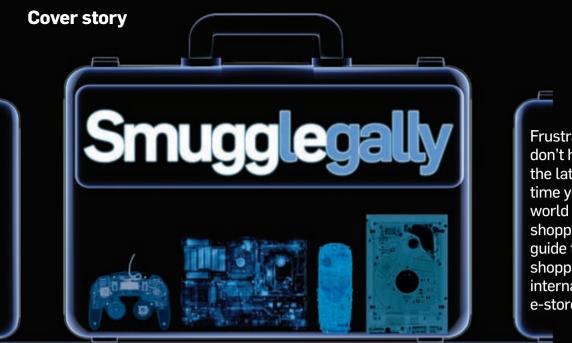


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Frustrated because you don't have access to the latest gadgets? It's time you discovered the world of global online shopping. Here's our guide to smarter online shopping from international e-stores...

Soham Raninga soham.raninga@thinkdigit.com

ith the opening of markets and relaxation of the duty structure, the novelty of getting gadgets from abroad for cheap has seen some decline, but there's still the temptation to get hold of the latest tech before its official launch in India. Fortunately, you no longer need to depend on the grey market to be a proud owner of the latest gizmos!

International shopping is now at your fingertips. It can be quite effective and even economical if done correctly. So let us look at how online shopping has enabled placement of international orders for cool gadgets right from the comfort of your homes sans the headache of figuring out the custom duties and hassles of managing the shipment.

A quick reality check

Firstly, any international transaction requires a credit card. Before you start planning your purchase, ensure you have a valid international credit card (preferably a VISA card) with enough credit limit. Secondly, all that comfort of getting products delivered to your doorstep does come at a cost. You'll pay for the custom duties on the products, the taxes applicable in the country that the purchase is made from, plus the shipping charges and a slight overhead for the convenience. Therefore, its not as simple as converting the international pricing into Indian rupees. The overhead cost above the international pricing ranges roughly between 25-35 per cent of the quoted price of the product on the web site. Another thing is the delivery time, which can take anywhere between 7 to 15 days.

Ready to shop? Let us look at the options...

eBay Global Easy Buy

eBay Global Easy Buy is our favourite of the lot, and is strongly recommended for anyone venturing into online international shopping. Global Easy Buy gives you the final prices in Indian rupees that include all costs such as the custom



duties, shipping, handling and other service charges that the carriers charge to get the product to your door step. Thus, what you see is what you finally pay. Its search engine is pretty straightforward as well; with results showing the final prices. Another advantage of purchasing on eBay is the robust buyer protection mechanism that minimizes the chances of any kind of fraud or lapse in the com-

mitted transaction. You don't need to have a separate account for shopping at eBay Global Easy Buy; your eBay India account login can be used to make purchases.

Another advantage with Global Easy Buy is the ability to pay via interest-free EMIs, as long as you're paying via a credit card that is accepted. You can choose the three-month EMI option if a one time payment doesn't fit your budget. On the downside, your options are not as wide as they would be if you were buying from amazon.com or newegg.com; your options are limited to the Global Easy Buy listings. These listings differ from the ones found on the international ebay. com. While most of the global elctronics sellers are listed; the availability of the products under Global Easy Buy are primarily dependent and decided upon by the international carriers who act as middlemen for shipping the products to your doorstep after clearing all dues.

Shopyourworld.com

In operation for about two years now, SYW got into the action with the iPhone 4 launch. It was one of the few sites selling officially unlocked UK iPhone 4 handsets, for a staggering ₹45,000 each. SYW specialises in getting you products newly launched in the international market and are some time away from hitting the Indian shores. While checking the latest offerings on the site, we came across the latest Android tablet from Sony, the

Sony S and a bunch of Android-based ARCHOS tablets for sale – these products haven't yet been launched in India. Pricing is mostly on the higher side as you do have to pay a premium for bagging the latest and the greatest before anyone else. They usually offer 5-10 per cent discounts when you shop using credit cards issued by their affiliated partners (HDFC, ICICI and American Express). Delivery time is approximately 10-12 business days.

Another unique offering at SYW is the ability to shop across multiple popular international online stores with quoted prices in Indian rupees. Clicking on the link to amazon.com from SYW loads



a modified version of the US amazon. com shopping portal, displaying Indian prices for almost the complete list of products available at amazon.com. The prices displayed are higher than the direct conversion from US dollars to rupees, since they include the service charges (mostly profit margins) charged by SYW to provide you with the convenience. Custom duties and shipping charges are both calculated at the final step of making the payment. The advantage in this case is the ability to purchase from big brands like Marks & Spencer, Hugo Boss and other designer stores as long as you can buy them at a premium.

Ordering through shipping companies

The concept of being able to buy imported products without any hassles gives rise to enough opportunities for business and hence, apart from online stores, you have

shipping companies offering the same services via a special account. Aramex, a shipping and logistics service provider offers a "Shop and Ship" account - its e-tail delivery service offers Middle Eastern and Indian consumers the convenience of online shopping from the US, the UK and Europe at competitive rates. Shoppers can access the Aramex service by logging on to ShopandShip.com and signing up for a lifetime membership account which costs \$45 (₹2,230). Once the consumer places an order, Aramex receives the ordered goods at its facilities from the e-tailer, and then ships and delivers them right to the doorstep of the shopper. Here again, the service provider adds customs duties and shipping service charges over and above the final product price that you pay with your credit card.

Unlike eBay Global Easy Buy, this service doesn't have any robust buyer protection mechanism; you have to trust the service provider to get you your stuff. You can choose to pay cash on delivery for all the overheads, thus protecting a part of your total expense. There are similar services from companies like ICC World, in whose case, you have to open a free account, mail the company the products you'd like to purchase from any international site, following which it mails you back with the final quotes for delivering the product to your door step. Once you find the quote agreeable, simply purchase the product and use the shipping address provided by them, which is usually their warehousing station from where they manage the delivery mechanism right up to your doorstep.

Choose wisely

The overall deal through the above mentioned options may not necessarily be cheaper. In fact, with mainstream products like phones and cameras from most popular brands, you would most



likely pay more or almost similar to what it would cost you in India. So, how can you take advantage of these services? The trick lies in spotting good deals, and while there's no single formula for spotting deals, here are some general guidelines that can work in your favour.

Accessories are a good starting point. Cases for phones, tablets and similar lower priced products are generally cheaper from these stores. The accessories



market in countries like the US is a lot more matured, you have tonnes of options at every price point and the quality of these products is generally better than what we get in India. We ordered an iPad Case from eBay Global Easy Buy for ₹1,685 shipped to our doorstep. This product carried a retail price of \$75 (₹3,716) in the US. Some of the popular Indian e-tailers were selling the same OtterBox Defender iPad Case for ₹4,500-perfect exampl of the kind of sweet deals that can be grabbed on Global Easy Buy. With acces sories, the usual worries with regard to warranties and damage in transit don't haunt you while placing the order; its a relatively safe bet, especially when you're not risking huge sums of money.





Read the product descriptions carefully

With stricter and more streamlined buyer protection laws, online stores in the US are bound to disclose all details pertinent to the product. However, with long descriptions and the excitement of having spotted a great deal, buyers tend to ignore the details. For example, a product that is categorised as "new" can have another tag that says, "Open Box". These products are not used but they aren't exactly brand new, un-touched items. They might have been used for demo purposes or returned the very next day by the customer. So, such products can be up for sale at a much lower price but you ought to be clear about what you're buying. In case of products like laptops, there might be multiple configurations for the same model listed across the store, for instance, the Lenovo Thinkpad 410s has several configurations listed on the eBay Global Easy Buy site, and unless you read the description in detail, you might end up buying the ₹65,000 config as the best deal, not realising that it has a regular mechanical hard drive instead of the 128GB SSD in all other configs, which are priced just ₹5,000 higher than the cheapest one.

Shipping can make or break a deal

While browsing through ShopYourWorld. com, I was mighty tempted to order a set of bookshelf speakers, a pair of Wharfedale Diamond 9.1 was listed under ₹8,000 - sweet! However, after adding the shipping charges, the total cost shipped to my doorstep climbed to almost ₹16,000. Lesson learnt! Ordering heavy stuff can really hike up your budget and the added tension of physical damage to the goods always lingers in the back of your mind.



Shipping rates are also pretty tricky, once a product crosses 5 pounds (2.27kgs); the shipping rates almost doubles. So, it's not just the duties that can sour the deal. Shipping charges can be a deal breaker too, so it's advisable to watch the weight.

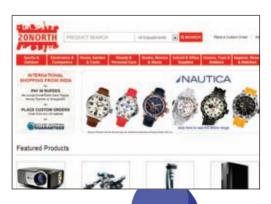
Custom duties for electronic goods imported into India and exemption criterion'

Laptop/Computers /Tablets	14.712 %
DVD/ CDS (movie)	
Other than Movie CD/DVD	
Mobiles	
Digital / Video Cameras	26.849 %
Digital Still Image Camera	14.712 %
Sports equipment	14.712 %
Entertainment, Sports equipment, Video games	
Electronics and Car parts	26.849 %
Computer Printers	14.712 %
Wrist Watches	26.849 %
iPod/ portable media players	26.849 %
DVD Players	26.849 %
Web cameras	26.849 %
Hard Disk (Internal)	4.000 %
Hard Disk (External)	14.712 %
Processor	4.000 %
Other computer peripherals	14.712 %
Gaming Consoles	27.000 %
Television	27.000 %

*You may import goods up to the value of ₹10,000 duty-free provided they're sent as gifts to you. This value doesn't include the shipping charges paid for getting that item into India. Since these exemptions are primarily based on the assumption of not making you pay for the gifts that you receive, the sender and the receiver of the gift can't be the same party and should have unique residential addresses to avoid any sort of discrepancy.

Look for stuff that's impossible to get here

Camera lens adapters, iPad car kits, privacy filters for laptops, speaker stands for hi-fi speakers and similar products are hard to find in the Indian market and are priced exorbitantly due to a limited market appeal. Such objects are good candidates for importing through online sellers. Another possible scenario for buyers with deep pockets is buying products that are far away from launch in India or at times never make it to the Indian market. The latest Sony



NEX series, the NEX C3 and NEX 5N. for example, are fantastic little cameras with latest generation dSLR sensors. The Sony Alpha NEX 5N is available for purchase at shopyourworld.com for about ₹45,000. It sells for \$700 on Amazon.com which roughly comes to about ₹35,000.

What about warranty?

Warranty is important, and that's where the entire "shop at international stores from the comfort of your home" can be a real bummer. Almost 100 per cent of the products you purchase online come

> with warranty, but these are valid only in the country from which they were purchased. So forget about getting local warranty. You have to ship the products back to the seller to claim warranty for the product and apart from the time frame of about 15-20 days, the cost of shipping must be borne by the buyer. A strong case for sticking to accessories and products that are least affected by warranty issues.

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Gizmo Giftology

What do geeks really want their friends / relatives / significant others to buy them this Diwali?

Siddharth Parwatay and Jait Dixit readersletters@thinkdigit.com

t's that time of the year when you raid your distant relative's houses (even if you haven't seen them in the past year), gorge on sweets, fancy up your crib, add to the noise pollution and generally having a blast. Above all else, what us geeks look forward to the most in Diwali is receiving those awesome gifts. Well, maybe giving gifts too, but let's be honest, who doesn't like getting them freebies, right? Well, this got us thinking. What gifts do geeks really want? We decided to go through the crowdsourcing model and ask our readers what they wanted through Facebook, the Digit forum and our newsletters.

Within a week, we had a ton of responses. Readers from all age groups and all walks of life revealed to us their objects of desire. The data revealed some very interesting facts and trends.



Watch this space

Those of you who responded to our wishlist survey: we didn't pull a faux-Nigerian scam on you. We will indeed be fulfilling some of your wishes. Winners to be announced next month.

Now all you have to do is cleverly slip the magazine (strategically opened to this page) into your dad's briefcase or your elder brother's bag and they'll know exactly what to get you this Diwali. (You can thank us later.)

The Digit Diwali wishlist

We're not really data miners, but being geeks we came up with some interesting solutions. How do we recognise patterns in a file having a thousand plus lines? Eureka! Regular expressions! (read the Regular Expressions article in August issue for more)

Of course we had to keep track of the really absurd answers on paper. Many coffee cups and fits of laughter later, a picture began to emerge from the murky depths of reader's wishlists.

This Diwali I want a ...

We'll start with a bird's-eye view of our findings, segregating the products in the list into categories. Some of the wishes were quite vague: a good mobile phone, an excellent tablet, a nice set of speakers and so on. Until of course, we asked readers to be more specific. Then the requests for Intel Core i5 2500k 3.3 GHz and others started flowing in.

Everyone wants to be a mobile warrior!

It came as no surprise that smartphones. tablets and accessories together topped the list as the most desired category. Almost every respondent wanted a tablet or a smartphone, making up for 35 per cent of entries in the survey. There were literally hundreds of phones requested. Individually, mobile phones stole the show at 23 per cent followed by tablets and accessories. The front-runner among the mobile phones was the Samsung Galaxy S II, followed by the iPhone 4. Very surprising indeed. Good to know Android rules the roost with our readers. Then again, who wouldn't want the best phones in the market? Accessories also need a mention here. Readers asked for all sorts of accessories ranging from bluetooth headphones to chargers and micro SD cards. So say the person you are gifting already has a good phone, a gift which adds some extra functionality to the device is always welcome.

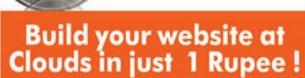
When considering tablets, the iPad 2 leads the pack followed by the Samsung Galaxy Tab 10.1. Bragging rights, you'd think, right? Not really. Some of the respondents wrote a few lines on why why they needed and deserved to have their wishes fulfilled; and tablets were accompanied with a description on how they aim to use it for functional day-to-day usage. A few of the readers also asked for the Kindle too. So if you're looking to buy someone a fancy hard bound book-set, remember to consider the Kindle. You know, Confucius said, "Give a man a book, he'll read for a day, give him a kindle and he'll read for life."

Build me a killer rig!

You can rely on Digit readers to come up with a slew of entries wanting a precise component or peripheral, which will effectively help them build their dream rig. This category includes products such as processors, motherboards, RAM modules, graphic cards, power supplies, cabinets, speaker sets, mice, keyboards et al. twenty per cent of the respondents requested items from this categories. What surprised us was very that few readers asked for top of the line products. There was only one request for a GTX 590 and a Core i7 CPU. We had asked you guys to be reasonable; looks like you took our request quite seriously.

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Supported Languages:

PHP / ASPx / Perl / Java / Python / Ruby on Rails with ajax support

- High Speed Public Network/ 4 Datacenters all over world / 24°7 support
- Website names in your native Language
- SAN Storage/Load balancer to withstand huge traffic and bandwidth requirements
- Using our service does not require programming skills

250+ readily installable packages and software under the below categories

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- Forums
- Mails
- ◆ E-Commerce
- Educational
- Real Esate
- Micro Blogs
- Wikis
- Polls & Surveys
- ◆ Customer Support
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· Project Management

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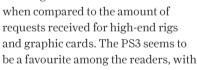
mail to:sales@visualmediatech.com Skype : sales.visualmediatech

Gaming on the go

Around twelve per cent of the readers have requested for either laptops or desktops, laptops being favoured a little more than their bulkier table-top counterparts. Unlike components, readers wouldn't compromise with this category. Wishes mostly comprised fully-loaded rigs. The 17-inch MacBook Pro seems to be on everyone's mind. with Alienware 17x not far behind. Though, readers seem to prefer the Alienware Area-51 ALX over the Apple iMac as far as desktops are concerned.

Console vs PC

Consoles and PCs have always been at loggerheads, as far as gaming is concerned. Nine per cent of the readers asked for consoles, which is not a high volume



the Xbox 360 closely following on its heels. The PSP is also quite coveted.

There's never enough space

External HDDs grabbed quite a large chunk of all the wishlists. A 1TB External HDD seems to be the standard desired all across. Once you've got a hard drive to store all your downloaded stuff, where do you play it? PMPs. Though PMPs featured in a few wishlists, a pure music player wasn't on people's minds. Cowon got only a few askers among hundreds. The iPod Touch caught everyone's fancy in this segment, though this attraction seem to be more towards iOS as a platform, which readers find interesting.

Capture the Diwali spirit

A niche segment was cameras and camcorders. Readers mostly lusted over cameras from the super zoom or compact zoom segment. dSLRs couldn't pull in

> much of an audience, with less than one-third of the entire bracket asking for cameras. Many wanted SLRs. Camcorders featured in the list, but don't much of a fan following.



The idiot box also found some takers, though, its new avatar

is preferred by the Digit audience; LED TVs, Smart TVs and 3D TVs bieng most sought-after. Most of the TVs desired are 32 inches and larger. Though there



PS3 and XBOX360

Top 10 products that geeks want

- 1. Samsung Galaxy S II
- 2. iPad 2
- 3. iPhone 4
- 4. Samsung Galaxy Tab 10.1
- 5. MacBook Pro
- 6. PS3
- 7. iPod 8. XBox 360
- 9 PSP
- 10. Sony XPERIA Mini Pro



were not as many readers asking for Blu-ray players, which would provide high quality content to run the aforementioned boxes or Home Theaters. Five percent of the people wanted products from these segments combined.

Digit goodies

We're not tooting our own horn here but lots of readers wished for something related to Digit. Many readers asked for lifetime subscriptions, subscription renewals or official Digit merchandise like t-shirts, pendrives and so on.

The weirdos and other stuff

Quirky ones here. We had about three percent of the readers asking for assorted curios, right from pen drives to liquid pens. One guy even requested for "dresses, dresses, dresses!". Last month's cover story seems to have caught the fancy of readers. El cheapo gadget lovers asked for everything from the USB Tool kit to the USB Drum Kit featured in the september issue.

Age no bar

When we asked readers what they wished to receive this Diwali, we asked for respondent's age as well.

From what you can see in the graph, it seems like a mid-life crisis increases affinity towards TVs. We're kidding, of course. Most of our 30+ respondents wished for a 42-inch screen, clubbed with a fancy home theater. While the younger generation can't seem to get enough of peripherals, games and tablets. So now, if at all you're thinking of gifting that nephew of yours you know what the perfect gift would be. Or if you want to save up for gifting something to an oldie you know what to buy them.



Laws of Senior Recruitment #69

The stuff you want to do is the exact opposite of the programming that is required of you in the project.

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Industry: IT/Technology-VLSI/ASIC/EDA/Semiconductor Function: Testing-Software Location: Hyderabad

Senior Software Engineer Job Code: 8076

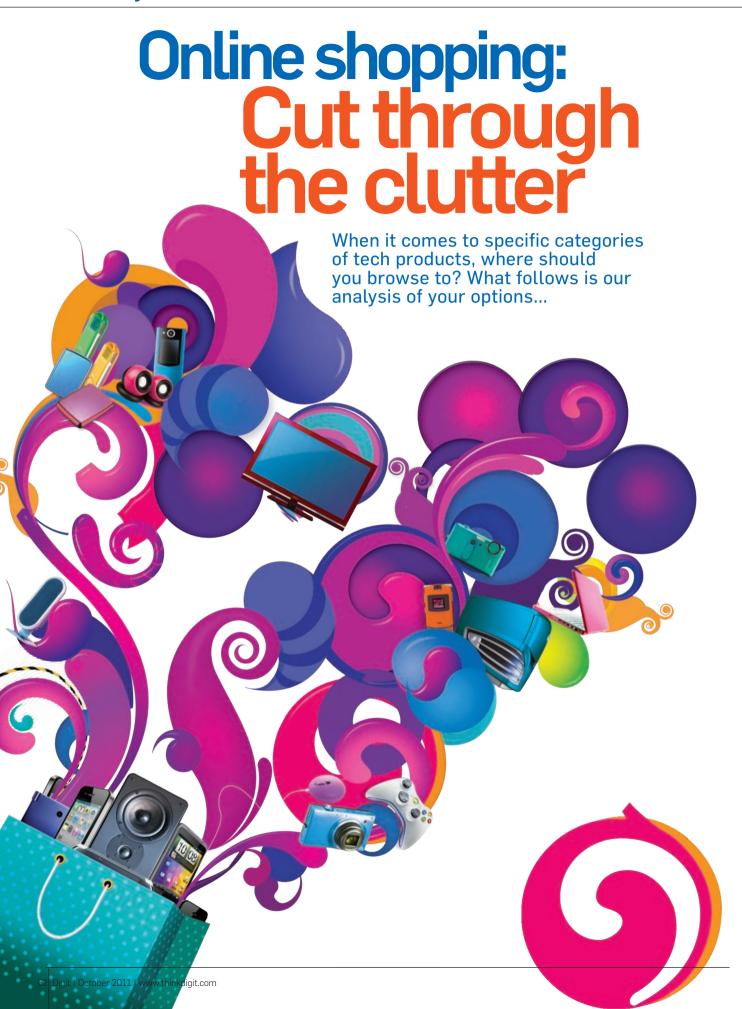
Industry: IT/Technology-Software/Services Function: Software Design & Development Location: Hyderabad

Solution Architect Job Code: 8105

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Team Digit with inputs from "The Interns"

readersletters@thinkdigit.com

esides statistics, the plethora of web stores and deal-of-the-day web sites cropping up everyday makes the question of whether online shopping is big in India redundant. Of course, it's catching on! There's no doubt that it is indeed going to be the most preferred way by which people will



Iconia Tab for under 30k at eBay.in

procure things in the future. As it stands today, many of us are pretty familiar with some of the well known places online. Which web store is the best for which category of products? Which one has the best range of products? Where are the best deals available? A simple Google search with "buy abc product India" may not throw up the best results as some of the sites offering the best deals may not have been properly Search Engine Optimized.

To answer these questions, we decided to undertake a massive comparison of eCommerce web sites across categories.

How we compared

Our task first began by mapping the entire online shopping universe. The exhaustive list drawn up consisted of over a hundred individual web sites selling everything from IT goodies and flowers to books and even speciality baby products. Of course, since we weren't *too* interested in Lingerie, Art and all these other categories, we whittled down the list to about 30 of the best destinations for IT purchases. Once we had these web sites, we moved on to the enormous challenge of actually quantifying parameters such as pricing and availability of products found on these web sites. We created a mixed bag

of 62 products spanning each and every category you can possibly think of. The products were selected intelligently so as to represent a near perfect cross-section of what is available in the market and what a typical Digit reader would be looking for this season. We had a couple of phones ranging from entry-level ones such as the Micromax Bling 2 to

high-end ones such as the Samsung Galaxy S II and everything in between. For cameras, we had a couple of popular entry-level DSLRs such as the Canon 1100D as well

as notable Point-and-Shoots such as the hard-to-procure Panasonic Lumix TZ7. Other products we searched were some of our Best Buys from Digit's Comparison Tests. Two routers, a few portable hard drives, notebooks, several tablets, a budget Blu-ray player (Sony S380), pen drives, LCD/LED TV models and a complete mid-range rig were all included in the mixed bag of products. Apart from searching for these products and comparing their

pricing across web sites we also looked at the depth offered in each category i.e., the number of items listed, wherever available.

Scores were given for pricing in each category as well as for the availability of products. A score was obtained for each product by comparing the minimum price offered anywhere as a percentage of the price offered at that store. These scores were summed across the category. If the product was not available with a particular web site, a penalty of twice the maximum price was added as an overhead.

As the comparison progressed, 3-4 distinct categories of web sites emerged, viz., Marketplaces, Aggregators, Multicategory stockists and Speciality stockists. What also emerged were distinct core competencies or specialties that each of the multi-category web sites seemed to have fine-tuned. For instance, flipkart and adexmart have acquired quite a bit of expertise in mobile phones. Some online stores were admittedly catering to specific categories. For example, within technology as a broad space, bitfang.com, techshhop.in and many others, deal with only computer components. There were a couple of overlaps too. Naaptol.com, for instance, seemed to be a hybrid of sorts having Sto



A good price offered for the Galaxy Tab P1000 at IndiaPlaza



Cover story

Keeping Units (SKU) of its own, hosted stores (much like a marketplace) and aggregated prices as well. To be fair, by and large hard comparisons were made within comparable categories; marketplaces to either marketplaces or aggregators, speciality shops to other speciality shops etc.

However, another way of looking at the comparison is that as a consumer, you don't care what shop you buy your products from as long as you get the best

Call 011 408 Letsbuy.com ---

Letsbuy.com has some interesting offers

price. So, whether eBay or Naaptol lets you find a particular graphics card or a speciality store stocks it themselves, may not be very relevant to the end user. While noting prices we went up to the last possible point in the checkout cycle before payment to get a price inclusive of shipping and VAT and any other charges.

So after much research, we present to you in these pages, some of the best places to buy tech products online.

Mobiles

As expected, the aggregators and marketplaces scored highest thanks to ease of availability. eBay.in got the highest score for an appealing mix of price and availability, followed by shopping indiatimes.com and naaptol.com. Indiaplaza.in also fared pretty well as there was a ₹2,000 limited period discount on the Galaxy SII at the time of accumulating prices. The site often has such attractive offers, so while buying mobiles it would be a good idea to search for your desired model at this web site. flipkart.com offers decent pricing, but scored

> lower due to non-availability of two popular Nokia phones from our sample list. Among web sites that keep their own stock, infibeam. com scored the highest and will be a worthy destination to check out before making a purchase decision online.

Tablets

For tablets, again eBay.in came out on top with a high margin compared

to other marketplaces while shopmania. in aggregated the best prices. Our scores, however, ascertained that the best destination for buying tablets is adexmart.in when it comes to multi-category web sites.

Notebook / Netbook

The notebook / netbook segment was a tough one to tackle because of the various permutations and combinations possible in the configurations. Not many of the sites offered a large range or variants in certain models. The results of this category comparison can largely be considered inconclusive. Still amongst

what we looked for, Rediff offered reasonably decent prices and breadth. As consumers, the best bet would be to decide on a particular series from a manufacturer, look for particular specs and settle for the nearest configuration.

Cameras

For cameras, we selected popular entrylevel dSLRs as well as Point-and-Shoots. Micro Four Thirds as well as difficultto-procure models such as the Panasonic Lumix TZ7. eBay.in can get you the cheapest rates while BigAdda.com and Letsbuy seem to be the next best places to go to while shopping for cameras. Rediff on the other hand, gives you some of the not-so-easily available cameras, at least, according to the sample that we chose. So if you're interested in buying a camera this Diwali, it would be worth your while to head over to this shopping portal to browse around. Interestingly, Letsbuy. com has a whole bunch of freebies thrown in with its camera listings. For instance, with its Canon 1100D you get a Silicon Power 16GB Class-10 SD Card, a Vanguard Tripod Aluminum MAK 233 and a carry case; while the Canon SX 30IS listing bundles a photo frame. These freebies are worth checking out if you intend on buying them separately anyway.

Computer components and peripherals

Initially, we fixed on a mid-range rig configuration and began searching for components on aggregators and speciality component sites. At the end of the exercise we found that except for marketplaces and aggregators, there aren't any other web sites where you can get all the components

			-												E	
Categories	Ebay.in	Indiatimes Shopping	Rediff Shopping	Naaptol	Shopmania	Adexmart	AnythingInIT	BitFang	Flipkart	Homeshop18	Indiaplaza.in	Infibeam	LetsBuy	Techshop.in	ThelTwares.com	Tradeus.in
Mobile Phones	96.76	93.47	90.38	93.28	92.49	82.75	39.86	75.03	82.02	87.36	93.54	93.46	91.67	78.31	39.86	73.81
Tablets	99.12	86.42	76.53	78.4	91.3	77.48	63.51	62.99	67.79	52.84	63.61	41.45	68.27	52.51	41.45	79.14
Notebook/Netbook	69.2	61.27	59.84	54.31	54.21	45.35	70.59	60.74	53.84	45.35	45.35	63.88	63.71	45.35	45.35	54.66
Misc	82.94	57.85	56.56	63.65	71.91	41.25	40.58	41.31	54.78	61.8	47.01	64.46	70.53	38.7	44.36	53.77
Cameras	67.73	62.96	63.18	64.35	65.74	49.83	36.62	43.73	62.42	54.67	62.18	65.4	62.42	58.67	36.62	62.9
Mid-Range Computer Components	86.48	42.25	46.77	60.3	85.96	38.3	55.43	64.51	44.08	38.09	40.38	37.99	34.42	62.33	64.15	34.42
High-end Computer Components	87.94	48.27	54.04	56.86	91.82	43	63.49	77.34	43	43	43	43	61.99	69.35	82.23	43

Note: The scores are based on prices and availability of products during the time data was collected. They are indicative only for the selection of products picked out. For a different set of products, at another point in time the scores will vary. For the full scoresheet, visit this Google Docs link: http://bit.ly/shop_logs

Survival of the cheapest: Hunt for the best deals online

www.koovs.com

At Koovs you have great deals in various categories such as cameras, computers, mobiles, etc. The deals are not "at cost price" as they claim but some of the offers are not bad at all. Worth checking out

www.buytheprice.com

This one too, almost exclusively, operates in electronics. We spotted some interesting offers such as the Samsung Galaxy Ace S5830 for ₹13,099. There's also a section on Consumer Durables too, a popular category during Diwali. After all, even geeks need refrigerators to chill their beers and microwaves to warm their food in, right?

www.bitfang.com

Another popular IT hardware seller, BitFang has weekly as well as daily deals. You have "BitShocking" as well as "BitSpecial" as the type of deals. You can get routers, digital cameras, video cards and even phones for cheap.

www.bigadda.com

Although primarily catering to lifestyle, from time to time, you do find DVD players, mobile phones and other consumer electronics here. Keep an eye out for the products of your choice.

www.taggle.com

Taggle is a deals web site that specialises in gadgets and electronics. In fact, because of its "deals" positioning, it's a pity that we couldn't include it in our online destinations list. The range may not be very wide but the deals are quite good. For instance the HTC Desire S was available for ₹22,100. While the Dell Vostro 1015 (2GB DDR3, 320GB, Black) + FREE backpack was pegged at ₹23,999. A web site you definitely must frequent.

www.soldinsixty.com

This web site will mostly have perfumes, watches and other such products on offer. Every now and then however, you get fantastic deals on external hard drives. You can find other electronics offers too. For example, at the time of going to print it had a BlackBerry Bold 4 9900 for ₹30,499, a Philips 5.1 Channel Speaker set for ₹3,499, a universal plug-point adaptor for ₹199, etc. Follow its twitter account to stay updated.

www.ebay.in

eBay is just too big to not have a deals section. Unlike other deal-of-the-day services eBay. in does show some love to the geek buyer. You can get offers on laptops, smartphones, gaming consoles, cameras and tablets. The deals are displayed right on the home page. While going to print we spotted a Dell Inspiron 15R (i3 380M, 15.6", 3GB DDR3, 320GB) for ₹27,540.

www.primeabgb.com

This speciality component store displays a daily deal of the day before redirecting to the home page. The products range from memory kits such as the Gskill Ripjaws 16 GB, CPU and Mobo combos, monitors and even optical drives. While going to print, the deal of the day being offered was an LG 12x Blu-ray disc rewriter for ₹6,000. A place worth checking out daily if you're a hardware junkie.

www.snapdeal.com

Snapdeal is not all about spas, restaurants and make-over deals. Click on the product deals tab and you'll find lots of interesting offers on mobiles, electronics and other accessories such as pendrives, SD cards etc. We spoke to Snapdeal's CEO, Kunal Bahl and found out that they're planning to increase their offering specially to cater to the festive season. There will be deals on mobiles, electronics, fashion accessories, diamond jewellery and gold coins and other festive products.

from one place. So, we decided to build a high-end rig and check for availability to see if speciality component sellers such as Bitfang.com, techshop.in, mediahome.in, etc. work better in this case. The results were pretty similar. Shopmania.in scored the highest by sourcing the best prices from theitwares.com and techshop.in. The conclusion to be drawn here is that if you want to build a low to mid-range rig, your best bet is to procure different components from sellers on eBay.in. If you want to build

a high-end rig, the prices you get from eBay are not very good. In this case, by scores, theitwares.com is a good destination for procuring high-end components. The wisest thing to do is visit the specialty tech shops individually and buy each component where its being offered for the lowest price.

Hard drives, routers, Blu-ray players and other stuff

We decided to check out what would be your best source when buying a rag-tag

mix of products ranging from routers, external storage devices, HD media players, HDTVs, pendrives, etc. For such a varied list, aggreagators such as shopmania.in and marketplaces like eBay. in are your best bet. However, some subcategories showed interesting results. For external storage, letsbuy and flipkart had the lowest prices, while adexmart had good rates for Blu-ray players, but not much of anything else. Timtara. com did well on USB flash drives.



Cover story

Team Digit readersletters@thinkdigit.com

very year, Diwali makes people break their piggy banks and splurge on a smorgasborg of technology products. Most people opt for the latest, fastest and coolest gadgets of the season; caught up in a shopping frenzy of sorts, thanks to the hundreds of seemingly attractive deals on offer. However, are those purchases the most prudent ones? Are those deals the best? Maybe not. In this article we'll try to give you some practical advice across popular categories to enable you to make the wisest decisions.

Devices on the go

Smartphones and tablets, together are the most sought-after gadgets this time around. This is consistent with the findings from our Digit survey. The category has seen so many new offerings off late. In tablets, you have several Android Honeycomb devices apart from the ubiquitous iPad 2. While as far as smartphones go, there are now battles being fought in specifications. Where just a few months ago, you had 1 GHz as the norm now you have dual-



Dual core phones - the way to go

core mobile devices from several manufacturers. When it comes to smartphones, based on our analysis of trends, if you are going in for a high-end phone i.e. upwards of ₹24,000 our advice would be to go the extra mile, and go for a dual-core solution with a good GPU. The reason is pretty simple, future proofing. Requirements of future operating systems and even high-end applications such as games will compel you to possess a high spec phone



Shop Smart this Diwali

Practical advice to make the best purchases this season

in the near future. You might have already heard of the TegraZone game store for Tegra 2 powered phones and tablets.

If you plan to purchase a BlackBerry. your best bet would be to hold off on that purchase until there are true QNX devices out from RIM. As it's been widely reported, the new Android app layer in RIM's QNX-based operating systems will let users access the ever-expanding Android ecosystem. The BlackBerry Colt, which is to be launched somewhere in the first quarter of 2012, is the QNX phone to look forward to. QNX will give you the best of both worlds - BlackBerry's efficient push mail and messenger, with the usability glory of Android apps.

When it comes to tablets, Agent 001 will give you the gyaan you'll need about this category. The crux of tablet purchase lies in the usage pattern that

Smart Tip

For more Diwali shopping advice, check out our November 2010 issue. Much of the advice has stood the test of time and holds true this Diwali too.

you're likely to follow. Most people who have had tablets for some time now use it as a portable screen around their house, which is Wi-Fi enabled. Very few actually go in for a 3G tablet and use it effectively while on the move, especially with the hassles involved in cutting SIM cards for tablets such as the iPad 2.

Hence, the best advice before purchasing a tablet would be to think about how you intend to use it and for how much time. As for whether it can replace a laptop, most people will reply with a resounding "no". However, if you're just a social networking junkie, who likes his web videos and the occasional email, there's no reason why a tablet won't work for you.

Laptops

Laptop-buying mostly depends on the configuration. There are literally hundreds of permutations and combinations that are possible in this space. Still,



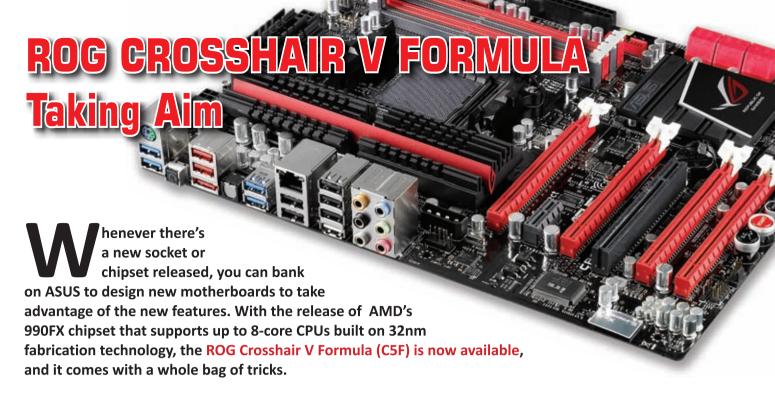
Bridge mobile

processors

looking at the specifications of your prospective laptop,

you'll find the processor names to be similar i.e. Core i3, Core i5. However, check for the exact part number. If it's a three-digit number such as Intel Core i3-380M, then it belongs to the older generation. What you would ideally want is a next generation Sandy Bridge processor also named Core i3 or i5, but with a four-digit part number such as Core i3-2310M especially if you engage in processor-intensive tasks like encoding or rendering. Another tidbit of advice is to no longer consider the 10.1 inch netbook formfactor seriously; at least not with the current generation of Atom processors that they come with. A better

bet would be to wait for the Oak Trail



3-way SLI on an AMD board? No way. Uh, way! AMD motherboards traditionally only supported multiple graphics cards if they were running in CrossFireX mode, but the C5F breaks through with support for up to 3-way CrossFireX and SLI mode. Wait. What? That's right, this bad boy is able to house **NVIDIA®** graphics cards in 3-way SLI mode, so you have choice when it comes to how you want your video displayed. The C5F also has the revamped GPU TweakIt so you can adjust the GPU's settings from an external notebook in real

ThunderBolt and lightning, very, very frightening!

time without rebooting.

The C5F also comes bundled with the ROG ThunderBolt, which was first introduced with the ROG Rampage III Black Edition back in March. This lovely piece of tech combines two often overlooked features: LAN performance and audio. It features a Bigfoot
Networks™ powered NPU with
Game Networking DNA software to
optimize gaming network traffic in
real-time. To keep your ears
entertained, a XONAR™ powered
audio solution drives crisp audio so

you can hear every little detail in games.

Sound and speed to dominate

The C5F is embedded with an Intel® Ethernet port for super quick

connections, but also ROG exclusive Game- First technology to prioritize and optimize network traffic, so

you can download and game at the same time without always getting lag-pwned. The onboard audio isn't the basic audio in most motherboards, but a SupremeFX X-Fi with built-in 8 channel support. It'll provide you with EAX Advanced HD as well as THX TruStudio

sound so you'll hear

life-like in-game audio, such as footsteps from when your enemy turns the corner right into your waiting gun.

Performance Royalty

The AM3+ CPU support is definitely nice, but the software got a nice bump in features as well. There's the new UEFI BIOS that's controllable with a mouse. No more jamming on the keyboard while you adjust BIOS settings, just click, click, click away. Once you've booted up, you can use the CPU Level-Up feature, which gives gamers like myself a quick boost of power to the CPU for even better performance.





range of Atom processors to hit the scene. Look out for Atom Z670-based netbooks in the near future. Also, let's not forget the dark horse, AMD, in this department. A prudent choice is to go in for netbooks based on AMD's Fusion APU such as the C50.

SmartTVs or Idiot boxes?

This Diwali vou're bound to find vourself inundated with offers on "Smart TVs" or products with identical nomenclature. At the most basic level, these networked TVs offer you nothing more than a few sources of web content via a wired LAN port. Instead of getting caught up in the fancy terminology, (much like 3D or LED) what you must think about is whether you have a home network in the first place. Remember, you'll need a spare LAN cable from your router to use the functionality of a Smart TV to the fullest. If your home setup fulfills this requirement, think about whether you're the type who will actively view web content on the TV. Also check out the exact sources of web content as it may not be of relevance to the Indian audience. Considering all this, you may not want to pay an exorbitant premium on these so-called Smart TVs. Of course, in the long term such TVs may be the way to go. but as of now does it makes sense buying them, is what you have to ask yourself.

Components

Most geeks also opt in for components to upgrade their rigs every Diwali. As per indicators,



ries can be predicted for a short term fairly accurately. For instance,

it's being said that RAM modules (DDR3 of course) are going to remain cheap till December.

Smart Tip

When buying headphones or in-ears, it's best to look for them online. In the offline world when you go to malls or big format retailers you have a very limited range to choose from. Most places will not stock the exact model that you desire. Most places won't even let



you demo the products, so what's the point of going to a physical store? Instead look for speciality audio gear at places such as primeabgb.com, lynx-india.com, and pristinenote.com. Many of these online retailers have shops on eBay.in too.

Another popular category in components is building HTPC rigs. These rigs can also double up as download rigs and are usually paired with a large screen TV. In this space, currently going in for a Llano A75 chipset does make sense but only if you're not going to use it for processor-intensive tasks such as rendering or transcoding. Apart from these tasks, the on-board GPU is good enough for basic gaming.

Another nugget of information for the AMD fans to mull over in case you're thinking of going in for a Phenom II X6 processor, it could be prudent to wait for the Bulldozer range to come out. As per most estimations, by the time you're reading this, Bulldozer may already be out.

Cameras

Cameras are an evergreen segment, but purchases do spike in the shopping season. If you're willing to spend close to ₹35,000, it would be a good idea to look at compact system cameras. Micro Four Thirds offer a lot more functionality over regular point-and-shoots, so much so that they're popularly called semi-dSLRs. Prices in this range are likely to go south and the entry of Nikon with its latest mirrorless 1 J1 camera is an encouraging game-changer in this space.



All-in-one desktops

All-in-one (AIO) desktops may not be the most popular category with hardcore geeks, but these PCs find many takers with families. AIOs make good "home" PCs thanks to their attractive form factor and space-saving ability. These desktops are found at retail chains such as Croma or Ezone and many people opt for these. They're based on mobile chipsets similar to the mainboards found in laptops. One of the things to remember in this case is that you won't be able to easily upgrade components in the long run, so choose the specifications wisely. Also, some AIO desktops come with TV tuners which let them double up as TVs. Some models from Lenovo even let you view TV without booting into Windows, keep an eye out for such conveniences offered by some of the brands.

The last word

Hopefully, some of these tips will help you find your way to the smartest purchases of the season. After all, who doesn't want a bargain? Who doesn't want bragging rights for getting a steal

and making the wisest purchase? Good wishes and happy shopping.







'When performance meets luxury

Autocar India has labeled the Cruze 'BLACK CLASS'. It can have

titanium stitching and heaps of power makes it one suave package. Swooning already? Get in line. that effect on people. Stunning jet-black interiors, exquisite

150 PS 2.01 VCDi diesel engine Corvette inspired twin-cockpit

New jet-black interiors 6-speed automatic

PRE-OWNED VEHICLES

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www.chevrolet.co.in

CHEVROLET



CUSTOMER ASSISTANCE CENTER 30308080







Mithun Mohandas readersletters@thinkdigit.com

Come October and Diwali is here! Bursting firecrackers is one of the things that come to mind. The fear that someone close to heart could get hurt is ever present when firecrackers come into the picture. So, we at Digit decided to come up with a safe way to set off firecrackers from a distance

Instructions:

The circuit relies on a simple timer IC 555 set in monostable mode to generate a pulse long enough to trigger the fireworks but not long enough to melt the heating filament.

In Fig.1, we see a resistor and a capacitor labelled R and C, respectively. It is by varying the value of these two components that we get the time period for the heating element to stay on.

Item	Value	Quan- tity
IC 555	NA	1
Resistor	10 k Ω	2
Capacitor	0.01uF	1
(Ceramic)		
Capacitor	100uF 25V	1
(Electrolytic)		
Dry Cell	9V	1
Nichrome/	NA	1 foot
Tungsten wire		
PCB	5cm X 5cm	1
Switching	2N3055	1
Transistor		
Connecting	NA	As re-
wires		quired
Lead Acid	12V 7Ah	1
Battery		

Formula: 1.1 x R x C = T

R=Resistance (Ohms)

C=Capacitance (Farads)

T=Time Period (seconds)

When we used a $10k\Omega$ (10.28k Ω on multimeter) resistor and a 100uF capacitor, our time period came down

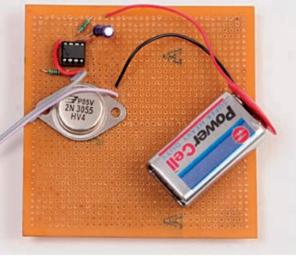
to 2.2 seconds. Theoretically, our value should've been 1.1 seconds. This can be due to varying tolerance of the components. We were able to ignite fireworks with a

pulse of 1.8 seconds, so a 2.2-second pulse is capable of heating multiple heating elements. For varying the time period, use varying capacitance values and solve for R. Ensure that R is within $1k\Omega$ - $11M\Omega$. If it's not, then vary the capacitor till you obtain R within the the permitted values.

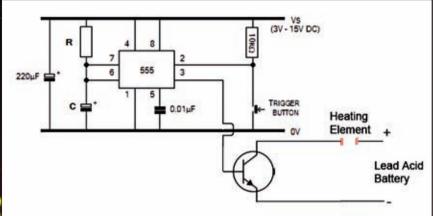
The pulse generated from the IC555 is then used to trigger a switching transistor (2N3O55) which is connected to the power source. We salvaged a 12volt 7Ah lead acid battery from an old UPS for setting off multiple ignition points. If you're using any other power source ensure that the voltage rating is well within the transistor's capabilities. Also, if you wish to use the lead acid battery, then an enclosure must be made for the entire circuit and it should be well reinforced. The enclosure must be able to withstand whatever firecracker you're going to set off. We're basically short-circuiting the battery terminals which leads to production of Hydrogen gas from the electrolyte inside. Hydrogen being highly flammable will burn at 4 per cent con-

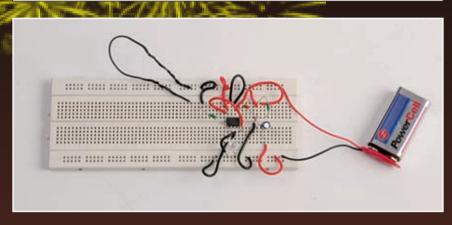
We place the components onto the PCB prior to soldering to get a good compact arrangement. Try to avoid having any wires touch the metal transistor as it will get really hot during operation. You may extend the connecting wires of the push button to a distance safe enough for bursting firecrackers











Prototyping the circuit on a breadboard

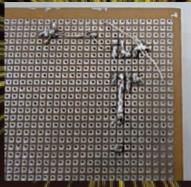
centration so the enclosure will require to be ventilated after a few ignitions.

The heating element is formed by coiling some Nichrome/Tungsten wire or any metal with high electrical resistance compared to the connecting wires you'll be using. Ensure that the connecting wires are thick and of low resistance, ideally 22AWG. The heating element can be attached

> intermittently to set off multiple firecrackers. If you can't get the proper wire thickness, don't try this project! The



The final circuit with a battery to power the circuit. The positive terminal of the lead acid battery is connected to the tab of the transistor and the negative terminal to pin 2 of the transistor. Copper wires are used to connect the lead acid battery to the transistor with a nichrome loop in series to act as the heating element



The connections at the back of the circuit, looks pretty messy but it's way better than a breadboard

heating element gets hot fairly quickly and is often used for triggering synchronised fireworks. Also, the heating element should be as close as possible to the battery. Basically, the entire loop that connects the transistor-heating elementbattery will get hot so rather than having a huge loop, a smaller loop would help reduce the time pulse required.

A best case scenario would be if you happened to get your hands on some Nichrome wire as it heats up rather quickly so one only needs a really short time pulse.

You can set up an entire array of fireworks to ignite at the very same moment, or using multiple IC555 delay circuits create time pulses of varying duration. If you can find out the time gap between individual notes of a song, then you can create a synchronised firework display. It's great fun!

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Ever thought how the PCB came to be? Head over here to learn all about it. http://bit.ly/pcbhst

PCB etching

Instead of using breadboards or handmade PCBs, etch your own for a more compact electrical circuit

Mithun Mohandas readersletters@thinkdigit.com

n the coming months, we'll be concentrating on a few DIY projects that would look really messy and complicate the wiring if we stick to the usual perforated PCB (Printed Circuit Board). Hence, we'll start using EAGLE (Easily Applicable Graphical Layout Editor) and make PCB CAD drawings and then etch them onto copper-plated PCBs. There are multiple methods to do the same and we'll be using the Toner Transfer method. Here is a simple tutorial on how to make your own PCBs.

Things you'll need

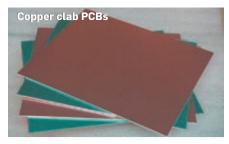
- Copper-clad PCB of any dimension
- 2. Laser printer
- 3. Glossy paper
- 4. Cloth iron
- Few grams of Ferric Chloride (FeCl₃) or Hydrochloric Acid (HCl)
- Hydrogen Peroxide (H₂O₂)
- Acetone 7.
- Emery/sand paper (2000 grain) or steel wool or any fine abrasive cloth
- Plastic container bigger than the PCB
- 10. Nail varnish
- 11. Steel/plastic tongs
- 12. Latex gloves

Steps to follow

- 1. Use EAGLE to create your PCB CAD file. The interface is pretty easy to use.
- 2. Export the CAD file as a PDF or image file.
- 3. Print the CAD file onto the glossy paper using the Laser printer. This method will only work with laser printers and the basic principle is to transfer the toner onto the PCB.
- You must keep the copper-clad board free of any fingerprints. If there are any, then use acetone to clean your PCB. If needed, use the emery paper

- to roughen up the entire surface and wipe with the acetone again.
- 5. Align the glossy paper with the printout face down onto the copper-plated side of the PCB. Use masking tape to ensure that the paper won't move.
- 6. Iron the paper now so that the toner transfers from the printout onto the PCB. You'll have to set the cloth iron to a high temperature.
- 7. Let the board cool down before peeling off the paper. Use a little water to rub off the paper if needed.
- 8. Ensure that the traces can be easily seen, if any are damaged then wipe clean with acetone and redo the entire process.
- 9. In the plastic container prepare a mixture of Ferric Chloride solution and Hydrogen Peroxide (1:2 ratio by volume).
- 10. Immerse the board in the solution and observe as the parts of the board not covered by the toner are eaten away by the solution.
- 11. Using FeCl₃ takes considerably more time to etch compared to HCl. Depending on the strength of the acid, the etching may complete 3 minutes or 30 minutes.
- 12. Remove the board from the solution once the exposed copper portion has dissolved and wash it down. Wipe with acetone and check whether all the traces are proper.
- 13. Solder all the components and then use the nail varnish to cover up the exposed copper to prevent an oxide layer from forming on them. You may tin the exposed copper using solder as well. Enjoy your custom PCB!

Important: The above mentioned chemicals are pretty harmful, avoid inhaling its fumes or coming in direct contact. Carry out the etching part in an open-air environment. Wear gloves at all times, if the molarity of the acid is too high, even gloves would be useless and they would etch too fast. d

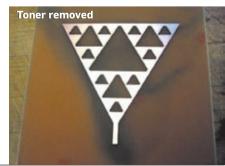
















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Scan the GR Code and win **Toolbox**



Not entirely true, but BAE systems has come up with a system to clone the infra-red signatures of various objects



ported on Android 2.2 out of the box. It's supported on Android 2.3. But beware,

rooting an Android phone voids warranty and is potentially dangerous.

You can brick your device if you don't

Windows 7 on your PC then you can

download the installer. Connectify

acts like a software router and helps

you connect your phone to your PC.

Hello, I am a reader of Digit and my

Processor: Intel Core 2 Duo

Graphics card: NVIDIA Series 8,

Audio driver woes

system config is as follows:

RAM: 2 GB RAM DDR2

Hard disk: 320 GB

go to www.connectify.me/features and

know what you're doing. If you're using

Companies backing up your HDDs, graphics card causing PC restart, synching backed up files...

Digit and our forum members help with troubleshooting these and more such queries

Will Seagate replace and back up my hard drive?

My system specs are:

- Motherboard: ASUS P5Q Pro
- Processor: Intel Core20uad 08200
- RAM: 2 x 2GB
- Seagate 750 GB HDD, 7200 RPM
- Graphics card: Nvidia 9500GT
- AMI BIOS (relevant)

My system has been hanging a lot lately and won't restart. It sounds a long beep followed by three short beeps, instead of the single short beep of a normal startup and I can actually hear the drives spinning when they start. I looked up for the AMI BIOS error beep codes online, and it said something along the lines of 'Bad or improperly seated RAM'. I tried swapping the two sticks, removing one of them, removing both of them, cleaning the DDR2 pins and all, but nothing worked. Luckily, I had a pair of empty low-performance slots on the motherboard (the black ones), so I switched the RAM sticks to that one and cleared the RTC by the CLRTC jumper. The next time I booted it up, I reconfigured the BIOS and rebooted it. A message saying 'SMART: BAD backup and replace' came up.

Once, previously, the same model (ATA ST3750523AS) had crashed without warning and since it was under warranty I got a replacement drive. This is the second time I'm having problems with my hard drive.

I use Windows 7 Ultimate and Ubuntu Ultimate Edition 2.9 (dual boot). I fired up the disk utility in Ubuntu, scanned my HDD, and it said the same thing: 'Failure is imminent, backup data and replace', with the description showing 'Reallocated Sector Count' in red.

The disk is still under warranty, and I plan to return it to the Seagate guys. It has not crashed, I can still access data for now.

What do you recommend I do? Can I get it repaired or do I have to go for a replacement? Can I get all my data restored to the new replacement HDD, since it is still accessible? Will Seagate itself do that, by default or for free?

Also, is there a workaround for the nowunusable high-performance DDR2 slots on my motherboard? Any help is much appreciated. Thanks in advance.

Jayanth M

The hard drive will be replaced, but vou better back up vour own data, as no company will do that for you for free.

As for the RAM slots, they are colour coded to show you channels, so both black and vellow are channels that allow you to con-



WD Live Hub TV

nect the RAM in dual-channel mode. Did you overclock your RAM? If not, it makes no difference which pair of slots you use.

Android phone's Wi-Fi set-up

My Android Phone - Samsung Galaxy Pop - is not detecting the ad-hoc Wi-Fi network set up by my laptop. Is there any software to solve this issue as it's frustrating that I cannot connect to the net.

Rajshekhar Srimala

You'll have to root your phone to enable ad-hoc mode as it's not sup-

The problem is whenever I install Windows 7 Ultimate on my PC, it doesn't take audio driver automatically.

Downloading the Realtek driver didn't

work. I'm unable to solve the problem,

kindly help me. Waiting for your reply.

Aditya Tiwari

You'll have to download the Realtek drivers specific to your motherboard. While downloading it from your motherboard manufacturer's web site, ensure that you select the correct Windows pack (Windows 7 Ultimate in your case) and OS version (32-bit



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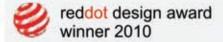
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Toolbox





A mini leopard

First Look at Ubuntu Linux 11.10 "Oneiric Ocelot" Beta http://lifehac.kr/no2jG3

or 64-bit). Maybe you're downloading 32-bit drivers and trying to install them on your 64-bit OS, or vice-versa.

NVIDIA graphics driver savs there's a problem

For the past 1-2 months, I've been getting a notification on the bottom-right of the taskbar "Address a problem with NVIDIA graphics Drivers". On starting my PC, sometimes I get the Blue Screen of Death (BSoD) and the computers restarts. It has happened four times in the past one month. I've installed the latest updated drivers from NVIDIA's web site but the notification continues to appear. Mv PC configuration:

- Ram: 2 GB
- Graphics card: NVIDIA GeForce GT240
- Processor: Intel(R) Core(TM) i3 CPU 530
- Operating Sysem: Windows 7 Home Basic(64 bit)
- Motherboard: Gigabyte

Sanchit Verma

You'll need to uninstall all NVIDIA drivers pertaining to your graphics card before installing the new drivers. You can do this by going to Control Panel > Add or Remove Programs and uninstalling the NVIDIA graphics card drivers. After uninstalling them, restart your PC. Now install the latest drivers. Hopefully this should prevent the appearance of the message in the taskbar.

Cow battery life despite charging

I had bought a Canon A590 IS after reading its good reviews in Digit approximately two years ago. The camera is working great but the battery has become a constant spoilsport. It feeds on two AA size batteries. I have used guite a number of batteries by now but have yet to find a proper solution to it.

I've tried Uniross 2100 mAh, 2500 mAh and Envie 2800 mAh by now, but they all stop responding properly after barely a month's use despite taking all precautions about charging durations. There is a constant low battery indicator blinking on the screen and the camera dies very soon.

Do you think I should go for batteries having higher power rating or go for another new age camera?

Bhanuvrat

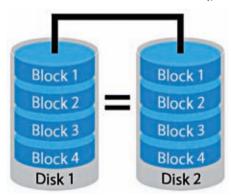
One way to check if there's a problem with the camera is to use a pair of alkaline batteries (AA Duracell, for instance). Ideally, a pair of Duracell batteries should give you at least 60-80 shots. If the low battery indicator is still blinking on the screen, then you need to get your camera serviced at Canon's registered outlets.

If the camera is working fine with the alkaline batteries, then maybe you should get a new pair of NiMH rechargeable batteries along with a new charger. Normally, rechargeable batteries have a limited number of charge cycles after which they will discharge quickly.

Sync and save

I am working as a Computer Programmer in KVK, Ghazipur. We have five PCs connected via internet/LAN. I want to store files/folders on two computers simultaneously through synchronisation software for safety in case of accidental damage. In this regard, let me know about best available synchronisation software available for us.

Ashish Bajpai



RAID 1 Configuration

Have you considered using RAID 1 (Mirroring) to ensure that all data is backed up on anywhere from two to four disks? By setting up your common HDDs in a RAID 1 configuration you have two disks storing identical data, so in case one disk fails, you'll still have your data backed up on the other disk. There are

many synchronisation software such as AllwaySync (http://allwaysync.com/) and ViceVersa (http://www.tgrmn.com/)

Upscaling options

You have done a very detailed review of media players on thinkdigit.com. I have a 55-inch Sony Bravia HDTV and Sony DVD player with upscaling and an HD media player (Chinese) with upscaling. The DVD player upscaling is good but I don't know if it is comparable with the new media players in the market. I will be thankful if you could reply for the following:

I'm interested in knowing the video quality only. For audio I use Bose system. I have mainly DVD rips. My TV does some upscaling but DVD player is better.

- How is the video upscaling quality of Asus HD2 and WD Live HUB in comparison with DVD player upscaling - better, same or worse?
- Among Asus HD2 and WD Live HUB which one has better upscaling?
- What about the Blu-ray players with upscaling - low range 9-10K (Sony LG). Are they better in upscaling as compared to media players. Thanks & regards

B.Vanjani

🕛 Well, a DVD/ Blu-ray player can do two different layers of upscaling video off an optical media or video off a USB drive. Since you haven't specified which one you're referring to, we assume it's videos off a USB drive.

Devices like the WD Live Hub and the Asus HD2 are just that much better in terms of the final video quality since it is their sole purpose of existence. The hardware is more powerful, and while the DVD players (and even the Blu-ray players) do a bit of this as well, HD media players do only this. Which is why the focus on quality and the required hardware. Mind you, we're talking about upscaling videos being played off a USB drive.

Between the two, the WD Live Hub is a better product overall: sleeker form factor, a superb interface and the 1 TB inbuilt storage is a huge bonus. It works well with streaming software like PS3 Media Server as well.

VIRTUALDUB

VirtualDub is a very simple, yet powerful video processing utility. Though it doesn't have the features of a full-fledged editing software such as Premiere Pro, it does provide the basic functionality for editing and splicing video files. Basic, repetitive tasks such as resizing can easily be handled by VirtualDub. It's also extremely easy to batch edit multiple video files.

Getting started

The basic VirtualDub interface is very simple. You can drag and drop to open a video file for editing. On doing that, you'll see two panes – one of the original video and another is the preview pane. If your PC is powerful enough, you'll be able to see the preview being generated in real time.

Basic requirement – codecs

As VirtualDub is primarily meant for editing AVI files, there are some essential codecs and software required that you'll need to edit MP4, MKV, MOV files, etc. The K-Lite codec pack, available at http://bit.ly/oG5LEH should be sufficient for most of your codec needs. While installing, make sure that you set file associations for "Win-



VirtualDub67	
Windows 8	
Adobe Lightroom 3.4.171	
Custom Firmwares for everything73	

an MP4 video located at C:\
Music\Videos\RandomVideo.
mp4, you must create an AVS file.
Open notepad and in the input
field type DirectShowSource
(C:\Music\Videos\RandomVideo.mp4). Save the file as
FileName.avs and then open it
in VirtualDub. Your MP4 file
should now be available for
editing. Bear in mind that your
output file will still be an AVI file.

TUse filters

An essential feature of VirtualDub is essentially a collection of presets similar to the

filters can be added at once by clicking on the "add" button and the video can be processed as specified. All the effects you labelled BR, BC, etc. which stand for bottom right, bottom centre and so on. These are used to position the logo. You can finetune the placement by adjusting the X and Y offset as well. The opacity of the logo is adjusted by moving the opacity slider or typing in the percentage opacity.

TAdjust video playback speed

Sometimes, you may want to add slow motion effects or speed up a video. To do this in VirtualDub, load your video and hit [Ctrl] + R or just select Frame Rate in the Video menu. Note the current frame-rate at the "No Change" radio button and select the "Change frame-rate to (fps)" and insert a frame-rate which you require. To double the speed of the video, enter a value which is double the default value. To halve the speed, enter a value



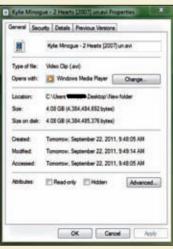
Filters in VirtualDub

apply can be previewed directly in the main window itself. Head here for more filters: http://bit.ly/gn0ts2.

TApply logos

Filters such as the logo filter can be used to add your own watermark to a video. This is useful in situations where you would want to upload a video to YouTube and such. To insert logos, hit [Ctrl] + F to open "Filters" and select "logos". In the new window that pops up, browse to your logo file, (any image file adjusted to the size you require) and click Ok. There are buttons at the bottom

which is half that of the original. In effect, suppose your frame-rate is 30 fps by default,



Size of a four-minute clip



VirtualDub User Interface

dows Media Player" instead of "Media Player Classic" bundled with the codec pack.

Next, you need to download a software known as AviSynth (http://bit.ly/2E05A2). Install the software. Now, to edit say, filters available in Photoshop. Hit [Ctrl]+F to open up the Filters tab. You can select from a wide variety of filters ranging from simple crop and re-size filters, to those such as motion blur, emboss and flip. Multiple





Command to reverse video

you enter 60 fps to double the speed and 15 fps to halve the speed. Next – and this is very important – in the frame-rate tab itself, select Convert to fps and input the default fps value, 30 fps as in the above example.

TReverse a video

There are many ways to do this; the simplest however, is by downloading and installing AviSynth using the link mentioned previously. For this procedure, save your video as an uncompressed avi file. To do this, hit [Ctrl] + P or navigate to Video > Compression > (Uncompressed RGB/YCbCr). Then hit File > Save as avi or F7. Now, in the folder in which the video is present, create a new TXT document or AVS file and save it as VideoName.avs. Open up the file for editing in notepad and enter AviSource("RandomVideo.

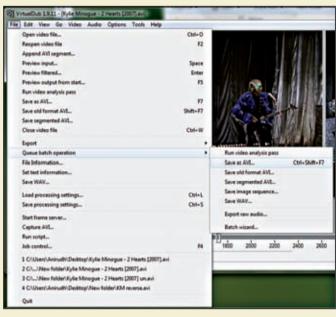
avi").Reverse() and save. Load this file into VirtualDub, add whatever filters you like, then save the file again as an uncompressed avi file. You can recompress this file later. Bear in mind that uncompressed files are massive and can take upto 5 Gb of space or more even for a small

four-minute clip, depending on the resolution.

Merge multiple files into one

VirtualDub provides a very simple tool for merging multiple

with the same settings. There are some things that must be done in order to append files from multiple sources with different frame-rates. First, open each clip individually in VirtualDub, hit [Ctrl] + R to open



Queue batch operation

files. You basically add the first video, go to File > Append avi segment and choose the next file in the list. Keep doing this till you have all the files you need. Finally, you just hit File > Save segmented avi to save the file. This is very simple and works very well if you are working with a single, edited video file, or multiple files recorded from the same camera

frame-rate adjustment, select Change frame-rate to (fps) and input a certain value, say, 30 fps, which you would require for the

entire video. Then, save the file as an uncompressed AVI file. Do this for each clip in the queue and then append them. To speed up the process you can also hit File > Direct Stream Copy. This will just attach the video streams and save you a lot of time. If you want to apply filters, etc. to

the entire appended video, you can use Full Processing Mode to ensure minimal errors.

TEdit batches

Batch editing is very simple. Open the video you want to edit, add whatever filters and settings you want, then go to File > Queue batch oper-

ation and select the type of output you want. [Ctrl] + [Shift] + F7 should suffice if you're just saving as AVI. Now, open up the next file you want to edit and again queue a batch operation as mentioned above. Individually edit and save settings for each file, otherwise, the settings you used for the previous file will carry forward to your new file. To run the batch, hit F4 or go to File > Job Control. You'll see a list of all the files queued up. Adjust the position in the sequence or add or remove files as required. Then, hit start for the batch editing of all the files to begin.

WINDOWS 8

Windows 8, Microsoft's latest OS, is currently free to try and is available for developers as a preview. The latest iteration brings with it a whole slew of design changes that hope to enhance the functionality of Windows as an OS.

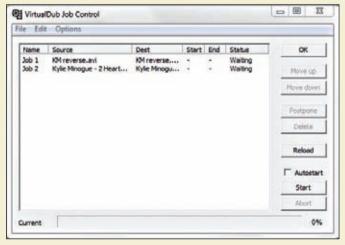
Tinstall Windows 8

Installing Windows 8 is very straight-forward. Download

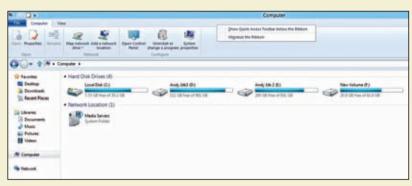


HyperV, an inbuilt Virtualization Software

the ISO file from http://bit.ly/r8eq03 or from the DVD bundled with this issue. You can mount the ISO within Windows 7 itself and upgrade directly to Windows 8. The advantage of this is that you'll have all your applications and settings migrating directly to Windows 8 and these will be



Job Control in VirtualDub



Explorer with the new Ribbon interface

accessible directly from within the OS. You can also use Microsoft's own Windows 7 to USB tool from http://bit.ly/ypAWf. Point the EXE file to the location of the .iso file and create a bootable USB drive with Windows 8. Alternatively, you can also burn the ISO file to a DVD and use that to install the OS.

The installation process is identical to Windows 7's and all you need to do is keep clicking next at each question. During the installation, you'll be presented with an option to customise the features; don't worry about this unless you're worried about privacy. The settings provided will allow you to customise the way your OS installation sends data about your usage to Microsoft.

After installation you'll see a start screen where you get to

choose the OS you want to boot into. Windows 8 Developer Preview is usually set as the

default. This is alright if you're going to use Windows 8 as the default OS, but if you boot into Windows 7 regularly you'll want to set that as the default OS. This is because if you get to the Windows 8 boot screen and then boot into Windows 7, your system will reboot and only then boot into Windows 7.

Working with the Metro UI

On boot up, you're greeted with the Windows Metro UI home screen. This UI is actually quite sufficient to manage your day to day PC usage. The desktop is still present and can be accessed using the Desktop tile. This home screen works pretty much like the home screen on any Windows phone or mp3 player. Any time you hit the "Windows" key on the keyboard, you will be presented with this screen.

Hit the key again, and you will return to what you were doing previously.

Multi-tasking in Windows 8

Windows 8 now has a different take on multi-tasking, unlike Windows 7, pressing the Windows key now suspends the active application you were working on and presents you with the home screen. These suspended tasks are still present in the background and consume RAM, but don't consume CPU resources. Opening the task manager ([Ctrl] + [Alt] + [Del]) will present you with a list of the running and suspended apps.



The new Metro UI brings a lot of Windows Phone 7-like tiles

The standard windows 7 shortcuts still work. The Aero Flip 3D using Windows+Tab has now been modified to present you with a shuffling animation.

You can choose to suspend those that you wish or you feel are consuming too many resources.

Task-switching, while it can be done via [Alt] + [Tab] or [Windows] + [Tab], can also be done via a mouse or touch input. If you bring your mouse to the extreme left of your screen and click, you will switch apps. You can also click and drag the applications out. If you pause with the application partially dragged out, you can pin it to the side of the screen as a vertical panel and still continue to work on your other apps. This is especially useful if you want to, say, keep track of your tweets or stocks while working. You can also click and drag apps and then drag them back to the left side and drag out again to shuffle through all the active apps. Prima facie, this may sound very complicated, but it's



Internet Explorer 10 as viewed in the new Metro UI





Mounting ISO files

actually very fast and intuitive once you get the hang of it.

Introducing Internet Explorer 10

The developer preview features Microsoft's touch version of IE10 in the Metro UI as well as a desktop version. The Touchbased IE10 has a new UI where the controls are at the bottom of the screen. Normally, these controls are not visible and you need to right click to access these features, including the tab bar. Touch-based IE doesn't support flash or WebM at this stage and if you are using it a lot, you might have trouble viewing certain sites. This can be a little frustrating at times, but there is a button present at the bottom right of the address

bar, clicking on which will give you the option of opening the link in the desktop browser.

Set up a virtual machine

The developer preview has an in-built virtual-machine system for creating and managing virtual machines called Hyper-V. It is not enabled by default. To enable it, open windows explorer by hitting [Windows]+[E] and selecting Open Control Panel. Alternatively, you can open the control panel via the Metro interface

and CPUs that support virtualization, so make sure that any such CPU features are enabled in the BIOS. If the installation was successfull, you will see Hyper-V Manager and Hyper-V Virtual Machine in the Metro interface. Click on them and set up your own VM.

TMount disk images

Windows 8 has an inbuilt iso file management software, which is quite useful. Very simply, rightclick on an ISO file and select mount to mount the image to a virtual drive and right-click on

control panel by clicking on the tile within the Metro UI, select Users > vour username > Create a picture password > or Create a Pin. When you create a pin, you'll be able to log in directly using a four-digit pin. This is handy, but not recommended for security reasons. The other alternative, a picture password, requires you to select a picture. How you interact with that picture using taps, straight lines and circles defines your password. This is not of much use to a desktop user, but it's useful if you're running a tablet.



The ubiquitous Start button

and select More Settings. Navigate to Turn Windows features on or off under Programs and features, enable all features of Hyper-V in the dialogue that pops up by checking the box marked Hyper-V and restart your system. Hyper-V core is enabled only on certain builds

the virtual drive within Windows Explorer and eject it to unmount the file.

TLog on

Windows 8 gives users the option to log on using a four-digit pin or use a picture password. To enable this, enter the

You can also log in using your Windows Live ID and password to get personalised notifications on the start screen.

Meet the ribbon

Microsoft has ported the ribbon from Office '10 to Windows Explorer. This is very handy but can be cumbersome on laptops and netbooks where viewing areas come at a premium. To minimise the ribbon, simply right-click on the menu bar and select Minimize the ribbon, repeat the same process to enable.

The title bar also has been enhanced a bit. The left side of the title bar has buttons for creating a new folder, viewing folder info, etc. You can also add extra buttons, if you so desire, by clicking on the small arrow right next to the properties button on the title bar.

TUninstall Windows 8

Finally, after you've finished messing about with the OS and



Persistent tabs

have decided that you prefer sticking with your previous OS for now, all you have to do is boot into the OS of your choice and delete the Windows 8 partition. In Windows 7, you press the Start button, search for disk management and delete the partition from there.

ADOBE LIGHTROOM 3.4.1

Adobe Lightroom is a very powerful software package designed for editing images. While not a photoshop replacement, this software houses all the essential tools that one would require for editing photographs.

TImport images

Images in Lightroom cannot be opened directly. This is because Lightroom uses catalogues. It is a sort of database in which Lightroom stores all the information about what you're doing to the image. This is good as Lightroom will never touch your original image and will only make records in the database. The problem here is that if, for whatever reason, your database gets corrupted you'll lose all the additions you made to your image as well. Therefore, it's essential that you keep



Lightroom 3.4.1

regular backups of your Lightroom catalogues.

Bear in mind that whether you import one image or a thousand, Lightroom will always create a catalogue. By default, your catalogue is stored in the C:\User\Pictures\Lightroom\Lightroom 3 Catalog\ and has a .lrcat extension. Catalogue settings are available under Edit > Catalog settings ([Ctrl] + [Alt] +,) and you can set personalised settings for each catalogue you use, including when to backup. Whenever you need an image for, say, posting online, make

sure to export it from Lightroom and then upload the exported file because, as mentioned earlier, your original file is untouched.

Manage your photographs

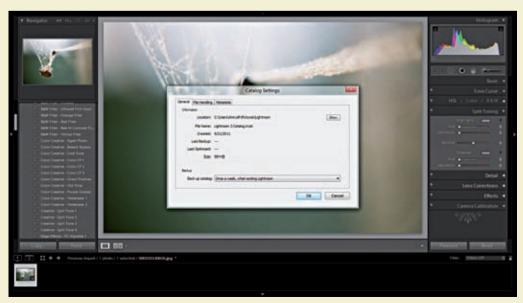
To add multiple images from multiple locations to a collection, all you need to do is select the photos you want in your new collection, hit [Ctrl] + N, give the collection a name, and then include selected photos. This is very useful as it works as a virtual library, something akin to the library folder of Windows 7 where your selected files,

regardless of their location on the disk, will still appear in the collection of your choice.

Adobe Lightroom also includes a feature known as Smart Collections, What this does is, vou select vour criteria for images in that collection, say, a three-star rating, then, every image that you give three stars to will end up directly in that collection. To set up this criteria, hit the "+" button on the collection panel on the left and give the criteria of your choice. Some shortcut keys to note here are B to add images to a temporary collection and P to flag images for later.

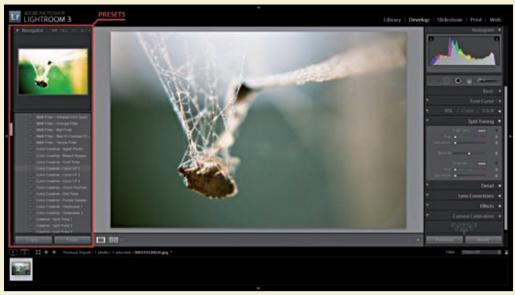
To Develop the images

Lightroom uses a .dng or Digital Negative format. The Develop tab is meant for "developing" this digital negative. This tab consists of a bunch of presets which can be used for directly applying effects to your image or images. The panel on the left side of the screen lists a whole pile of default presets. These are basically tweaks of white balance, contrast, colour temperature, etc. to produce a certain effect such as black and white, etc. Hovering over any of the presets will give you a preview of what that preset

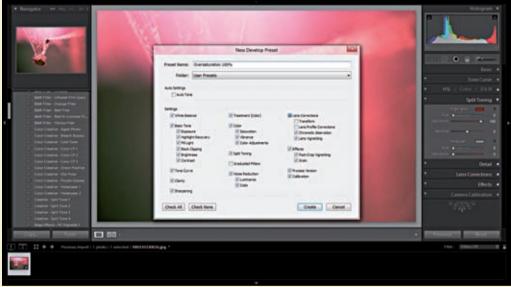


Change catalog settings

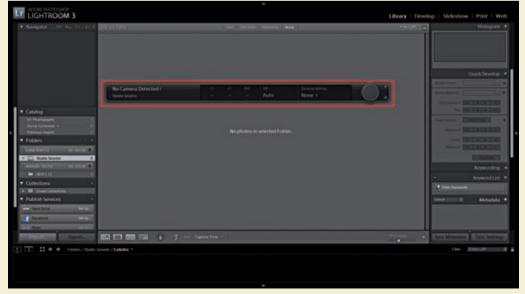




Lightroom presets



Saving a custom preset



Tethered capture

will do to your image once you actually click on it. You can apply any number of presets of your choice and then tweak them using the various sliders on the right panel. Any tweaks you make to an image can also be saved as a user preset. When you're satisfied with a setting of your choice hit [Ctrl] + [Shift] + NorDevelop > New Preset. Then enter a name, choose what parameters you want stored in the preset and click on "create". These presets are stored in the User Presets folder by default, you can create your own separate folders at any time.

Lightroom presets are also available online, free and paid, you can easily download any preset that you like and import it into Lightroom. Just download the presets, right click on the folder in the Preset panel that you would like to import the presets into, click import and select the folder where your presets are downloaded. Hit save and you're done!

**** Miscellaneous tips**

Supposing you want to edit multiple images the same way, navigate to Settings > Copy settings ([Ctrl] + [Shift] + C), then open up the second image and go to Settings > Paste settings ([Ctrl] + [Shift] + V) and you're done. The same settings will be applied to the second image as well.

It is a good idea to create an undo preset at the same time that you create a preset. What this does is lets you have the option to remove a preset that you applied without having the hassle of undoing all subsequent changes you made after applying the preset.

Keyboard shortcuts will make your Lightroom experience much smoother. The entire list of keyboard shortcuts is available in the help section or you can directly navigate to http://adobe.ly/aOJIs6

Result	Windows	Mac OS
Show/hide side panels	Tab	Tab
Show/hide all panels	Shift + Tab	Shift + Tab
Show/hide toolbar	Т	Т
Show/hide Module Picker	F5	F5
Show/hide Filmstrip	F6	F6
Show/hide left panels	F7	F7
Show/hide right panels	F8	F8
Toggle solo mode	Alt-click a panel	Option-click a panel
Open a new panel without closing soloed panel	Shift-click a panel	Shift-click a panel
Open/close all panels	Ctrl-click a panel	Command-click a panel
Open/close left panels, top to bottom	Ctrl + Shift + 0 - 5	Command + Control + 0 - 5
Open/close right panels, Library and Develop modules, top to bottom	Ctrl + 0 - 8	Command + 0 - 8
Open/close right panels, Slideshow, Print, and Web modules, top to bottom	Ctrl + 1 - 7	Command + 1 - 7

Keys for working with panels

Result	Windows	Mac OS
Go to Library module	Ctrl + Alt + 1	Command + Option + 1
Go to Develop module	Ctrl + Alt + 2	Command + Option + 2
Go to Slideshow module	Ctrl + Alt + 3	Command + Option + 3
Go to Print module	Ctrl + Alt + 4	Command + Option + 4
Go to Web module	Ctrl + Alt + 5	Command + Option + 5

Keys for navigating modules

Lightroom supports a feature known as tethering. This is very useful if you want to experiment with studio shoots, etc. and want to see your image directly on your laptop or PC. Most Canon and Nikon SLRs are supported and all you need to do is hook up your camera to your PC using its bundled USB cable, open up lightroom, go to File > Tethered Capture > Start Tethered capture. Now you can directly fire your camera from your laptop itself, within lightroom, as well as use the camera independently and have the images directly transferred to the lightroom library.

© Correct lens distortions

Lightroom supports lens correction as well now. This is basically a tool to correct the distortion present in most lenses. You just have to go to the Develop tab, scroll down to the Lens Corrections panel, Enable Profile Corrections and choose the correct lens from the list given. Currently most mainstream and pro lenses are supported, however, if your lens is not present in the list, you can manually adjust the settings till you're satisfied and actually save it as a preset.

CUSTOM FIRMWARES FOR EVERYTHING

Most devices these days have their own inbuilt operating system which offers you loads of services and allows for very few liberties. This is when users tend to take matters into their own hands and start modifying the firmware of their device to get what they want. After all, everybody wants more from their devices. Often the device manufacturer or the carrier that you have a contract with will restrict certain features of your phone or the only differentiating feature between two phone or camera models is just the firmware. Have a peek at what the community has to offer to unlock the true potential of your device.

TOpenWRT tips

For Routers
http://bitly.com/pepZRG
Current Version - 10.03.1RC5

OpenWRT is a Linux distribution for embedded devices which enables features hitherto unknown to you. We wouldn't recommend this for those not used to dealing with complex



settings involving way too many technical terms. OpenWRT can unlock the hidden potential of your router. It also allows you to choose the packages you want to install, thus, customisability is maximised.

How to install

Almost all routers that are supported by OpenWRT have their own webUI which will have the firmware upgrade page. This can be used to flash your router. All you need to do is:

- 1. Type in 192.168.1.1 (or 192.168.1.2 or whatever your router's IP address is.)
- Log in to the webUI using your id and password. (Default is 'admin' and 'admin', respectively.)
- 3. Navigate to the maintenance page and choose the firmware upgrade option.
- 4. Always back up your existing firmware before upgrading. Make a note of your current connection settings as well.
- 5. Upload the new firmware in the webUI and start the flashing process. Ensure that the router is not switched off while the flashing is in progress. The router will restart on its own and the process will be complete.

TRockbox tips

For PMPs

http://bit.ly/rockbx Current Version - 3.9.1



Rockbox is for PMPs. If your player was limited to only a few formats but the hardware supported much more, then Rockbox will make them available for you. It was programmed from scratch and utilises none of your original firmware. You can expect new features like support for more audio formats, gapless playback, better equilizer, multilingual interface etc. Then, you could also settle for games and





applications which PMPs usually don't have. For a full list of the features check out the web site for this hack.

How to install

Use the Rockbox Utility to install the firmware onto your device.

- Under the configuration windows, choose your device or auto-detect your device.
- Your mountpoint will be where your PMP is mounted on your device.
- 3. Select a Text-To-Speech (TTS) module if you want to and any other customisation which you'd like.
- 4. Click on the "Install Rockbox" button.

Rockbox can be updated using the same utility. Games, applications and other extras can be added separately or together with your Rockbox installation.

TCHDK tips

For Canon DSLRs http://bit.ly/ni83u5 Current Version : Varies from camera to camera



CHDK(Canon Hack Development Kit) is an add-on piece of software that runs at boottime to give you access to more features on your Canon DSLR

than what is natively supported. Some of the features you get are : Bracketing - quite a useful feature for taking photos of static objects under low light conditions, Motion Detection - get your camera to snap at the first hint of motion, access to live histograms, full control over the exposure settings etc. You can also take images as RAW if that was not possible previous to CHDK's installation. If you can script in Lua or UBASIC, then you can modify the existing features or add new.



How to install

Since CHDK is an add-on, it does not modify your original firmware & installing it is pretty easy. Just follow the instructions given below:

- 1. Find out the firmware version of your camera. Download the 'ver.req' file from the website and copy it onto the SD card, then press the function button and then the display button. This will give you the version of your camera.
- 2. Download the CHDK files for your firmware version.
- 3. Use the 'CardTricks' utility available on the website to make CHDK run everytime.
- 4. If you prefer to access CHDK only when you need it, then copy the files onto the root folder of your memory card.
- 5. Start the camera in view mode, choose the firmware update option and CHDK will start. This will only run CHDK till the camera is not restarted. So, in a matter of saying, this isn't a permanent

firmware hack in the strictest sense of the word.

TCyanogenMod tips

For Android Devices http://bit.ly/cyano Current Version: 7.0.3

CyanogenMod like every other firmware listed here give you access to more features that what your native firmware did. Some of them being - Native theming support, removing the Sense UI, gesture support, application permission management etc. It also allows you to browse via incognito mode an the Native theming support allows you to modify every element of the system UI. The preset gestures can be modified to suit your needs. Consider CyanogenMod to be an amalgamation of all the good features you can find in individual manufacturer firmware packaged into one.



How to install

You must root your device prior to installing CyanogenMod. Rooting is the process that gives you unrestricted access to your device's internal software. With rooting, you can do pretty much what you want with your device's firmware. Here's how you do it in this case.

- Get all the required files, viz., Android 2.3.5 Base Image, CyanogenMod file and a EB1 kernel, if needed.
- 2. Copy the update.zip file to the root folder of the SD card.
- 3. Disconnect the device and restart it while keeping the Home button pressed.

- 4. Select the option Wipe>Wipe data/factory reset.
- 5. After that, return to the home page and select Flash. zip from SD card. Then select DrC83_base_defanged.zip.



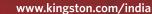
- 6. Select Flash zip from SD card again and then select CyanogenMod x.x. zip.
- 7. Let the installation finish and reboot the device.

General Instructions

- Follow the instructions properly.
- 2. Ensure your device is charged to the maximum capacity.
- 3. Back up the original firmware and all your files prior to the entire process.

Disclaimer

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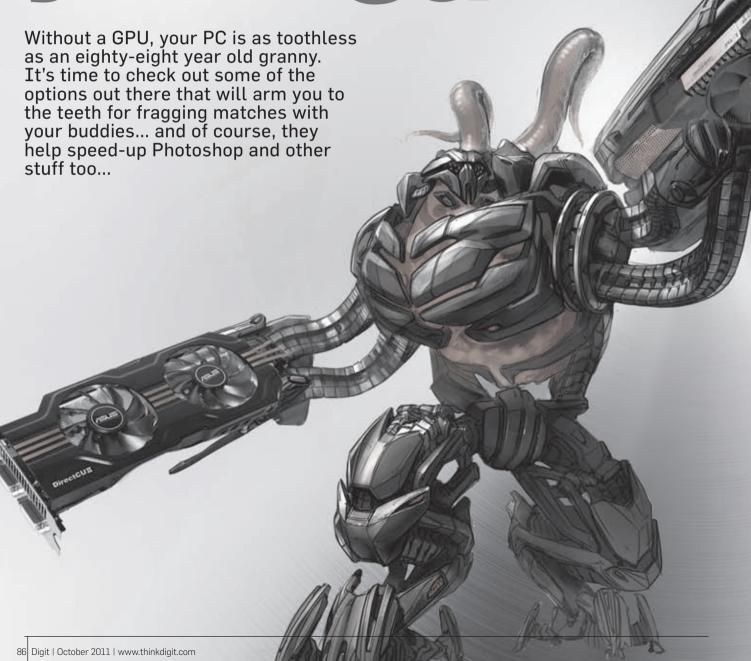
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LeVel-Up Your game



Gaming Skillz!

Gamers are supposedly suffering from Game Transfer Phenomenon, where they try to do in real life what they do in games

Nimish Sawant, Anirudh Regidi and Mithun Mohandas

readersletters@thinkdigit.com

aming is as important as any other application with the current crop of users. And to play a game, you need the right kind of card. With so many cards in the market, each with their own set of naming conventions and variation in specifications, picking the right card can be con-

> fusing. We at Digit understand this consumer dilemma. Keeping that in mind and, of course, the festive season of Diwali, when buying new items is a norm, we decided to pit over 40 of the best entry-level cards against each other.

Yes there are processors with integrated graphics, the latest being the AMD Llano APU which can play games upto 1680x1050 pixel in resolution. But for a great gaming experience, you do need a discrete graphics card.

Also, not everyone wants cards only for gaming. HTPCs are the new rage and with the proliferation of HDTVs in India, many readers want to set up an HTPC rig for which they'll need a card that will flawlessly play back HD content and even Blu-ray 3D content for 3D HDTV owners.

We kept the upper limit at ₹15,000 which we feel is the maximum a mainstream gamer would be willing to spend.

From ₹12K to ₹15K

This is the uppermost price bracket for this comparison test. Great performance is a given here but this category is where manufacturers try to entice the buyers with interesting accessories. Also many of the cards in this category were factory overclocked, thus giving the buyers more bang for the buck.

Here, the NVIDIA cards outnumbered the AMD cards 5:2. The surprise inclusion was HIS HD 6950 which was the only HD 69xx series card in the entire test. As for NVIDIA, there were three GTX 560 and two GTX 560 Ti.

Apart from the obviously impressive pricing of HIS's Cayman Pro GPU, the other card that stood out was the EVGA GTX 560 Ti which had a special Crysis 2 packaging on one side. The accesories will make any Crysis fanboy drool. Not only does it come bundled with a Crysis 2 Limited Edition disc, but also a Crysis 2 T-shirt and a huge *Crysis 2* poster. The card itself looks wonderful with a sturdy black plastic body.

MSI N560GTX and R6870 Hawk had the stock settings, whereas Asus GTX 560 was overclocked to 925 MHz (stock: 810 MHz), ZOTAC GTX 560 Ti AMP Edition was overclocked to a whopping 950 MHz (Stock: 822MHz) and finally EVGA GTX 560 Ti was overclocked to 900 MHz (stock: 822 MHz). MSI R6870 sports the Twin Frozr III branding which means it will run quieter and cooler, thanks to the sturdy heatsink and the metal chassis for housing the fans. This was the best looking card amongst the others in this segment. Asus GTX 560 is another good-looking card with twin fans. ZOTAC cards have the same appealing race car-like design which helps in dissipating heat faster. The ZOTAC GTX



560 Ti comes with Assassins Creed Brotherbood gaming coupon.

Performance

When it came to pure numbers, the higher end HD 6950 was tamed by the factory overclocked GTX 560 Ti. There was a battle between just two cards here as the performance of the rest was sufficiently lower. ZOTAC GTX 560Ti AMP Edition and EVGA GTX 560Ti gave a neck-to-neck performance in this segment, with the former beating the latter in all tests. The credit



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FirePro new launch

AMD has just launched its latest series of FirePro graphics card - the AMD FirePro V7900 SDI and a FirePro SDI-Link

Nvidia gaming event

Nvidia is organising a LAN gaming tournament in Mumbai on Öctober 14th http://bit.ly/r275YG

Tried & tested

for ZOTAC GTX 560Ti's good performance goes to the almost 130 MHz of overclock which was 50 MHz higher than the factory overclock of the EVGA GTX 560 Ti. This performance. however, comes at a cost. The load temperature on the ZOTAC GTX 560 Ti AMP Edition was touching 95 degrees

game. In addition to this, you get a mouse pad with the Duke Nukem logo and a belt buckle. The card is at stock settings though. Asus has around three cards

here: ENGTX 560, EAH 6870 and EAH 6850. The HD 6850

weapons guide, etc related to the

is overclocked by a mere 15 MHz and alongwith



C which also happens to be the hottest temperatures reached by any card in this comparison test. Also noise is quite audible in the ZOTAC card as compared to other cards.

MSI GTX 560 was the coolest card, with load temperatures under 50 degrees. HIS HD 6950 performed considerably lower in Dirt 3 at all test settings whereas in STALKER: Call of Pripyat, Crysis Warhead and Crysis 2, it came in as the third highest. In FarCry2 the factory overclocked Asus GTX 560 trumped the HIS HD 6950.

From ₹10K to ₹12K

In this category which is just above ₹10,000 there were around six cards. The card that stood out here was the EVGA GTX 560: Duke's Fully Loaded Package. The packaging was bulky with the Duke Nukem Forever logos all around. It houses the Duke Nukem Forever gaming CD, a Duke Nukem Forever: Balls of Steel Limited Edition guide which has all the artwork, history,

the ENGTX 460 comes the DirectCU name tag. It implies that the card has three copper heat pipes which are in direct contact with the GPU helping in dissipating heat faster. The EAH 6870 is very similar to the reference AMD design.

ZOTAC GTX 560 is a nofrills card whose design is similar to the GTX 560 Ti which has a race-car like appeal with grilled metal being held in place by a solid outer chassis.

HIS HD 6870 IceQX has an aqua blue shroud covering the heat sink along with a honeycomb design around the fan. This is a welcome change from the dark-coloured shrouds we're used to. To further help in heat dissipation, there are four heat pipes touching the GPU. The packaging also lays a lot of stress on the "Cool n Quiet" attribute.

Performance

ZOTAC GTX 560 tends to lead in most of the gaming benchmarks closely followed by EVGA GTX 560. In STALKER: Call of Pripyat, barring Asus EAH 6850, all other cards give equivalent scores at 1920x1080 resolution.

Crysis Warhead is still a tough game to conquer by this category of cards as compared to Crysis 2 as is seen in the scores. In Crysis Warhead the maximum framerate at 1920x1080 was around 31 fps achieved by ZOTAC and EVGA GTX 560s; whereas in Crysis 2, at the same resolution and Hardcore setting, the EVGA GTX 560 scored 55 FPS.

The importance of heat pipes touching the GPU to dissipate heat is quite evident in the load temperature readings of HIS HD 6870 IceQX and Asus ENGTX460. The load temperatures never crossed 52 degrees Celcius for these cards, with the HIS giving a temperature delta (Delta = Load temp - Idle temp) of just 25 degrees. The ZOTAC GTX 560 on the other hand touches 79 degrees Celcius with a temperature delta of almost 50 degrees. Asus EAH6870 which doesn't have heat pipes also gives a temperature delta of 39 degress which is considerably higher than that of ENGTX 460.

From ₹7K to ₹10K

This is the category that is the sweet spot for someone who's looking for more than entry -level gaming but at the same time wants to keep their budget under ₹10,000. There are a bunch of cards flooding the market in this range and with depreciation, end of life cards also feature in this price bracket.

We got around six GTX 550 Ti's within ₹7,500 and ₹8,500. There were more factory overclocked versions of GTX 550 Ti than stock versions. The ZOTAC GTX 550 Ti AMP Edition was about 100 MHz overclocked, whereas Asus GTX 550Ti was a mere 10 MHz overclocked. It really surprises us as to why Asus has such minutely factory overclocked editions, which barely make any substantial difference in the frame-rates as compared to the 50MHz or 100MHz overclocks.

MSI N550GTX Ti and R6850 are both Cyclone editions which means that they're factory overclocked. The heat sink and fan design is quite impressive on the Cyclone cards. Well, there's a passive heatsink which extends in a circular manner around the fan. Two heat pipes go on either side of the heat sink, and there's designer metal on top of the heatsink with the MSI branding.

EVGA GTX 465 bundles in an HDMI cable as well - quite rare with graphics cards. Sapphire HD 6770 bun-





coupon code for downloading Dirt 3.

Asus GTX 550 Ti comes with the Direct CU branding. ZOTAC GTX 550Ti and the GTX 550Ti AMP Edition have the same design as the GTX 560Ti. It does get a little boring to see the same design all the time though.

Performance

The MSI R6850 and EVGA GTX 465 are the two cards which have a performance advantage thanks to higher number of stream processors on both of them, as compared to the HD 67xx series and GTX 550Ti's. The HD 6850 has double the memory inter-

Kal-El update

Nvidia's Tegra 3 processor. Kal-El will have a companion core to the four cores. It works on low power on simple tasks.

Game swapping

Playr2.com is a web site where you can list the games you want to swap for some other game from the community. It supports PS3, XBox, Wii, PC, etc

Graphics Cards Test

HOW WE TESTED

Graphics cards are all about the performance and what matters is the frame-rates you're getting for your games. Keeping this in mind, we laid higher stress on the performance parameter than the features. We decided to break up the cards into price brackets so as to give each card a fair chance in its price segment. But first let's have a look at our testing righ.

Test rig

Processor: Intel Core i 7 980X Extreme Edition @ 2.93GHz

Motherboard: ASUS Sabertooth X58

RAM: 2 x 2GB Kingston DDR3 RAM 1333MHz @ 9-9-9-24 timings

HDD: Western Digital Velociraptor 600GB Operating System: Windows 7 Ultimate 64-bit

Monitor: Alienware OptX 2210 (1920x1080 pixel resolution)

Power Supply: Corsair HX 620W AMD Drivers: Catalyst 11.8 NVIDIA Drivers: 280.26 WHQL

We installed a clean copy of Windows 7 Ultimate on the 600GB drive and set it to Best Appearance. We installed the synthetic benchmarks such as Unigine Heaven 2.5 and 3D Mark 11. Unigine Heaven 2.5 runs on the Unigine gaming engine which lays stress on tessellation and simulates changing light conditions along with supporting DX 11.

We have introduced the 3D Mark 11 benchmark in place of 3D Mark Vantage, as 3D Mark 11 has a suite of tests which stressed the new features in DirectX 11 including tessellation, compute shaders and multi-threading.

The games used for testing were *Crysis Warhead*, *Crysis 2*, *FarCry 2*, *Resident Evil 5*, *STALKER: Call of Pripyat* and *Dirt 3*. No card review is complete without *Crysis Warhead* as it's very taxing on the GPU and built with scaling in mind. We also benchmarked *Crysis 2* which is the latest addition to the *Crysis* franchise as this game is garnering a lot of buzz around it.

STALKER: Call of Pripyat benchmark has really good lighting and shaders. Plus you can enable DX11 and tesellation. FarCry 2 is another game that is built with scaling in mind but compared to Crysis Warhead, is less taxing on the GPU. Resident Evil 5 is a third-person shooter with some good physics. Dirt 3 is a racing simulation game which will be a part of our graphics cards test from now on.

With these games all the major gaming genres have been covered. This will give you a good idea on how to judge the prowess of each card.

The temperatures of the card was also noted when the GPU Utilisation was 100 per cent. MSI Afterburner utility was used to measure the temperature, which was measured after running one instance of Unigine Heaven 2.5.

face width and 960 stream processors as compared to the HD 6770 and HD 6790 which have 800 of them. Similarly, each GTX 465 has 352 CUDA cores as compared to 192 of the

ASUS ENGTX 560

GTX 550Ti's. As far as performance goes, its a no-brainer, but the depreciation has got these

comparitively higher specced cards in this segment.

So let's concentrate on the remaining cards as that's where the fight is fierce. PowerColor HD 6790's 3D Mark 11 score

is more than the GTX 550Ti's but in all the gaming benchmarks, the ZOTAC GTX 550Ti AMP Edition just edges out to emerge as the one with the highest frame-rates. But when compared with the EVGA GTX 550Ti and MSI N550GTX Ti, the

difference is not more than five frames. PowerColor HD 6790 takes a hit in *Dirt 3* and *FarCry 2*

where it is 10 FPS below the fastest GTX 550Ti.

As always the ZOTAC GTX 550Ti AMP Edition tends to heat up the most, thanks to the highest factory overclock amongst comparable cards. MSI N550GTX Ti, on the other hand, left us quite impressed with load temperature around 50 degrees as compared to ZOTAC AMP Edition card which touches almost 80 degrees. Even the PowerColor HD 6790 was 20 degrees cooler. The MSI R6850 was under 60 degrees on load, despite being factory overclocked.



From ₹5K to ₹7K

This is the category with the maximum number of cards and it's one of the most sought-after price bracket. These cards will give you decent frame-rates for resolutions upto 1680x1050. These cards were also bench-





Cards	Under ₹	5,000					
Brand Model	XFX HD 6450	Galaxy GT520	Sapphire HD 6450	Forsa GT520	Sparkle GT520	Power- color HD6450	HIS HD 5670
Price (₹)	2,650	2,900	3,000	3,200	3,140	4,180	4,400
Features (Out of 10)	2.6	3.2	3.2	2	2	2	2
Performance (Out of 90)	16.42	11.28	11.03	15.29	10.73	10.28	18.6
Grand Total (Out of 100)	19.02	14.48	14.23	17.29	12.73	12.28	20.6
Specification and Features							
Type of memory / Memory Clock (MHz)	DDR3 / 533	DDR3 / 500	DDR3 / 667	DDR3 / 650	DDR3 / 500	DDR3 / 667	DDR3 / 500
Core / Shader Clock (MHz)	625 / NA	810 / 1620	625 / NA	810 / 1620	810 / 1620	625 / NA	775 / NA
No. of Stream Processors	160	48	160	48	48	160	400
Memory size (MB) / Memory Interface	1024 / 64-bit	1024 / 64-bit	1024 / 64-bit	2048 / 64-bit	1024 / 64-bit	1024 / 64-bit	1024 / 128-bit
Connects on Card	HDMI, DVI, D-Sub	HDMI, DVI, D-Sub	HDMI, DVI, D-Sub	HDMI, DVI, D-Sub	HDMI, DVI, D-Sub	DVI-D, D- Sub, HDMI	DVI-D, D-Sub, Display Port
Accessories Provided	Half Height adapter	2xHalf Height adapter	2xHalf Height adapter	None	None	None	None
Game Provided	N	N	N	N	N	N	N
Synthetic Benchmarks							
3D Mark 11 (Overall)	846	1070	898	1131	1028	911	2009
3D Mark 11 (Graphics)	729	936	774	988	898	788	1814
Unigine Heaven v2.5 (1680x1050, 4xAF, Max Shader, Extreme Tesellation) Score	66	81	75	89	74	74	151
Unigine Heaven v2.5 (1680x1050, 4xAF, Max Shader, Extreme Tesellation) Frame rate	2.6	3.2	3	3.5	3	2.9	6
Temperature (degrees C) (Load)	66	81	73	55	78	74	57
Temperature (degrees C) (Idle)	54	47	45	37	43	41	33
Game Benchmarks							
FarCry 2 (1280x1024, Ultra High, No AA) Avg	12.64	17.01	13.9	18.63	15.7	13.71	26.74
FarCry 2 (1680x1050, Ultra High, No AA) Avg	10.74	14.33	11.8	15.81	13.15	11.62	23.65
FarCry 2 (1920x1080, Ultra High, No AA) Avg	9.65	12.68	10.64	14.11	11.62	10.49	21.49
FarCry 2 (1280x1024, Ultra High, 4xAA) Avg	9.38	12.6	10.57	14.38	11.59	10.44	19.85
FarCry 2 (1680x1050, Ultra High, 4xAA) Avg	7.87	10.44	8.89	11.95	9.61	8.73	16.72
FarCry 2 (1920x1080, Ultra High, 4xAA) Avg	7.08	9.24	7.99	10.89	8.43	7.86	15.14
S.T.A.L.K.E.R : Call of Pripyat (Day, 1680x1050, No AA, DX11, Ultra Detail) Avg	9.6	14.3	11	18	13.11	10.9	22.5
Resident Evil (1680x1050, 4xAA, Motion Blur on)	12.9	14.7	14.5	16.5	13.6	13.8	27
Resident Evil (1920x1080, 4xAA, Motion Blur on)	11.2	12.9	12.7	14.3	11.9	12.5	23.6
Crysis Warhead (1280x1024, DX10, Med) Avg	8	13	10	14	12	9	17
Crysis Warhead (1680x1050, DX10, Med) Avg	7	10	8	11	10	8	14
Dirt 3 (1280x1024, No AA, Details Medium) Avg	20.59	25.6	22.43	25.04	23.69	22.13	46.37
Dirt 3 (1680x1050, No AA, Details Medium) Avg	16.2	20.89	18.15	22.33	19.81	17.53	36.63
Dirt 3 (1920x1080, No AA, Details Medium) Avg	14.37	18.43	15.92	19.91	17.21	15.35	31.73

marked at full HD resolution to see game performance.

Asus ENGTS450 has an elaborate cooling mechanism. On the top, you have the sturdy black multi-finned passive heat sink and two heat pipes, forming an inverted U-shaped loop which touches the GPU for faster heat dissipation. On the right-hand side the heat sink extends a good four cm beyond

the printed circuit board of the card. Also, this card is an underclocked version and houses DDR3 memory instead of the GDDR5 that is part of the reference model.

Another interesting GTS 450 card was the Galaxy GTS450 overclocked version whose fan can be detached to minimise the noise. Galaxy had another GTS 450 at stock set-

Optimus Maximus!

Anandtech's exhaustive test of the mobile switchable graphics offerings from AMD and Nvidia (Optimus) http://bit.ly/nDJLhK

AMD HD 7900 update

According to a leaked report, AMD's next gen flagship graphics card will feature XDR2 memory which is expected to be operating twice as fast as GDDR5

Graphics Cards Test

	Contact sheet									
Brand	Company name	Phone no. E-mail address		Web site						
XFX	Rashi Peripherals Pvt Ltd	91 22 4047 0828	response@rptechindia.com	www.reptechindia.com						
Power Color	Abacus Peripherals Pvt Ltd	022-40914603/604	enquiry@abacusperipherals.com	www.abacusperipherals.com						
HIS	Tirupati Enterprises	919339207519	mail@tirupati.net	www.tirupati.net						
Sapphire	Aditya Infotech Ltd	120-4555666	Sales@adityagroup.com	www.adityainfotech.com						
Asus	ASUS Technology Pvt. Ltd.	18002090365	reachus@asus.com	www.asus.in						
MSI	Top Notch Infotronix India Pvt Ltd	044-40000007	enquiry@zebronics.info	www.zebronics.net						
EVGA	Tirupati Enterprises	919339207519	mail@tirupati.net	www.tirupati.net						
Forsa	Tirupati Enterprises	919339207519	mail@tirupati.net	www.tirupati.net						
Galaxy	Technology and Gadgets	022-23823331	sales@technologyandgadgets.com	www.technologyandgadgets.com						
Zotac	Aditya Infotech Ltd.	0120-4555666	sanyam_sethia@adityagroup.com	www.zotac.com						
Sparkle	Abacus Peripherals Pvt Ltd	022-40914603/604	enquiry@abacusperipherals.com							

tings. ZOTAC GTS 450 is factory overclocked to 810 MHz. It has a very mediocre-looking shroud which bends easily.

There was a variety of AMD cards in this segment such as the HD 6670, HD 6570, HD 6750 and the slightly older HD 5670.

XFX HD 6570's dark brown coloured PCB houses a considerably large heatsink and fan. XFX HD 6670 has a bulkier packaging and a round heatsink which houses the fan as well. Sapphire HD 6750 comes with a complimentary coupon code for *Dirt 3* – an interesting accessory at this price point. The HIS HD 6670 and HD 6750 look similar in terms of design, except for a bigger cooling section and crossfire port and power connector port on the HD 6750.

Performance

PowerColor HD 6670 has a memory clock of 500 MHz and

uses DDR3 memory. Not only is a slower memory used, but the memory clock is reduced to half its reference clock speed. This lower specification is reflected in the scores where the older generation Asus EAH5670 scores considerably higher than PowerColor HD 6670 thanks to GDDR5 memory. Infact, the PowerColor HD 6670, accompanied by another PowerColor HD 6570, is the slowest among all the other cards in this category.

The HD 6670 cards sports faster GDDR5 memory such as HIS HD 6670 and XFX HD 6670. The gain over HD 5670 becomes clear. In all the benchmarks, HIS and XFX HD 6670 were ahead of the HD 5670 by a few frames. Both these cards start going under 30 fps with STALKER: Call of Pripyat of around 1680x1050 resolution. Crysis Warhead is not playable at Very High settings on 1680x1050 resolution and higher. But barring the HD 6570s and the PowerColor HD

6670, you can play this game with a11 other cards provided the settings are medium at 1680x1050. As for Crysis 2 only Galaxy GTS 450, Sparkle GTS 450, ZOTAC GTS 450 and Sapphire HD 6750 crossed 30 fps at 1680x1050, Hardcore settings. Dirt 3 is the only game that is comfortably playable with all the cards in this segment at 1280x1024 with

Forsa GTS 450, Asus GTS 450 and Galaxy GTS 450 (stock speeds) are based on DDR3 memory. The difference in performance is quite conspicuous. Also, the Forsa card having 2

anti-aliasing (AA) disabled.

GB memory does not affect its score much. Infact it's overkill for this card if you're going to

use a single monitor. The higher memory will make sense if you have a multi-monitor setup.

XFX HD 6450

Asus and Galaxy GTS 450 were the only cards that heated up to 72 degrees C. ZOTAC GTS 450 was not the hottest card in this segment, a welcome change compared to the other segments.

Cards under ₹5,000

This category comprises cards which are not meant for



Tried & tested

Cards	₹ 5,001 to ₹	7,000								
Brand Model	HIS HD 6670	ASUS EAH 5670	Power- Color HD 6670	XFX HD 6670	Galaxy GTS 450	Sparkle GTS 450	ASUS ENGTS 450	XFX HD 6570	Power- Color HD 6570	
Price (₹)	5,200	5,300	5,399	5,500	5,800	5,999	6,000	6,080	6,080	
Features (out of 10)	2	2	2	2	2	4.3	2.6	2	2	
Performance (Out of 90)	29.98	25.95	21.13	30.87	30.84	39.31	28.27	23.06	21.45	
Grand Total (Out of 100)	31.98	27.95	23.13	32.87	32.84	43.61	30.87	25.06	23.45	
Specifications and Features										
Type of memory / Memory Clock (MHz)	GDDR5 / 1000	GDDR5 / 1000	DDR3 / 500	GDDR5 / 1000	DDR3 / 800	GDDR5 / 940	DDR3 / 1189	DDR3 / 800	DDR3 / 667	
Core / Shader Clock (MHz)	800 / NA	775 / NA	800 / NA	800 / NA	783 / 1566	790 / 1579	595 / 800	650 / NA	650 / NA	
No. of Stream Processors	480	400	480	480	192	192	192	480	480	
Memory size (MB) / Memory Interface	1024 / 128-bit	1024 / 128-bit	2048 / 128-bit	1024 / 128-bit	1024 / 128-bit	1024 / 128-bit	1024 / 128-bit	1024 / 128-bit	1024 / 128-bit	
Connects on Card	DVI-D, D-Sub, HDMI	HDMI, D- Sub, DVI	DVI-D, D-Sub, Dis- play Port	HDMI, DVI, D-Sub	DVI, D-Sub, HDMI	2x DVI, Mini HDMI	DVI, D-Sub, HDMI	DVI-D, D-Sub, HDMI	DVI-D, D- Sub, HDMI	
Accessories Provided	None	None	None	None	Molex to 6-pin power	2x molex to 6-pin, D-Sub to DVI adapter, MiniHDMI to HDMI	Power cable	None	None	
Game Provided	N	N	N	N	N	N	N	N	N	
Synthetic Benchmarks										
3D Mark 11 (Overall)	2916	2798	2027	2914	3499	3812	2881	2189	2076	
3D Mark 11 (Graphics)	2689	2560	1846	2689	3351	3628	2676	1974	1870	
Unigine Heaven v2.5 (1680x1050, 4xAF, Max Shader, Extreme Tesellation) Score	303	250	165	310	308	409	266	196	179	
Unigine Heaven v2.5 (1680x1050, 4xAF, Max Shader, Extreme Tesellation) Frame rate	12	9.9	6.6	12.3	12.2	16.2	10.6	7.8	7.1	
Temperature (degrees C) (Load)	55	57	46	51	52	52	72	52	49	
Temperature (degrees C) (Idle)	33	30	34	32	29	28	54	37	34	
Game Benchmarks										
FarCry 2 (1280x1024, Ultra High, 4xAA) Avg	40.22	36.09	21	40.93	44.94	62.18	40.27	26.72	24.14	
FarCry 2 (1680x1050, Ultra High, 4xAA) Avg	34.34	30.8	17.66	35	36.87	52.28	33.24	22.68	20.42	
FarCry 2 (1920x1080, Ultra High, 4xAA) Avg	31.31	27.94	16	31.96	33.7	48.08	30.39	20.57	18.53	
S.T.A.L.K.E.R : Call of Pripyat (Day, 1680x1050, 4x AA, DX11, Ultra Detail) Avg	28.8	23.1	15.03	29.1	26.8	41.3	24.5	19.1	17.3	
S.T.A.L.K.E.R : Call of Pripyat (Day, 1920x1080, 4xAA, DX11, Ultra Detail) Avg	25.2	20.1	13.43	25.8	23.8	36.5	21.9	17	15.4	
Resident Evil (1680x1050, 4xAA, Motion Blur on)	59.4	50.3	28.4	56.6	47.5	69.3	43.2	36.7	32.9	
Resident Evil (1920x1080, 4xAA, Motion Blur on)	55.5	44.9	24.9	50.5	41.3	60.8	37.7	32.3	29	
Crysis Warhead (1680x1050, DX10, Very High) Avg	15	13	6	15	15	20	13	9	8	
Crysis Warhead (1920x1080, DX10, Very High) Avg	13	12	6	14	13	18	11	8	7	
Dirt 3 (1280x1024, 4x AA, Details High) Avg	56.56	50.53	33.64	57.03	58.57	77.96	53.33	40.56	37.55	
Dirt 3 (1680x1050, 4x AA, Details High) Avg	47.81	42.3	28.39	47.43	49.99	64.81	42.82	33.51	30.92	
Dirt 3 (1920x1080, 4x AA, Details High) Avg	43.29	37.87	24.57	42.54	44.55	58.85	39.4	30.79	28.15	
Crysis 2 (1920x1080 Hardcore)	19.87	17.63	12.15	20.3	18.9	26.75	16.32	13.16	11.94	
Crysis 2 (1680x1050 Hardcore)	22.75	20.22	10.55	23.22	22.1	30.86	19.48	15.11	13.74	



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						From < 7,001		contd. on ne	
	HIS HD 6750	Forsa GTS 450	Galaxy GTS450	ZOTAC GTS 450	Sapphire HD 6750	HIS HD 6770	PowerColor HD 6790	ASUS ENGTX- 550Ti	ZOTAC GTX 550 Ti AMP Edition
	6,300	6,400	6,600	6,700	6,900	7,300	7,499	8,400	7,900
	2.9	2.6	2.6	4.1	6.3	4.1	2.8	2.6	4.1
	35.37	27.95	40.97	38.47	36.09	41.23	46.42	44.79	47.21
	38.27	30.55	43.57	42.57	42.39	45.33	49.22	47.39	51.31
	GDDR5 / 1150	DDR3 / 667	GDDR5 / 924	GDDR5 / 902	GDDR5 / 1150	GDDR5 / 1200	GDDR5 / 1050	GDDR5 / 1025	GDDR5 / 1100
	700 / NA	783 / 1566	825 / 1650	810 / 1670	700 / NA	850 / NA	840 / NA	910 / 1820	1000 / 2000
	720	192	192 Unified	192	720	800	800	192	192
	1024 / 128-bit	2048 / 128 - bit	1024 / 128-bit	1024 128-bit	1024 / 128-bit	1024 / 128-bit	1024 / 256-bit	1024 / 192-bit	1024 / 192 - bit
	DVI-D, D- Sub, Display Port	DVI, D-Sub, HDMI	HDMI, DVI, D-Sub	2xDVI-D, HDMI, Display Port	HDMI, DVI, Display Port	2xDVI-D, HDMI, Display Port	DVI-D, HDMI, Mini-Display Port	DVI, HDMI, D-Sub	2x DVI, HDMI, DisplayPort
	DVI to D-Sub, 6pin power adapter	1x6pin power adaptor	1x6pin power adaptor	DVI - D-Sub, 6pin power con- necter	1x6pin power adapter, DVI-D- Sub Adapter	DVI - D-sub, 6pin power adapter	DVI to D-Sub adapter	1x molex to 6-pin adapter	molex to 6-pin converter, DVI to D-Sub adapter
	N	N	N	N	Y, Dirt 3 Coupon	N	N	N	N
	3646	3348	3909	3878	3649	4318	4960	4265	4630
	3440	3210	3738	3705	3443	4198	4956	4118	4535
	325	277	419	412	334	385	557	479	516
	12.9	11	16.6	16.4	13.3	15.3	22.1	19	20.4
	58	51	72	66	52	59	59	65	79
	39	28	52	31	32	42	33	32	32
	51.5	39.37	63.39	62.76	52.77	59.02	64.93	76.13	80.77
	44.11	32.17	54.55	52.76	45.36	49.56	56.23	65.48	69.17
	40.33	29.26	49.25	48.58	41.31	46.71	51.85	56.29	63.4
	36.1	22.9	43.1	41.2	36.8	42.9	50.2	50.3	53.7
	31.6	20.3	37.3	36.6	36.6	38	44.2	44.2	47.2
	67.5	41.1	70.7	69.6	69.5	78.1	87.3	82.8	88.7
	60.3	35.8	62.2	61.1	62.1	69.6	78.2	73.1	78.1
	17	13	21	20	17	19	25	24	25
	15	12	18	18	15	17	22	21	23
	69.45	52.02	79.91	81.07	70.86	79.46	84.64	93.94	103.8
	57.93	42.91	67.28	65.58	60.16	68.51	73.38	79.63	86.59
	51.77	39.88	61.43	60.59	55.33	63	67.77	70.78	78.29
	25.3	16.57	27.21	26.98	26.02	30.33	33.68	32.1	34.5
_	28.91	19.4	31.43	31.14	29.7	34.6	38.36	37.5	40.26



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Cards	From ₹7,001	1	l				
Brand Model	ZOTAC GTX 550Ti	MSI N550 GTX-Ti	Sapphire HD 6770	EVGA GTX 550 Ti	Galaxy GTX550Ti	MSI R6850 Cyclone	EVGA GTX 465
Price(₹)	7,600	7,700	7,900	7,950	8,500	9,900	9,900
Features (Out of 10)	4.1	3.7	6.3	3.1	2.6	4.7	4.3
Performance (Out of 90)	43.67	46.95	41.21	48.48	44.52	58.57	56.13
Grand Total (Out of 100)	47.77	50.65	47.51	51.58	47.12	63.27	60.43
Specifications and Features							
Type of memory / Memory Clock (MHz)	GDDR5 / 1026	GDDR5 / 1075	GDDR5 / 1200	GDDR5 / 1089	GDDR5 / 1025	GDDR5 / 1100	GDDR5 / 802
Core / Shader Clock (MHz)	900 / 1800	950 / 1900	850 / NA	952 / 1903	900 / 1800	860 / NA	608 / 1215
No. of Stream Processors	192	192	800	192	192	960	352
Memory size (MB) / Memory Interface	1024 / 192-bit	1024 / 192-bit	1024 / 128-bit	1024 / 192-bit	1024 / 192-bit	1024 / 256-bit	1024 / 256-bit
Connects on Card	2x DVI, HDMI, DisplayPort	2xDVI, 1x mini HDMI	HDMI, DVI, Display Port	2xDVI-D, Mini HDMI	DVI-D, D-Sub, HDMI	2xDVI-D, HDMI, Display Port	2XDVI-D, Mini HDMI
Accessories Provided	molex to 6-pin adapter, D-Sub to DVI adapter	6pin power adapter, Mini HDMI-HDMI, DVI-D-Sub,	1x6pin power adapter, DVI-D-Sub Adapter	DVI - D-Sub, 1x6pin power adapter	6 pin power adapter	DVI to D-Sub, 6pin power adapter, Crossfire Bridge	Mini HDMI - HDMI extension cable, DVI- D - D-Sub, 2x6pin power adapter
Game Provided	N	N	Y, Dirt 3 Coupon	N	N	N	N
Synthetic Benchmarks							
3D Mark 11 (Overall)	4247	4443	4316	4452	4251	5834	5756
3D Mark 11 (Graphics)	4097	4318	4197	4331	4103	6056	5840
Unigine Heaven v2.5 (1680x1050, 4xAF, Max Shader, Extreme Tesellation) Score	470	492	395	505	536	630	628
Unigine Heaven v2.5 (1680x1050, 4xAF, Max Shader, Extreme Tesellation) Frame rate	18.7	19.5	15.7	20	21.3	25	24.9
Temperature (degrees C) (Load)	72	51	55	55	64	58	77
Temperature (degrees C) (Idle)	30	27	34	34	33	42	38
Game Benchmarks							
FarCry 2 (1280x1024, Ultra High, 4xAA) Avg	74.73	77.63	60.38	79.46	74.11	90.41	87.69
FarCry 2 (1680x1050, Ultra High, 4xAA) Avg	62.87	65.6	52.28	67.88	62.15	78.41	73.92
FarCry 2 (1920x1080, Ultra High, 4xAA) Avg	57.99	60.16	47.86	62.08	57.81	72.1	67.53
S.T.A.L.K.E.R : Call of Pripyat (Day, 1680x1050, 4x AA, DX11, Ultra Detail) Avg	49.6	51.8	43.9	52.9	48.9	64.6	64.3
S.T.A.L.K.E.R : Call of Pripyat (Day, 1920x1080, 4xAA, DX11, Ultra Detail) Avg	43.4	45.4	38.7	46.8	43	57.6	57
Resident Evil (1680x1050, 4xAA, Motion Blur on)	81.3	85	80.2	87.2	80.7	110.1	103.1
Resident Evil (1920x1080, 4xAA, Motion Blur on)	71.6	74.8	71.4	76.7	71.1	99.7	91.2
Crysis Warhead (1680x1050, DX10, Very High) Avg	23	24	20	25	23	31	31
Crysis Warhead (1920x1080, DX10, Very High) Avg	21	22	18	22	20	28	27
Dirt 3 (1280x1024, 4x AA, Details High) Avg	94.84	95.73	81.46	99.42	91.33	102.44	112.49
Dirt 3 (1680x1050, 4x AA, Details High) Avg	79.08	79.96	69.95	80.63	75.66	87.01	92.37
Dirt 3 (1920x1080, 4x AA, Details High) Avg	72.83	74.52	63.24	74.97	70.06	80.55	83.83
Crysis 2 (1920x1080 Hardcore)	31.55	33.37	31.08	33.91	31.22	42.82	46.12
Crysis 2 (1680x1050 Hardcore)	36.35	38.05	35.46	39.05	36.03	48.59	59.84

Corsair's vengeance gaming

Corsair is hosting an online Call of Duty 4 tournament with a \$10,000 prize pool http://bit.ly/rhrif3

Greatest graphics cards ever

Tomshardware has compiled a list of graphics card that were the best in the business all the way from '95 http://bit.ly/rdK4IF

Graphics Cards Test

gaming. But for an HTPC setup, they make the ideal choice. There are around six cards in this category from various brands based on the Caicos CPU (for AMD cards) and the GF 119 GPU (for NVIDIA cards). All the HD 6450s (XFX, PowerColor, Galaxy and Sapphire) were of the half-height form factor and barring PowerColor every one came with the

LP bracket included. Heatsinks on all the cards were passive ones with the Galaxy HD 6450 having a heatsink with comparitively more fins and an extension on the left-hand side of the card. Forsa GeForce GT 520 and Sparkle GeForce GT 520 are also half-height form factor cards but they sport a small fan along with the passive heatsink. Considering their low power

profile, all the cards are at DDR3 memory.

reference settings. The HD 6450 and GT 520 cards that we got all had the slightly older

Performance

The gaming scores weren't that promising. GeForce GT 520 cards performed better than HD 6450 in most of the

benchmarks. The only game that seemed remotely playable at present settings was Dirt 3, with the GT 520 touching 25 fps at 1280x1024, Medium settings. On going lower, you'll get better frame-rates. Forsa GT 520 was the coolest among all the cards on load, whereas the passive coolers on the HD 6450s were better than the fans of Galaxy GT 520 and Sparkle GT 520. As far as 3D Mark 11 was concerned only two cards crossed 1000 marks. Crysis Warhead is not playable at 1280x1024 on these cards. Resident Evil 5 and FarCry 2 are playable with the GT 520s on resolutions of 1024x768 and below.

Winners

We had a wonderful time testing out the cards and each category

had a lot of surprises to look forward to. Many categories had similar chipsets, which made the fight really close between the best of them.

ZOTAC GTX 560 Ti AMP Edition emerged as the overall Best Performer thanks to its supreme scores in all the benchmarks. This has got a lot to do with the factory overclock. At 950MHz, it is around 130 MHz overclocked from the reference settings. This also leads to a lot of heating. EVGA GTX 560 Ti was factory overclocked as well but its core clock was 25MHz slower than the ZOTAC card, thus giving scores close to the Best Performer.

Asus GTX 560 won the Best Buy as it gave a 92 percent performance to price ratio which





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Cards	₹10,001 to ₹12	2.000					
Brand Model	ASUS EAH6850 DirectCU	ĺ	HIS HD 6870 IceQX	ASUS EAH6870	ZOTAC GTX 560	ASUS ENGTX 460	
Price (₹)	10,400	10,290	11,250	11,500	11,500	11,500	
Features (Out of 10)	5	3.3	8.7	5.4	4.7	3.7	
Performance (Out of 90)	52.63	63.2	61.28	59.99	62.82	62.15	
Grand Total (Out of 100)	57.63	66.5	69.98	65.39	67.52	65.85	
Specifications and Features							
Type of memory / Memory Clock (MHz)	GDDR5 / 1000	GDDR5 / 1002	GDDR5 / 1050	GDDR5 / 1050	GDDR5 / 1002	GDDR5 / 1000	
Core / Shader Clock (MHz)	790 / NA	810 / 1620	900 / NA	915 / NA	820 / 1640	775 / 1550	
No. of Stream Processors	960	336	1120	1120	336	336	
Memory size (MB) / Memory Interface	1024 / 256-bit	1024 / 256-bit	1024 / 256-bit	1024 / 256-bit	1024 / 256-bit	1024 / 256-bit	
Connects on card	2xDVI-D, Display- Port, HDMI	HDMI, 2xDVI-D	2xDVI-D, HDMI, 2x Mini Display Port	2xDVI-D, HDMI, 2x Mini Display Port	2x DVI, HDMI, DisplayPort	2xDVI, 1xmini HDMI	
Accessories provided	DVI - D-Sub, 6pin power adapter, Cross Fire bridge, ASUS DVD Pouch	HDMI-MiniHDMI adapter, DVI- D- Sub adapter	DVI-D-Sub, 2x6pin power adapters, Cross- fire Bridge	DVI - D-Sub, 6pin power adapter, Cross Fire bridge, ASUS DVD Pouch	2x molex to 6-pin converter, D-Sub to DVI adapter	HDMI to DVI adapter, 6-pin molex power adapter, pouch for HDD	
Game Provided	N	N	Y, Dirt 3 coupon	N	N	N	
Synthetic Benchmarks							
3D Mark 11 (Overall)	5472	6076	6320	6331	6209	5943	
3D Mark 11 (Graphics)	5586	6331	6726	6743	6507	6156	
Unigine Heaven v2.5 (1680x1050, 4xAF, Max Shader, Extreme Tesel- lation) Score	590	718	687	684	726	695	
Unigine Heaven v2.5 (1680x1050, 4xAF, Max Shader, Extreme Tesel- lation) Frame rate	23.4	28.5	27.3	27.3	28.8	27.6	
Temperature (degrees C) (Load)	69	64	57	78	79	57	
Temperature (degrees C) (Idle)	38	33	32	41	30	30	
Game Benchmarks							
FarCry 2 (1280x1024, Ultra High, 4xAA) Avg	84.42	106.99	96.99	96.8	108.3	103.46	
FarCry 2 (1680x1050, Ultra High, 4xAA) Avg	73.22	94.25	84.34	84.45	93.88	89.37	
FarCry 2 (1920x1080, Ultra High, 4xAA) Avg	67	86.29	78.09	77.72	87.04	83.21	
S.T.A.L.K.E.R : Call of Pripyat (Day, 1680x1050, 4x AA, DX11, Ultra Detail) Avg	60.2	77.2	72.6	72.7	76.3	73	
S.T.A.L.K.E.R : Call of Pripyat (Day, 1920x1080, 4xAA, DX11, Ultra Detail) Avq	53	66.5	64.8	63.9	67.6	64.4	
Resident Evil (1680x1050, 4xAA, Motion Blur on)	102.9	118.1	118.4	117.7	118.8	114.7	
Resident Evil (1920x1080, 4xAA, Motion Blur on)	92.9	105.1	107	106.6	107.1	102.3	
Crysis Warhead (1680x1050, DX10, Very High) Avg	29	36	34	33	35	34	
Crysis Warhead (1920x1080, DX10, Very High) Avg	26	30	30	30	31	30	
Dirt 3 (1280x1024, 4x AA, Details High) Avg	94.61	127.11	108.92	109.77	134.82	130.08	
Dirt 3 (1680x1050, 4x AA, Details High) Avg	83.08	109.46	98.01	95.83	112.55	112.53	
Dirt 3 (1920x1080, 4x AA, Details High) Avg	75.58	102.41	88.27	87.37	103.53	101.56	
Crysis 2 (1920x1080 Hardcore)	39.57	48.42	47.48	47.01	49.36	46.37	
Crysis 2 (1680x1050 Hardcore)	44.89	55.73	53.22	54.1	56.06	53.39	

was the second highest after the Best Performer.

EVGA GTX 560Ti won the Editor's Pick as it gave a good score with performance and features. Also it bundles in Crysis 2 alongwith a T-shirt and poster under ₹15,000.

In the ₹10,000 to ₹12,000 price segment, Galaxy GTX 560 won the Best Buy thanks to its very economical pricing. As far as pure performance went, HIS HD 6870 IceQX was a better card and there was a 25 degrees C delta which was the best in this segment.

MSI N550GTX Ti won

the Best Buy in the ₹7,000 to ₹10,000 price category. In terms of pure performance, MSI R6850 and EVGA GTX 465 were much better, but at the same time priced higher than MSI N55OGTX Ti.







1	EVGA GTX560 .1,900 8.05 64.01	₹12,001 to ₹15,00 MSI R6870 Hawk 12,100 6.45	ASUS ENGTX 560 12,800	ZOTAC GTX560Ti Amp Edition	MSI N560 GTX	HIS HD 6950	EVGA GTX560Ti
1	.1,900 3.05 34.01	12,100			MSI N560 GTX	HIS HD 6950	EVGA GTX560Ti
8	3.05		12 800				
	64.01	6.45	12,000	13,500	13,800	14,400	14,750
le le			4.3	7.3	4.3	5.1	7.9
		61.6	68.8	76.36	64.86	66.77	72.74
7	2.06	68.05	73.1	83.66	69.16	71.87	80.64
G	SDDR5 / 1002	GDDR5 / 1050	GDDR5 / 1050	GDDR5 / 1100	GDDR5 / 1002	GDDR5 / 1250	GDDR5 / 1053
	310 / 1620	900 / NA	925 / 1850	950 / 1900	810 / 1620	800 / NA	900 / 1800
	336	1120	336	384	336	1408	384
1	.024 / 256-bit	1024 / 256-bit	1024 / 256-bit	1024 / 256-bit	1024 / 256-bit	1024 / 256-bit	1024 / 256-bit
	2xDVI-D, Mini-HDMI	2xDVI-D, HDMI, 2xMini- Display Port	Mini HDMI, 2xDVI-D	Mini HDMI, 2xDVI-D	Mini HDMI, 2xDVI-D	HDMI, 2xMini-Display- Port, 2xDVI-D	Mini HDMI, 2xDVI-D
E N !	dapter, 1 Duke Nukem Belt Buckle, 1 Duke		1x mini HDMI to HDMI adapter, DVI to D-Sub adapter, 2x molex to 6-pin adapter	MiniHDMI-HDMI,DVI- D-Sub, 2x6pin power adaptors	2x molex to 6pin adapter, HDMI to DVI adapter, DVI to D-Sub adapter	DVI-D-Sub, 1x6pin power adapter, 1xCrossfire bridge	Mini HDMI-HDMI, DVI-VGA, 2x6pin power adaptors, Crysis 2 T- Shirt, Crysis 2 poster
Υ	/, Duke Nukem Forever	N	N	Y, Assasins Creed: Brotherhood	N	N	Y, Crysis 2 Limited Edition
	6083	6299	6661	7351	6073	7094	7034
	3334	6705	7118	8136	6328	7796	7668
7	718	702	805	966	725	746	897
2	28.5	27.9	32	38.3	28.8	29.6	35.6
6	65	65	64	99	58	83	83
3	33	41	30	52	33	47	47
1	.07.05	98.73	116.13	128.52	109.58	108.27	121.6
9	34.31	86.27	103.47	117.54	96.3	96.44	110.58
8	36.1	79.63	95.1	108.62	87.94	89.92	101.68
7	77.1	72	84	96.1	77.1	84.9	92.5
6	37.1	64.3	74.4	86.5	68.6	76.2	80.4
1	18	118.6	125.5	134	120.4	129.6	127.3
1	.05	107.3	116.2	126.9	108.4	119.8	119.7
3	35	34	39	45	36	39	44
3	31	30	35	42	32	35	38
1	31.09	110.45	145.13	157	131.01	117.39	150.7
1	13.5	94.78	125.01	144.11	112.17	101.98	132.58
1	05.11	88.85	115.12	129.61	103.21	98.26	121.59
	55.34	47.62	54.05	63.32	48.65	54.34	58.39
6	61.4	53.9	62.91	71.68	55.26	61.26	67.05

Galaxy GTS 450 won the Best Buy in the ₹5,000 to ₹7,000 price bracket thanks to the factory overclock which edged it past the other GTS 450s.

Finally in the under ₹5,000 price bracket, XFX HD 6450 emerged as the Best Buy for its economical pricing. If you want a decent gaming card in this budget then it is better to go with HIS HD5670.

This battle was a whitewash, with NVIDIA cards winning all the major prizes. Poetic justice we would say, as last year we had most AMD cards out-

performing the NVIDIA ones. We cannot wait for both the companies to come out with their next generation cards by the end of this year or early next year.d

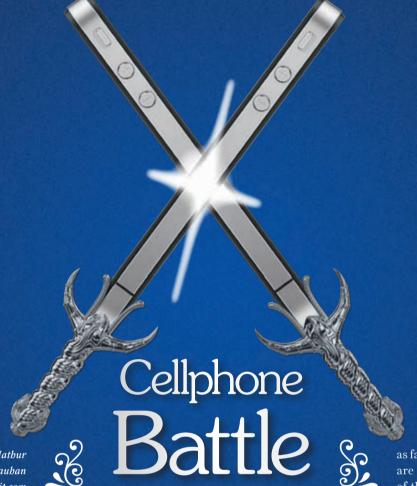
Tried & tested

Amazon AppStore goes global

Europe, Australia and India get local versions of the popular Amazon online store

Bionic troubles

Motorola Droid Bionic owners are hearing a high-pitched whine when playing media through headphones



Visbal Mathur Siddbarth Chauban teamdigit@tbinkdigit.com

he growth in the smartphone market isn't showing any signs of abating. A Frost & Sullivan report predicts that by the year 2015, about 477 million smartphones would have been sold in Asia. That gives it a total share of 54 per cent in the overall mobile phone market, up from just 9 percent in 2009.

The major reason is that the entry price point for smartphones is lower than ever before and you now also get more bang for your buck, despite these low prices. That's not all though, with a variety of platforms to choose from – Android, Symbian, Blackberry and Apple's iOS – there was never a better time to be a smartphone consumer. Sky's the limit.

Loser gets hung, drawn and quartered

The ₹10,000 - ₹20,000 price bracket for smartphones sees possibly the most cut-throat competition.
Which phone should you buy?

Our 2011 cellphone shootout edition takes a look at the smartphones in the price band between ₹10,000 and ₹20,000. It's only fitting that we do this just in time for the Diwali shopping frenzy. The winners will deserve the moolah you may spend to buy one of them, while the losers can keep working towards cracking the code and making huge inroads into the Indian market.

₹10K - ₹13K

If you have a budget that falls between ₹10,000 and ₹12,999, then the choice is pretty wide,

as far as Android smartphones are concerned. We've got ten of those in this test, and four of them are the touchscreen + physical QWERTY keypad combo ones. However, beware that buying a budget touchscreen phone does have its own little shortcomings. First off, the hardware won't be as good as a high-end smartphone. Everything - including the processor, RAM, display quality and the touchscreen responsiveness - will have slight unpolished edges. While this disclaimer doesn't aim to change your mind against buying a phone in this range, it will help you guard against any expectations that these phones will be like the premium phones.

Features, build and usability: Since we have phones of two different form factors, we'll take a look at each of them separately. First, let's deal with the

Dell insists that it won't follow HP in attempting to sell PC business



Dell XCD 35

best of both worlds - the touchscreen plus physical QWERTY phones. The Samsung Galaxy Pro has a pretty uniform design, Blackberry-ish as some say. The phone fits well in the hand; with a 2.8-inch touchscreen and keypad. It feels quite plasticky though. The second phone that falls in the same category is the Sony Ericsson Xperia X10 Mini Pro. This one is by far the smallest in this bunch, helped by the slide-out keypad. The size makes it very comfortable to use just as a touchscreen phone or even with the keypad. The updated design is much better than the one it replaces, and the build quality sees a massive improvement as well. The rubberised finish on the battery cover helps with the grip. It has by far the best build of all the touch + QWERTY phones in this range. The keypad seems to be a compressed version of the one we saw on the Nokia N97



Motorola Flipout

a long time back but it's softer on key response. The flat keys could have done with a slight bulge though.

The Motorola Flipout has the most unique design among the lot. The QWERTY swivels out on its axis—with the jury still out on how comfortable it is to use. The Motorola Charm has a traditional design, also seen on the Galaxy Pro. However, the Charm feels bigger than it actually is. The keys have a profound bulge on them, which makes typing on them an immensely comfortable experience.

Onto the touchscreen only phones now. Among a bunch of run-of-the mill designs-the likes of the Dell XCD35, Samsung Galaxy Fit, LG Optimus One, Motorola Quench XT502



Samsung Galaxy Fit S5670

and the Acer Liquid Mini—the slightest variation in design would stand out, and so it does, for the Sony Ericsson Xperia Mini. The 3-inch display ensures that it's the smallest phone of the bunch. The updated design on the new Mini and materials used mean that this one is comparatively superior to hold and use than its predecessor.

As a matter of fact, the Mini feels better than most of the phones in this category. While most of the phones feel as expensive as they are, the

Xperia Mini is built to feel a lot more expensive than it actually is. The goodness doesn't end there, Samsung's TouchWiz, Motorola's MotoBlur and even LG's UI aren't as good looking as the TimeScape UI on the Xperia Mini siblings.

Performance: With most of these phones there exist the limitations of the display, with regards to resolution and colour. However, the two Sony Ericsson siblings and the Dell XCD35 stand out with considerably better displays. All phones are on a relatively similar playing field in terms of call clarity across all 3-signal zones. What's impressive is that the that two Sony Ericsson phones perform best when the signal strength on your phone is at 25 per cent or less. While the rest of the cameras are on a similar level, the Dell XCD35 and the Motorola Flipout have by far the worst clickers out there. Surprisingly, the Motorola Quench XT502's camera is the best among them all.

And the winner is: Given that this category only had Android phones, the winner would need to do really well in terms of features and performance. The Sony Ericsson Xperia Mini, with a market price of



Sony Ericsson Xperia Mini



BlackBerry Curve 3G

₹10,000, is our Best Buy pick in this category. It comes with Android 2.3 preloaded, which no other phone, except its own sibling, comes with.

₹13K - ₹18K

This is the category where we see Blackberry OS5 and Symbian Anna fighting with Android. Even the old warhorse, A Nokia E72, still has enough on offer to hold its own in this category. We always love the underdog, don't we? Let's see how this lot fares.



Sony Ericsson Xperia Mini Pro

Features, build and usability: In this category, the touchscreen + QWERTY phones outnumber the touchscreen only ones 2:1. First through the door is the Blackberry Curve 3G. While we like its form factor, the build quality isn't impressive. It's quite plasticky and the optical trackpad and keys around it tend to buckle.

The Nokia E72 does a lot better, with its solid vet sleek build. It's been around for a while, yet the build quality is good enough to compete with



Brand	Samsung	Sony Ericsson	Dell	Samsung	
Model	Galaxy Pro B7510	X10 Mini	XCD35	Galaxy Fit	
Street Prices (Rs)	10,000	10,000	10,000	10,359	
· '	10,190				
Price (MRP, Rs)	18.93	13,380 17.89	10,990 17.20	10,710 18.94	
Features (Out of 30)	17.06	17.58	15.56	16.26	
Build and Ergonomics (Out of 20)					
Performance (Out of 50)	29.34 65.32	33.58 69.04	31.10 63.85	31.69	
Grand Totals (Out of 100)	05.32	09.04	03.85	66.88	
Features Feature	Day	Day	Dex	Dow	
Form Factor	Bar 320 x 240 / 2.8 / 256K	Bar (00 / 2 / 10M	Bar / 25 / 25 / 25 / 25 / 25 / 25 / 25 / 2	Bar 220, 700, 73.5 7, 10M	
Screen Resolution / Size (inches) / Max. Colours	320 X 240 / 2.8 / 256K	320 X 480 / 3 / 16M	480 x 800 / 3.5 / 256K	320x480 / 3.5 / 16M	
Touchscreen / Dual Screen (Y/N)	Y/N	Y/N	Y / N	Y/N	
Battery Rating / Talk Time / Standby Time (3G) * (Manufacturer rated)	1350 mAh / Up to 6 hrs 10 min / Up to 430 hrs	1200 mAh / Up to 320 h / Up to 4 hrs 30 min	1250 mAh / 4 hrs / 9 Days	1350 mAh / Up to 6hrs 30 min	
Dimensions (L x W x H) / Weight	108.6 x 66.7 x 10.7 / 103.4 grams	88 x 52 x 16 mm / 99 g	114 x 56 x 12.2 mm / 120 g	112.4 x 59.9 x 11.5 mm / 113g	
Operating System (Tested with)	Android 2.2	Android 2.3	Android 2.2	Android 2.2	
Hardware Keypad (Regular/QWERTY)	QWERTY	N	N	N	
Browsing (GPRS/EDGE/3G)	Y/Y/Y	Y/ Y/ Y	Y/Y/Y	Y/Y/Y	
Connectivity (WiFi/Bluetooth/IR/USB)	Y/Y/N/Y	Y/Y/N/Y	Y / Y / N / Y	Y/Y/N/Y	
Bluetooth Version/A2DP support	v3.0/Y	v2.1 with A2DP	v2.1 with A2DP, EDR	2.1/Y	
Camera Resolution (Mega Pixels)	3.15	5	3.15	5	
Video Capture Resolution	320 x 240	720 p	320 x 240	320X240	
Auto focus / flash / Type of flash	N/Y/LED	N/N/LED	Y/N/N	Y/Y / LED	
Music Formats supported	MP3, WAV, eAAC+	MP3/eAAC+/WMA/WAV player	MP3/WAV/eAAC+ player	MP3, AAC, AAC+, eAAC+	
Video formats supported	MP4, WMV, H.264	MP4/H.263/H.264/WMV player	MP4/H.264/H.263 player	MPEG4, H.263, H.264	
FM Radio / RDS (Y/N)	Υ	Y/Y	Υ	Y/N	
Bundled Accessories / Size of memory card provided	Charger, handsfree, USB cable, leather pouch / 2GB	Headset, data cable, wall charger / 8 GB	Wall charger, data cable, headset / N	Memory card, handsfree, charger / 2GB	
Build and Ergonomics (So 10)					
Surface materials used	5	7	7.25	5.5	
Overall build and in-hand feel	6.5	7.25	7	6.5	
Quality of moving parts	6.5	7	7.25	6.75	
Design and ergonomics	7.75	7.25	6	7.5	
Keypad design (on-screen or hardware)	7.5	6.25	5.75	6.25	
Menu and interface	6.75	7.75	5.75	6.75	
Settings and ease of navigating menus	7	7.25	5.5	6.5	
Performance					
Signal Reception and Voice Clarity (So 10)					
* * * * * * * * * * * * * * * * * * * *	7.5 / 6 / 4	7.75 / 6.75 / 6	6.5 / 5.5 / 4	7.5 / 5.75 / 4	
Handsfree Clarity / Loudspeaker Clarity / Earpiece Clarity	7 / 7 / 7.5	7.5 / 6 / 7	6 / 6.25 / 6.5	7.5 / 5.75 / 7.75	
, , , , , , , , , , , , , , , , , , , ,	8 / 6.5 / 6.5	6 / 7.25 / 7.25	7/7/7	6.5 / 7 / 7	
Imaging and multimedia tests	.,,				
Captured Photo Colour / Captured Photo Crispness / Captured Photo Detail	6 / 6.5 / 5.5	6.75 / 6.5 / 5.5	5.5 / 6 / 4.5	6.5 / 6.5 / 7.25	
Captured Video Quality		5.75	5	5.75	
Captured video Quarty	5.5			6.5	
Effectiveness of integrated flash	5.5	5.25	0	0.5	
Effectiveness of integrated flash		5.25 6.25 / 7.25	6 / 6.5	5.5 / 6.75	
Effectiveness of integrated flash Music Quality (loudspeaker) / Music Quality (handsfree)	0				
	0 6 / 6.5	6.25 / 7.25	6 / 6.5	5.5 / 6.75	
Effectiveness of integrated flash Music Quality (loudspeaker) / Music Quality (handsfree) Volume levels (loudspeaker) / Volume levels (handsfree)	0 6 / 6.5	6.25 / 7.25	6 / 6.5	5.5 / 6.75	
Effectiveness of integrated flash Music Quality (loudspeaker) / Music Quality (handsfree) Volume levels (loudspeaker) / Volume levels (handsfree) Display (So 10)	0 6/6.5 8/7	6.25 / 7.25 5.75 / 6.5	6 / 6.5 7 / 6.75	5.5 / 6.75 7.5 / 6.75	
Effectiveness of integrated flash Music Quality (loudspeaker) / Music Quality (handsfree) Volume levels (loudspeaker) / Volume levels (handsfree) Display (So 10) Colour	0 6/6.5 8/7	6.25 / 7.25 5.75 / 6.5 7.75	6 / 6.5 7 / 6.75	5.5 / 6.75 7.5 / 6.75	
Effectiveness of integrated flash Music Quality (loudspeaker) / Music Quality (handsfree) Volume levels (loudspeaker) / Volume levels (handsfree) Display (So 10) Colour Contrast	0 6/6.5 8/7	6.25 / 7.25 5.75 / 6.5 7.75 7.25	6 / 6.5 7 / 6.75 7	5.5 / 6.75 7.5 / 6.75 6 6	



₹1	0,000 to	₹12.999				
Sony Ericsson	LG	Motorola	Motorola	Acer	Motorola	Blackberry
X10 Mini Pro	Optimus One P500	Flipout	QUENCH XT502	Liquid Mini	Charm	Curve 3G(9300)
10,500	10,500	10,500	11,772	11,990	12,999	13,499
15,861	12,990	16990	15,990	11,500	15,990	13,750
20.63	18.06	17.74	17.20	17.99	17.96	15.71
17.06	17.35	16.09	17.21	15.33	16.69	15.93
33.36	31.49	29.42	32.38	34.30	31.81	29.60
71.05	66.90	63.25	66.79	67.62	66.47	61.24
	Bar	Bar	Bar	Bar	Bar	Bar
320 x 480 / 3 / 16M	320x480 / 3.2 / 256K	320 x 240 / 2.8 / 256K	320X480 / 3.2 / 256K	320 x 480 / 3.2 / 256K	320 x 240 / 2.8 / 256K	320 x 240 / 2.46 / 65K
Y / N	Y/N	Y / N	Y/N	Y/N	Y/N	N / N
"1200 mAh / Up to 340 h Talk time	1500 mAh / 7 hrs, 30 min / 550 hrs	1130 mAh / Up to 380 h / Up to 4 hrs 30 min	1270mAh / 8 hours 20 minutes/ 560 hrs	1300 mAh / Up to 480 / Up to 6 hrs 30 min	1130 mAh / Up to 334 h / Up to 5 hrs	1150 mAh / Up to 348 hrs Up to 5 hrs 30 min
	113.5 x 59 x 13.3 mm / 129 grams	67 x 67 x 17 mm. / 120 g	114.9 x 56.8 x 12.6 mm / 114g	110.4 x 57.5 x 13 mm / 108g	98.4 x 67.2 x 11.4 mm / 110	109 x 60 x 13.9 mm / 104 g
Android 2.3	Android 2.2	Android 2.1	Android 2.1	Android 2.2	Android 2.1	BlackBerry OS v5.0
Slide out Qwerty	NA	QWERTY	N/N	N	QWERTY	QWERTY
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/Y		Y/Y/N/Y	Y/Y/N/Y	Y / Y / N / Y	Y/Y/N/Y
2.1 / Y	2.1 / Y	v2.1 with A2DP	2.0 / Y	v2.1 with A2DP, EDR	2 / Y	v2.1 with A2DP
5	3	3.15	5	5	3	2
	VGA@18fps	352 x 288 @ 26-30 fps	320X480	704x480 pixels	24 fps	N/A
Y/Y / LED	N/Y/LED	N/N/N	N/N/N	N/Y/LED	N/N/N	N/N/N
	MP3/WAV/WMA/ eAAC+	MP3/eAAC+/WAV player	MP3, WAV, eAAC+, WMA	MP3, WAV, eAAC+, WMA	MP3, WAV, eAAC+, WMA	MP3/eAAC+/WMA/WAV/ FLAC player
player	DivX/Xvid/MP4/ H.264/H.263/WMV	MP4/WMV/ H.264/H.263/XviD player	MP4, WMV, H.263, H.264	XviD/MP4/ H.264/H.263	WMV	MP4/H.263/H.264/WMV player
Υ	Υ	Y/Y	Υ	Υ	Υ	N
microSD / 8GB	Handsfree, data cable, charger / 2GB	Headset, Data Cable, Wall Charger / N	MicroSD card, USB cable, handsfree / 2 GB	MicroSD card, wall charger, USB cable, carry case, microSD to SD adapter / 8 GB	free, AC adapter,	Memory card, data cable, wall charger and headset / 2 GB
0.5	0.75	0	7		7	0.5
	6.75	6	7	5.75	7	6.5
	6.75	6	6.75	6.5	6	6.5
	7	6.25	7.25	6.5	7	6.5
	7	7	7.5	6.75	7.25	7
	7	6.75	6.75	6	6.5	6.5
7.0	7	6.5	6.75	6.25	6.5	6.25
7.25	7	6.25	6.5	5.5	6.75	5.5
7.75 / 6.5 / 5.5	7 / 6.75 / 5	6.75 / 5.5 / 3.5	7 / 6.25 / 4.5	7 / 5.75 / 5	7 / 6 / 4.25	7 / 6 / 5.5
	7/5/7	6 / 5.75 / 6.25	6 / 7 / 8	7 / 6.5 / 7.5	7 / 7 / 7.5	7 / 6 / 6.5
	6/7/7	6.5 / 6.75 / 6.75	7 / 7.5 / 7.5	7/7/7	6.5 / 6.75 / 6.75	6.5 / 7 / 7
7 7	-, -, -	,,	, , , , , , ,	.,.,.	,,	
6.75 / 6.5 / 5.5	6/7/7	5.25 / 4.5 / 4.75	7/7/6	6.5 / 7 / 6.5	6 / 6.5 / 6	6.25 / 5.5 / 5.75
5.75	6	4.5	6	6.5	6	5
5.25	0	5	7	7	0	5.5
6.25 / 7.25	6/7	6 / 6.5	7/6	6.5 / 7	6.5 / 7	5.5 / 6
5.75 / 6.5	6/7	7/7	7/7	8/7	7 / 7	5.75 / 6.5
7.75	7	6	6	6.5	6.5	6.5
	7	6.5	6	7	7	5
6.75	5.5	6.5	7	7	7	5.5
	6	5.75	6	8	6	5
	6	5.5	6	6	5.5	5



	₹13,000 to ₹18,000					
Brand	Nokia	нтс	Motorola	Nokia	Acer	
Model	E72	ChaCha	Defv	E6	Liquid Metal	
Street Prices (Rs)	13,550	14,999	15,400	15,566	17,990	
Price (MRP, Rs)	15,168	17,990	21,990	18.679	17,999	
Features (Out of 30)	17.36	20.73	17.49	22.34	18.53	
Build and Ergonomics (Out of 20)	19.50	19.08	17.06	19.34	16.08	
Performance (Out of 50)	31.84	32.23	33.50	32.55	34.48	
Grand Totals (Out of 100)	68.70	72.04	68.04	74.23	69.09	
,	00.70	72.04	00.04	74.23	09.09	
Form Factor	Bar	Bar	Bar	Bar	Bar	
Screen Resolution / Size (inches) / Max. Colours	320 x 240 / 2.36	480 x 320 / 2.6	480x854 / 3.7 / 16M		480x800 / 3.6 / 16M	
Screen Resolution / Size (inches) / Max. Goldurs	/ 16M	/ 16M	4000034 / 3.7 / 1014	/ 16M	4000000 / 3.0 / 1014	
Touchscreen / Dual Screen (Y/N)	N/N	Y/N	Y / N	Y/N	Y/N	
Battery Rating / Talk Time / Standby Time (3G) * (Manufacturer rated)	1500 mAh / 6 hrs / 576 hrs	1250 mAh / 7 hrs / 660 hrs	1540 mAh / Up to 6 h 40 min	1500 mAh / Up to 7.30 hrs/Up to 744 hrs	1500 mAh / Up to 550 h rs / Up to 8 hrs	
Dimensions (L x W x H) / Weight	114 x 58 x 10 mm / 128 grams	114.4 x 64.6 x 10.7 mm / 120 grams	107 x 59 x 13.4 mm / 118g	115.5 x 59 x 10.5 mm / 133g	115 x 63 x 13.5 mm / 135 g	
Operating System (Tested with)	Symbian S60 9.3	Android 2.3	Android 2.1	Symbian Anna	Android 2.2	
Hardware Keypad (Regular/QWERTY)	QWERTY	QWERTY	N	QWERTY	N	
Browsing (GPRS/EDGE/3G)	Y/Y/Y	Y / Y / Y	Y/Y/Y	Y/Y/Y	Y/Y/Y	
Connectivity (WiFi/Bluetooth/IR/USB)	Y/Y/N/Y	Y/Y/N/Y	Y/Y/N/Y	Y/Y/N/Y	Y/Y/N/Y	
Bluetooth Version/A2DP support	2.1 / Y	3.0 / Y	2.1 / Y	3.0/Y	2.1/Y	
Camera Resolution (Mega Pixels)	5	5	5	8	5	
Video Capture Resolution	640 x 480 (VGA)	720 x 480	640x480	1280X720	1280×720	
Auto focus / flash / Type of flash	Y/Y/LED	Y/Y/LED	N/Y/LED	Y/Y / Dual LED	N/Y/LED	
Music Formats supported	MP3, WMA, WAV, RA, AAC, M4A		MP3, WAV, eAAC+, WMA	MP3/WMA/WAV/RA/ eAAC+		
Video formats supported	WMV, RV, MP4, 3GP		MP4, WMV, H.263, H.264	MP4/H.264/H.263/ RV	XviD/MP4/ H.264/H.263	
FM Radio / RDS (Y/N)		Y/Y	Υ	Y/Y	Υ	
Bundled Accessories / Size of memory card provided	Charger, handsfree, data cable, carry case, car charger kit / 8 GB	Charger, data cable, handsfree, wrist-	Wall charger, data cable, microSD card / 2 GB	USB Cable, wall charger, handsfree, microSD card / 8GB	MicroSD card, wall charger, USB cable, carry case / 8GB	
Build and Ergonomics (So 10)	7 0 0 5					
Surface materials used	7.5	7.25	7	7.75	7	
Overall build and in-hand feel	7.75	6.75	7	7.5	6.75	
Quality of moving parts	8.25	8	7.25	8.5	8	
Design and ergonomics	8.25	8.5	7.25	8.25	6.5	
Keypad design (on-screen or hardware)	8.25	8	6.5	8.5	6	
Menu and interface	7.5	7.75	6.75	6.5	6.25	
Settings and ease of navigating menus	7	7	6.5	7	5.5	
Performance						
Signal Reception and Voice Clarity (So 10)						
Zone 1 / Zone 2 / Zone 3	8 / 7.25 / 6.75	7 / 6.5 / 3.75	8 / 6 / 4.75	7.5 / 6.75 / 4	7/6/5	
Handsfree Clarity / Loudspeaker Clarity / Earpiece Clarity	6.25 / 3.5 / 7.75	7 / 6.5 / 7	7 / 7.5 / 7.5	6 / 6 / 7.5	7 / 6.5 / 7.5	
Loudspeaker Volume / Earpiece Volume / Earpiece Volume	8 / 7.25 / 7.25	6.5 / 6 / 6	7/7/7	6.5 / 7.5 / 7.5	8 / 7.25 / 7.25	
Imaging and multimedia tests						
Captured Photo Colour / Captured Photo Crispness / Captured Photo Detail	6.75 / 6.5 / 5.25	7 / 6.5 / 6.5	7 / 6.5 / 7	7.5 / 7.5 / 7	7 / 7.5 / 7	
Captured Video Quality	6.5	6	5.5	7	7	
Music Quality (loudspeaker) / Music Quality (handsfree)	7.75 / 6	5/7	6/6	5.5 / 5	6.5 / 7	
Volume levels (loudspeaker) / Volume levels (handsfree)	6.75 / 6.5	6.5 / 7	7 / 7	6.5 / 6	8/7	
Display (So 10)						
Colour	6	6.5	7	7	6.5	
Contrast	6	7	7	7	7	
Font rendition	6	7.5	7	6.5	7	
Legibility in bright sunlight	6	5.5	6	6	7	
Video playback	5.5	5.75	6	5.75	6	





_		OCTOBER 2011	OCTOBER 2011
₹	18,000 to	o ₹20,000	0
Motorola	LG	Apple	Samsung
Milestone XT800	Optimus Black	iPhone 3GS 8GB	i9000 Galaxy S
18,899	19,599	19,890	19,999
18,889	20,990	19,990	31,500
17.45	17.25	15.68	19.41
15.48	16.98	18.39	16.25
33.51	33.67	35.66	35.92
66.44	67.90	69.73	71.58
Bar	Bar	Bar	Bar
480 x 854 / 3.7 / 16M	480 x 800 / 4 / 16M	320 x 480 / 3.5 / 16M	480 x 800 / 4 / 16M
Y/N	Y/N	Y / N	Y / N
1390 mAh / Stand-	1500 mAh / 6 hrs/	1150 mAh / Up to	1500 mAh / 576
by Up to 100 hrs Talk time Up to 5 hrs 40 min	375 hrs	5 hrs	hrs, Talk time / 6 h 30 min (3G)
120 x 61.8 x 11.4 mm / 137g	122 x 64 x 9.2 mm / 109 grams	115.5 x 62.1 x 12.3 mm / 135 g	122.4 x 64.2 x 9.9 mm / 119 grams
Android 2.1	Android 2.2	Apple iOS 4.3	Android 2.1
N/N	N	N	N
Y/Y/Y	Y/Y/Y	Y/Y/Y	Y/Y/Y
Y/Y/N/Y	Y/Y/N/Y	Y / Y / N / Y	Y / Y / N / Y
2.1 / Y	2.1/Y	v2.1 with A2DP	3.0 / Y
5	5	3.15	5
720x480	1366X768	VGA @ 30 fps	1280 x 720
N/Y/LED	N/Y/LED	Y/N/N	Y/Y/LED
MP3, WAV, eAAC+, WMA	MP3/WAV/WMA/ eAAC+	AAC, AAX+, Apple Lossless and WAV	MP3, WAV, eAAC+, AC3, FLAC
MP4, H.263, H.264, WMV	MP4/DivX/Xvid/ H.264/H.263/WMV	H.264, MPEG-4 video, Motion JPEG, avi	MP4, DivX, WMV, H.264, H.263
Υ	N/N	N/N	Υ
Memory card, data cable, wall charger and HDMI video cable / 2 GB	USB cable, wall charger, 2GB mi- croSD card / 2GB	Wall charger, USB cable, Headset / N	Wall charger, data cable, microSD card / N
0.75	7	7	
6.75	7	7	5.5
5.75	7.25	7	6.5
6.5	8	8.25	6.5
6.5	7.5	7.5	7
6.25	5.5	7.25	6.75
6	6.75	7.75	6.5
5.75	7	7	6.5
6.75 / 6 / 4.5	7.75 / 6.5 / 5	8.5 / 7 / 5.5	8 / 6.75 / 6
7 / 6.5 / 7	7.5 / 7 / 7	8 / 7.75 / 8.25	7.5 / 8 / 8
6.75 / 7 / 7	6.75 / 7 / 7	7.75 / 8 / 8	7 / 7.5 / 7.5
6.75 / 6 / 7.5	6/6/6	7 / 8 / 7.75	8 / 7 / 7.25
6	5.5	7.5	7.25
6.5 / 7	6.5 / 7	7.25 / 7.5	7 / 8
6.75 / 7	7 / 7	6.75 / 7.75	8/8
7.5	7.5	8.5	8
8	7.5	7.5	8
6.5	7	8	5
6.5	6.5	7	7.75
6.25	6.25	8	7



Nokia E72 Brown Topaz

contemporary rivals. The HTC ChaCha impressed us a great deal with its slightly bananashaped design, which makes typing much easier and more comfortable. The dedicated Facebook button is the highlight and the attention grabber. Motorola's Defy is a touchscreen phone with a waterproof body. The solid build (well, it had to



DEFY L3Qtr TMO

be for a waterproof phone) and rubberised body mean that using it is a comfortable and risk-free experience! The Nokia E6 is the logical successor to the Nokia E72; and follows up with a similar form factor and design. However, there's a touchscreen added as well. While the E6 is slightly heavier than the E72, it also gets slightly lesser points than its predecessor in the build quality ratings. However, that doesn't change the fact that the E6 is a very practical phone. The Acer Liquid Metal has a very classily and solid build.



HTC ChaCha

The metal battery cover is one of the many welcome elements in this well-built phone.

Performance: All these phones are on a level-playing field as far as call quality is concerned. However, the HTC



Nokia E6

ChaCha is the worst off when it reaches a Zone 3 area. The Nokia E6 and the Acer Liquid Metal should be considered if the camera quality is an important criterion for you. The 8MP camera on the E6 and the 5MP camera on the Liquid Metal handle both pictures and video recording very well. The Breeze UI on the Liquid Metal is quite unique and something that deserves a mention simply because of the sheer effort needed to stand out among other user interfaces these days. It's good to use, too.

Social linking

Facebook will soon offer Twitter linking to all users. Rejoice all ye netizens!

Here with vigour

A leaked Radio Shack roadmap indicates HTC Vigor could be available in stores by 20 October 2011

HOW WE TESTED

For a clearer division of phones for this test, we lined them up according to the prices (prevailing market prices, not the MRP). This is because we've noticed that there's usually quite a difference between the box price of the phone, and its actual selling price in the market.

Before beginning the test process, we ensured that all phones were returned to their factory settings. Software updates were all installed to ensure that we were testing the phone with the software version you're likely to buy it with. We've divided the table and rated the phones on three basic parameters: features, build and ergonomics; and performance.

While "features" doesn't have any testable parameters, we rated the phone on features like camera specs, hot-swappable ability of memory card, connectivity options and even the user interface. Under the "build and ergonomics" section, we rated the phone on things like design, build quality, surface materials used and the quality of moving parts - something as small as a USB port cover to a slide out keypad. Also rated is the comfort

factor of the phone, the quality and design of the keypad, placement of various keys and the usability of the entire package in general.

We test the "performance" of a phone through a series of tests. First, we divide our call clarity test into three zones, on the basis of network signal strength. Zone 1 and Zone 2 represent normal usage in city scenario with excellent to mediocre signal reception. Zone 3 is the real test though – poor network where the phone shows below 25 per cent of signal strength. We rated calls on the basis of clarity on both sides of the line, presence of distortion, factors like call drops and so on. Loudspeaker, earpiece, handsfree clarity and volume levels on call were also tested. Music quality was tested using two MP3 files encoded at 320 kbps constant bit rate.

The phone's camera was tested for colour reproduction and sharpness of focus as well as the detail level it's capable of. All these scores are rated on a subjective scale of 10. Finally, we graded the phone's display itself - resolution and crispness, colour and its visibility in sunlight.



And the winner is: Considering the price and performance, the Acer Liquid Metal comes out as the winner in comparison to its rivals. It manages to do consistently well across the ratings. If it's an Android phone you want in this price bracket, this is the phone to check out.

₹18K - ₹20K

The highest price bracket is usually the most cut-throat in terms of competition. We've noticed this in most product comparisons that we do. In this case, the arrival of the Samsung Galaxy S and the Apple iPhone 3GS 8GB, thanks to individual price revisions, means that devices that were once in a much higher price category are now the ones the other phones have to compete with. While the likes of the



Apple iPhone 3GS

LG Optimus Black may feel hard done by this, the consumer definitely isn't complaining.

Features, build and usability: The Motorola Milestone XT800 is by far the heaviest of the lot. While the display quality is quite okay, the bulky form factor works against it. The XT800, surprisingly, doesn't feel as expensive as it actually is. The LG Optimus Black is a classy looking device. It falls into the big screen device category with its 4-inch display, but somehow doesn't feel big. The Samsung Galaxy S, on the other hand, looks and feels like a smartphone with a 4-inch display. Finally, the Apple iPhone 3GS, with its looks and build, it has for long set the benchmark for other smartphones. While it may be considered heavy

Contact sheet					
Brand	Company name	Phone no	E-mail Address	Website	
Blackberry	Research In Motion Limited	1800-4253-720	NA	in.blackberry.com	
Nokia	Nokia	022-30303838	NA	www.nokia.co.in	
Dell	Dell India Pvt Ltd	1800-425-4026	NA	www.dell.co.in	
Motorola	Motorola India Pvt Ltd	1800 3000 4343	info.in@motorola.com	www.motorola.in	
Acer	Acer India Pvt Ltd	080 -39408700	ailenquiries@acer.co.in	www.acer.co.in	
Sony Ericsson	Sony Ericsson	(124) 4625055	Palash.Ranjan@sonyericsson.com	www.sonyericsson.com	
Apple	Bharti Airtel / Aircel	NA	NA	www.apple.com	
Samsung	Samsung India Electronics Pvt. Ltd.	0124-4881234	NA	www.samsung.com/in	
LG	LG Electronics India Pvt. Ltd.	1800 180 9999	Serviceindia@lge.com	www.lg.com	
HTC	HTC India Pvt. Ltd.	1800-1033-566	NA	www.htc.com	

RIM fighting back

RIM's Q2 earnings report \$329 million in net income

now, the 3GS weighs less than the XT800. In terms of build quality, the iPhone wins hands down, closely followed by the LG Optimus Black. The Samsung Galaxy S lost out a bit



Acer Liquid Metal

because despite its comfortableto-use form factor, it's essentially a plasticky body.

Performance: The Apple iPhone 3GS has the lowest resolution, despite which the display is amazing. Be it for videos or for web browsing, the display's crispness and brightness levels are just great. The Super AMOLED display on the Samsung Galaxy S is also one of the best ones around. Its vivid colour is pretty much at par with the 3GS, and better than its rivals. What the iPhone doesn't have is a UI skin like the Android phones, but then again, that is a bit unique. Speaking of the UI, LG's Optimus UI 2.0 is the best in this category, with its wide variety of widgets and a good-looking layout. Samsung's TouchWiz UI looks bland in comparison.

If the clicker matters to you a lot, then you'll be better off checking out the image and video recording quality on the iPhone and the Galaxy S. This is despite both phones lacking any flash capabilities to complement their respective cameras.

And the winner is: Well. in this case, there'll be two -The Samsung Galaxy S and the Apple iPhone 3GS. Both are neck and neck in terms of performance. Also, both these phones were once rolling with a much more expensive bunch of smartphones. The reason they're here is because their successors came along, but being such good phones, Samsung and Apple didn't discontinue them, and quite rightly too.

The Editor's pick

This one was a tough one. For the most part, we were debating between the Nokia E6 and the Sony Ericsson Xperia X10 Mini Pro. If you look at the feature set of both, you get a touchscreen and a physical OWERTY combo. The form factors are very different, and which one is better will depend on your personal preferences. However, the decision finally tilted in the favour of the Mini Pro, thanks to its significantly lower price tag when compared to the Nokia E6. Plus it has the latest Android 2.3 version preloaded on it, which means you are on the "latest" bandwagon already.



LG Optimus Black



Email us : linux@enjayworld.com | web : www.enjayworld.co.in Chat ID : enjaylinux @ Googletalk, yahoo & msn |

facebook : enjaylinux

The successor to the Atrix to come with a 8 megapixel camera http://bit.ly/pIqvuk



Motorola Xoom MZ601

Betrayed by its apps ecosystem



Specifications

Platform: Android 3.1; Processor: ARM Cortex A9 dual core 1GHz, Tegra 2 chipset, 1GB RAM; Display: 10.1-inch, 1280x800 pixel, TFT type; Storage: 32GB built-in, microSD slot; Camera: 5MP with 720p HD video; Connectivity: 3G, Wi-Fi, Bluetooth

Contact

Motorola Mobility India Phone: 1800-30004343 Email: info.in@motorola.com Web site: http://www.motorola. com/Consumers/IN-EN/Home Price: ₹39,990

7.0	
10	1
Features8.0	
Performance7.0	
Build Quality7.5	
Value for Money6.5	

otorola's Xoom Android tablet finally arrived on hither shores some time ago. Will this eagerlyawaited tablet successfully rise to the challenge of the Apple iPad (2)? Or will it become a high-profile footnote in a long list of Android tablets that tried staging a long seige on Apple's crown jewel? We take a closer look at how the Motorola Xoom performs in a tablet war that is defining the post-PC world.

Looks are really a case of two extremes here. The Motorola Xoom sports a solid and classy build as well as a comparatively different look (compared to the iPad) combined with a bulky form factor. At 13mm, the Motorola Xoom is no doubt thicker than the iPad 2 which measures at 8.8mm. Also, the Motorola Xoom tips the scales at 730 grams while the iPad 2 weighs just a bit more than 600 grams. No doubt, at all over which of the two tablets feel thinner and lighter in your hands.

Lavout

The Motorola Xoom Android tablet's power key is placed on the rear panel, the logic being that it's easier to reach the key with the finger while holding the tablet in its normal usage position — makes sense.

Android 3.1 has come up with a completely redesigned UI for the Motorola Xoom. For instance, the tablet's battery level, wireless connectivity and cellular network info now show up on the bottom-right edge of the display - otherwise traditional Android tablets and smartphones display this information on the top status bar. The Motorola Xoom instead displays an app list in the topright corner. The bottom-left corner has the return, home and task options.

Usability

We slotted a Vodafone SIM card in the Motorola Xoom to check out the experience. Any messages that were received on that number showed up as a pop-up on the tablet's home screen. These SMSes weren't stored anywhere, but the popups didn't disappear unless you clicked on "OK". This is pretty neat, because the device doesn't allow voice calls.

Performance

In terms of the power game, the Xoom does pack a significant punch. In simple terms, apps ran much more smoothly than we expected. Games loaded the quickest among all Android tablets so far. Multitasking didn't really slow down the tablet at all, and the new task manager introduced with Android

3.1 does make for a visually appealing package.

Weirdly though, if you're transferring anything to the Xoom via the data cable, the OS completely freezes and refuses to respond till the file transfer is complete.

New browser

What makes our eves tear with happiness is the new web browser! The Chrome browser-like UI allows you to stack multiple tabs. However, the biggest problem with the Xoom's 10-inch display is that the white colours aren't really white. The shade is pale, and that won't look good on most web pages. Video viewing was pretty impressive on the 10-inch display, but there was a distinct lack of sharpness, even with HD content. Battery life, however, is a bit of a disappointment. The battery ran out completely in about three hours of continuous use as a web browsing device and a hotspot.

Conclusion

There's a lot to like about the Motorola Xoom, especially after tweaks and updates collectively make it a much better device. The biggest problem isn't the Xoom, but the dearth of tablet-friendly apps - it seems only iOS is hot when it comes to this class of device form factor.

The Motorola Xoom is a good tablet, but really, tablets are little more than the sum of apps that run on them, and at the moment, the iPad is a much better ecosystem.

Vishal Mathur

iPhone 5 is comina

Apple calls for a media event on October 4th. Tim Cook might unveil the device http://goo.gl/HApgO

Bazaar

BOLLANCE

Reliance 3G Tab

The price single-handedly swings the deal, favourably!

he Reliance 3G Tab (essentially the ZTE V9C) changes the price dynamics of the tablet market quite dramatically. But will it really put pressure on other tablet manufacturers to slash their prices?

Look and design

The Reliance 3G Tab has minimalistic looks. Quite simply, this is the most matter-of-fact tablet we've seen till date. The display has a glossy black frame bezel which attracts fingerprints. The build quality of the tablet overall is pretty acceptable, given the device's entry-level price point. There are no hardware buttons for home, menu and return - just touch-based ones. They don't light up in the dark, and that can be a little uncomfortable for frequent use.

The Reliance 3G Tab just feels very compact thanks to the seven-inch display. However, those of us who've used the very first Samsung Galaxy Tab, the P1000, would most probably agree that it felt much bigger than this one, and it was slightly thicker too. Weightwise, the Reliance 3G Tab tips the scales at 389 grams.

Features

We expected the pricing to dictate the power game, in a negative way. However, an ARM11 800MHz processor along with 512 MB of RAM powers this tablet - not bad. While there's literally no internal storage space to boast of, Reliance has nicely bundled a 4GB microSD card with the tablet for your basic storage needs.

Open the rear panel and this is the smartphone-ish visual: the huge 3400 mAh battery, the SIM card slot and the microSD card slot.

We're impressed! That is to say the least. The initial apprehension that this'll perform like a low-cost tablet (and will essentially be a disappointment) evaporated very quickly. The 800MHz processor coupled with 512 MB of RAM helps Android 2.3.4 chug along quite nicely. While the interface does lag slightly, it is minimal. This is mostly felt when flicking through the multiple home screens or the application list. But the age-old problem with Android exists - open too many apps in the background and it will become sluggish.

The phone feature is back in the tablets-calls can be made and received, something that can't be done in most tablets of late.

Screen, battery

The seven-inch display of the Reliance 3G Tab is a humble TFT screen with a very basic 800x480 pixel resolution. While the display quality looks a little rough in general, there's enough sharpness to make text look crisp. Colours aren't very vivid, but enough for most usage scenarios. The touch screen responds well for the most part, but tends to suddenly go into a trance every once in a while — a minor annoyance.

The camera is a huge disappointment. The 2MP camera clicks pictures that can be called 'very grainy' at best. Battery life is surprisingly good on the Reliance 3G Tab.

With uninterrupted 3G usage. we had the device running for



quite a bit of web browsing, the daily dose of Angry Birds, and it was even used as a Wi-Fi hotspot for a few hours. We have to admit the tablet's huge 3400mAh battery does the job admirably well.

Conclusion

The most interesting thing about the Reliance 3G Tab is the price, undoubtedly. What this does is lower the entry price barrier for branded tablets. We were pretty impressed by the performance in general.

While it isn't a multimedia or gaming powerhouse, the 3G Tab does a little bit of this and a little bit of that - steady performance, good battery life and a surprisingly sleek form factor. You do sacrifice on certain things - touch response that is slightly iffy at times and a bad camera. Remember, the critical point is the "at this price" factor. If the ₹30,000 plus Android tablets are out of your budget, this may just be the one to introduce you to the world of tablets.

Vishal Mathur

Specifications

Platform: Android 2.3.4; Processor: ARM11800MHz: RAM: 512MB; Display: 7-inch TFT LCD, 800x480 pixel resolution; **Memory:** microSD card slot up to 32GB; Battery: 3400 mAh

Contact

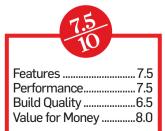
Reliance

Phone: 1800-1003333 Email: customercare@ relianceada.com

Web site: http://www.rcom. co.in/Rcom/personal/home/index.

html

Fax: 022-303 88005 Price: ₹12,999



Bazaar

Dell acquires Force10

Dell recently acquired US based Force10 Networks and is going to double the workforce http://bit.ly/rruEMt



LG's first HD phone

The upcoming LG Optimus LTE boasts of a 1280x768 screen resolution on a 4.5-inch screen http://bit.ly/n9Gsqw

Dell XPS 15z

Style-savvy full-HD home entertainment laptop

he 15-inch Dell XPS 15z has a polished metal exterior that feels rich and premium on touch. Its screen lid and bottom cover are made of anodised aluminium that resists scratches; it also has a lighter

silvery hue like the unibody Apple Mac-Book Pro. Though the 0.97-inch thick Dell XPS 15z is slightly slimmer than the MacBook Pro which has a thickness of 1 inch, you can barely feel the difference. The whole unit's magnesium alloy chassis is verv

well built - no creaky joints, no cheap plastics - all you feel is a fine aluminium block that encases a powerful PC.

The Dell XPS 15z comes with a full-HD, 1920x1080 pixel resolution display. It has good brightness and contrast levels even at the corner edges.

The laptop's keyboard is pretty good for typing the tactile feedback, zero flex from the kevboard deck and the plush, wide palm rest make typing on the XPS 15z extremely convenient.

Given the laptop's internal hardware, the XPS 15z is wellequipped to be a powerful allpurpose laptop for your home, tuned for multimedia and entertainment use. Not only does the 15-inch Dell XPS 15z have aboveaverage internal hardware, the laptop comes with abundant connectivity features. Its multimedia performance is very good: gaming isn't bad and its battery life is better than average. If you can afford it, the Dell XPS 15z is well worth the money for a style-savvy, all-purpose home entertainment laptop.

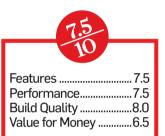
Jayesh Shinde

Specifications

Screen: 15.6-inch, LEDbacklit, 1920x1080 res: CPU: Intel Core i7-2620M 2.9 GHz: **RAM:** 8 GB DDR3: **HDD:** 750 GB. 7200 RPM: GPU: nvidia GeForce GT 525M (2 GB), Intel HD 3000; **0S:** Windows 7 Home Premium 64-bit

Contact

Dell India Pvt Ltd Web site: www.dell.co.in Contact: 1800-425-4026 Price: ₹81,800



Specifications

Platform: Android 2.2 (upgradeable to 2.3); Processor: ARM Cortex-A9 Dual Core 1GHz processor, PowerVR SGX540 graphics, 512MB RAM; Storage: 8GB inbuilt; Camera: Dual 5MP camera, 1080p @ 30fps for 2D videos and 720p@30fps for 3D videos; Battery: 1500 mAh

Contact

LG India

Phone: 1800-1809999 Email: Serviceindia@lge.com Web site: www.lg.com **Price:** ₹37,000 (MRP)



LG Optimus 3D

Three dimensions and a headache

s a plain smartphone, it's a bit of a disappointment in terms of looks – it's thick and heavy at 168 grams. The rubberised feeling does help with the grip. The 'top heavy' nature of the phone can be a bit disconcerting at first, since it'll constantly attempt to tilt backwards, headfirst.

But the Optimus 3D has a 4.3inch 3D display, and quite frankly,

we absolutely loved it. Excellent colour with only very minor gradation of colours (at times), great brightness levels and the fast moving scenes in videos are smoother than most other highend smartphones.

The Optimus 3D's 3D display functions without glasses i.e. the display is auto-stereoscopic, and it works quite well. 3D content plays well, with good depth and colour, but all isn't perfect as some 3D contentshows up with slightly visible vertical black lines. What beyond the pre-loaded content, though? The Android market doesn't have any 3D content to speak of.



At least on paper, the 1500 mAh battery isn't that bad, but then again, it barely lasts a full day between charges.

The Optimus 3D is something of a novelty, being one of the earliest 3D capable phone to hit India. However, it isn't the fastest device around, and neither is it the sleekest. It also debuts with Frovo (Android 2.2). Spending ₹37k (MRP) on

> this doesn't make sense, especially when there are other options available, albeit without 3D. You must be a real fan of the whole 3D phenomena to opt for the Optimus 3D.

> > Vishal Mathur

iPhone fever?

Check out Apple's earliest attempt at an iPhone. Revolutionary, considering it was 1983 http://bit.ly/pIgtVj

BlackBerry Bold Touch 9900

Read the detailed, in-depth review of RIM's latest flagship smartphone. Will it fly or will it sink? http://bit.ly/prfKrl

Bazaar

Razer Imperator 2012

Ergonomic design meets very good performance

he new and improved Razer Imperator 4G 2012 makes a couple of important tweaks to elevate a very good gaming mouse to new heights.

Its top sports a brushed chrome finish that feels nice to hold, and the mouse is almost ambidextrous, with a subtle shift favouring right-handed gamers. In terms of design, the Imperator 2012 is extremely ergonomic. We like the side grip on the mouse sporting an anti-slip rubber surface, compared to the previous Imperator which had a tacky plastic coating. This lends the Imperator a solid grip. The mouse lets you physically move its side buttons forward or back by a bottom slider—a good feathe r

ture, as it accommodates different grip styles. But overall, we like the Imperator's chunky size and snug palm fitting.

The most interesting feature of the mouse is its dual-sensor—optical and laser sensing. They blend together perfectly to offer the Imperator not only an extremely high DPI limit, but most importantly also an astute lift-off and surface calibration system. The cursor freezes when you lift

the mouse and works nearflawlessly on a polished wooden table-top as well as a game pad. The bundled software lets you calibrate the surface

options of the mouse in greater detail, program each of the Imperator's seven buttons to record macros and create multiple user profiles.

While playing FPS and RTS games, the Imperator performed very well, the mouse gripped nicely and there was no unnecessary skidding. It's slightly expensive, yes, but offers great performance for gamers. For a cheaper option, consider the Abyssus.

Jayesh Shinde

Specifications

Weight: 125 g; Sensor: 6400 DPI Laser and Optical; Max. Acceleration: 50g; Polling time: 1 ms; Onboard Memory: NA; Customizable Buttons: 7; Connectivity: USB

Contact

Razer

Email: sashank.bhandaru@ razerzone.com

Web site: http://www.razerzone.com/

Price: ₹4,299



Specifications

Platform: Symbian Anna; Processor: ARM-11 @ 680MHz, 256MB RAM; Display: 3.5-inch AMOLED (640x360 pixels) capacitive display, Gorilla Glass; Storage: 16GB inbuilt, microSD slot up to 32GB; Camera: 12MP with 720p HD video; Battery: 1200 mAh

Contact

Nokia India

Phone: +91 (city code) 3O3O3838
Web site: http://www.nokia.co.in/
support/ask-nokia
Price: ₹23,867



Nokia N8 with Symbian Anna

Full potential finally realised

his is the classic case of a device realising its potential much later than expected. The Nokia N8 has been around for about a year now, but the completely undercooked Symbian^3 OS had ruined what was, at least as far as the hardware was concerned, a superb phone. However, that has changed now, with the Symbian Anna update.

The N8 performs much better now. The interface is much faster, doesn't slow down under background app load and during the long duration we had the phone, it did not hang even once. Contrast this to the Symbian^3 days when a few hang issues (and reboots) a day was the norm. Battery life too

has seen a huge improvement. Under our test condition, the updated N8 lasted for around 3 days. Makes us lovingly remember the good old days of the N95 and the N82!

What Nokia hasn't done with Anna is change the way widgets are handled. In fact, the size remains the same (which just isn't enough) and the number of widgets seems to have come down, with not too many available on the Ovi Store either. Social networking integration isn't good, and neither is the Social app.

At around ₹23,000, it does not make sense to consider buying the N8. The excellent 12MP camera, much improved OS performance and excellent



battery life should work in its favour, though.

Vishal Mathur

Bazaar





An Apple a day..

Apple leads in PC customer satisfaction for the 8th consecutive year http://bit.ly/oe18DG

Acer Aspire One 722

More than just your regular netbook

he 11.6-inch Aspire One 722 is an interesting thin-n-light laptop (re: netbook). It has better innards than a regular 10-inch Intel Atom netbook-courtesy its AMD Fusion "Ontario" C series APU-while selling at nearly the same price.

Nothing new with the Aspire One 722's design, it resonates with past Acer netbooks—the edges are tapering and the finish is mostly glossy plastic. But there's a new ripple wave pattern on its screen lid which is one of its kind-definitely earns it extra style points. The whole unit is as slim as any contemporary netbook, weighs 1.4-kg with a 6-cell battery, and is extremely travel-friendly.



netbook's slightly larger

form factor works in its favour, compared to slightly-cramped 10-inch netbooks. The AO722's keyboard has flat, full-sized keys for typing and its glossy widescreen packs in as many pixels as a standard 15-inch

laptop. The thin laptop's multigesture touchpad is good, but its single-strip mouse button isn't the best. Overall performance is slightly better than an Atom netbook, and the onboard AMD Radeon HD 6250 makes sure

graphics performance remains unmatched. HD 720p videos play smoothly, multitasking with up to 3-4 apps is fine, speaker performance is underwhelming and

battery lasts for 4 hours. AMD finally has a worthy competitor to Intel's Atom chipset, and with Acer pricing the Aspire One 722 at an attractively low price, netbooks may well recapture popular imagination.

Jayesh Shinde

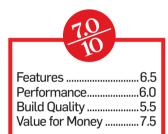
Specifications

Screen: 11.6-inch, LEDbacklit. 1366x768 res: CPU: AMD C-50 1.0 GHz: RAM: 2 GB DDR3: HDD: 320 GB; GPU: AMD Radeon HD 6250: **OS:** Windows 7 Home Starter 32-bit

Contact

Acer India Pvt Ltd

Web site: www.acer.co.in Email: ailenguiries@acer.co.in Contact: 080-39408700 **Price:** ₹19,499



Specifications

LCD Display: 3-inch touch screen LCD panel; Video Resolution: 1080p @ 30fps, 720p HD @30fps and 60fps, VGA @30fps; Video Format: H.264 (.AVI); Still image resolution: 5MP; Zoom: 16x Digital

Contact

HP India Phone: 09343441990 Email: haresh@ mediatechindia.com Web site:

www.mediatechindia.com Price: ₹8,499



HP t200

Budget friendly HD digital camcorder

he HP t200 digital camcorder is a full HD compact camcorder that can literally fit in the back pocket of your jeans. The build is all plastic and there is a piano black glossy finish all around, except the top. Ergonomically, the camcorder is quite a snug fit even with those who have small hands. The HD lens has an adjustable ring which switches from Macro focus mode to

Landscape focus mode.

There are very few manual shooting options. The resolution on the screen is not very good and you can see pixelation at the edges of the icons.

The settings menu is broadly divided into Video, Photo, Effect and Settings. Still Photo mode offers options to set resolutions, ISO and self timers. The Effects menu helps you tweak further by choosing lighting modes, white balance, etc.

The touch screen does not have a haptic feedback but is quite responsive. Indoor shooting gives decent colours, but try zooming in and noise starts to become prominent. While shooting outdoors,

we had no issues with noise. On maximum zoom, the hand needs to be rock steady. We had no issues with colours in the video. The microphone on the rear side of the flip-out screen is not what you can call powerful.

While shooting, we noticed that the camera could not segregate objects which have fine lines and you tend to see quite a lot of moire patterns. This is not desir-

able at all.

At ₹8,499 this is a very economically priced HD camcorder. But get this if you plan to use it majorly outdoors in daylight, as indoors and low lit conditions do not really get the best out of the t200.

Nimish Sawant



Print anywhere!

Marcus Keyser has developed a 3D printer that can make objects using sand and solar power. http://bit.ly/nckYWr



Electric BMW

BMW showcased its Concept e electric bike http://bit.ly/oFjFXE

Bazaar

iBall Slide i7011

Budget tablet that could've been better

he iBall Slide has an all-plastic body with a slight bulge on the non-screen side. It features the Android 2.3 operating system and a 7-inch capacitive touch screen. The apps menu has a good bumptoplike interface which has a good inertial scrolling mechanism. The tablet supports 3G services but you'll have to purchase a separate 3G WCDMA USB dongle for that.

The 1 GHz processor is faster than the one on Reliance's 3G Tab, which clocks in at 800MHz. The touch response was quite smooth. Absence of a dedicated volume controller is a huge letdown. The display is not very sharp thanks to the miniscule 800x480 pixel resolution. SD

videos played quite well and we did not notice any banding or noise in solid scenes, but content isn't extremely vivid either. The Slate is not very loud and the bundled in-ear monitors sound very muffled.

The apps that come prebundled with the tablet are quite varied and interesting.

You will have to use the front facing camera for pictures and videos, which is strange. Picture quality isn't that great either. The 4,400mAh battery gets over in a day which is sad. It drains quickly if you are downloading content or streaming videos.



The iBall Slide is available for ₹13,599 which makes it a very interesting proposition for those looking to buy an entry level tablet. It will face stiff competition from the Reliance 3G Tab, which has the 3G SIM card slot on the tablet so you will not have to shell out extra money for a USB dongle.

Nimish Sawant

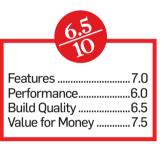
Specifications

CPU: Samsung S5PV210 1 GHz; RAM: 512 MB DDR2; Storage: 8 GB inbuilt; microSD card slot for upto 32 GB; Operating System: Android v2.3; LCD: 7-inch TFT; Resolution: 800x480; Connectivity: Wi-Fi (IEEE 802.11 b/g), Bluetooth (A2DP)

Contact

iBall Technologies Phone: 1800-30042255 Email: sales@iball.co.in Web site: www.iBallSlide.com

Price: ₹13,599



Specifications

Video format support: MPG, MPEG, M2TS, MKV, MP4, M4V, AVCHD, AVI; Video feeds: Yes (15 feeds) Ports: 2x USB, 1xHDMI, 1xComponent, 1xComposite, 1xLAN; Drive type: Tray loading

Contact Sony India

Phone: 1800-103 7799
Email: sonyindia.care@ap.sony.

Web site: www.sony.co.in
Price: ₹8,990



Sony BDP S380

Feature-rich, entry-level Blu-ray player

he Sony BDP S380 is a sleek Blu-ray player with a minimalistic design. The glossy black front fascia has a slight protrusion in the front and houses the disc tray, a USB port on the right-hand edge and play/stop/pause buttons with a light blue glow around the centre. On the rear, there's an HDMI port, a USB port, component, composite and LAN ports.

The user interface of the BDP S380 is very similar to its previous generation cousins. There's a ribbon interface with

the main options such as Setup, Photo, Music, Video and Network. The BRAVIA internet video supports as many as 15 video feeds including Wired, YouTube and others, which is great for online video junkies. There isn't much in terms of wallpaper design; you have a glowing blue light which mimics that of the player's front panel.

Switching menus is quite slow, but we liked the Resume Play option. Quality-wise, we're not complaining. The colours in our test movie – *Avatar* – were quite vivid. There was no

banding or noise in solid scenes. Text rendering was smooth and we didn't notice any jaggies. Navigating through content on a USB drive is a bit annoying though, as there's no segregation of media type. The Setup menu is quite exhaustive, offering you tweaking options for audio settings, Blu-ray settings and network settings among other things. You can set the HDMI output resolutions from 480i to 1080p based on your TV set.

At ₹8,990, the Sony BDP S380 is a great deal if you're not looking at 3D Blu-ray playback. The internet video streams is a great feature to have. The only drawback of the BDP S380 is its lack of DivX support.

Nimish Sawant



Bazaar





LaCie Thunderbolt

The LaCie Little Big Disk was launched, featuring a Thunderbolt interface http://bit.ly/n0PJyb

Thermaltake Level 10 GT

A penthouse for your rig

aking cues from its elder cousin i.e. the Level 10, the Level 10 GT continues the tradition of a modular or compartmentalised design. This full tower cabinet is overkill for most gamers, but for enthusiasts who have a multi-GPU setup and money to burn, this chassis is another feather in their rig's cap.

The Level 10 GT is neatly compartmentalised into four sections on the left, with a hook along the top right hand side which extends across the depth of the cabinet. The top portion of the case has the USB 3.0 ports along with the eSATA port. You can control the fan speeds and fan LED colour as there are dedicated buttons for that.

The cabinet comes with a secure lock mechanism which is a huge plus point. The secure lock is also provided for the HDD bays. On the inside of the side panel, the 200mm fan is covered by five horizontal flaps which can direct the air flow.



The LED light options are red, blue and green, which can be toggled with the help of the LED light control button.

Inside the cabinet there is enough space to maneouvre around. HDD bays, though toolless, need the HDD to be screwed on to the trays. The SATA power connector tower behind the HDD bay for each tray makes wire management quite easy.

The CPU delta was around 48.3 degrees C and GPU delta was a bit higher at 50.2 degrees C, which was lower than that of Cooler Master HAF 922.

For a price of ₹19,900, this is priced at a definite premium and targetted at a niche segment.

Nimish Sawant

Specifications

Motherboard Support: Micro ATX, ATX, E-ATX: Drive **bays:** 4x 5.25-inch bays, 5x 3.5inch HDD bays: Ports: 4x USB 2.O. 2x USB 3.O. 1x eSATA: Fans: Front (1x200mm). Rear (1x140mm), Top

(1x200mm), Side (1x200mm)

Contact

Thermaltake Technology

Co., Ltd Phone: NA

Email: info@thermaltake.com Web site: www.thermaltake.com

Price: ₹19,900



Logitech Z623

Bring home the movies

Specifications Output: 200 watts RMS Frequency response: 20Hz ~ 20kHz **Input:** RCA and 3.5 mm

Contact

Logitech India Tel: 022-26571160 Email: response@logitech.com Web site: www.logitech.com **Price:** ₹11,495



he Z623 is a pretty popular THX certified 2.1 speaker set. Built in all black, the satellites along with the subwoofer push out a believable 200 Watts of thump. The right speaker has dials for volume and bass. A remote, even a wired one, would've been nice. As for performance, the THX certification meant that we ran a bigger set of movies and games apart from our gamut of normal

test tracks. The sound signature was more on the bright side, with sparkly highs, a recessed mid-range and deep rumbling bass. When it came to vocals and mids-heavy tracks, the Z623 fal-

tered a bit. Particular instruments like the Cello on Santana's cover of 'While My Guitar Gently Weeps' sounded flat and without body; as did Chris Rea's vocals on 'Call On Me'. But movies and games sounded outstanding; every thump, growl, and rumble could be felt. The speakers can handle instrument density and layered tracks well too. The THX certification goes a long

way towards ensuring quality components and 'tweaking' for movies, yet the other half of the battle-vour listening environment—is bound to produce unpredictable results when trying to replicate the theater experience. The speakers feel sturdy with their quality vibrationdampening feet, sturdy dials and decent body material.

Bottomline: This speaker set should be a perfect fit for those looking for quality audio in the desktop 2.1 space, especially if

you're more into games and movies. For pure audio the MX6O21 from Altec Lancing in the same price range should also be seriously considered.

Siddharth Parwatay

Bazaar 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 are 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 quide 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!





Sennheiser headphones

Sennheiser in collaboration with Adidas launched the HD 25 and CX 310 in India. http://bit.ly/oJNsxe

CAMERA



HP CC330 Price: ₹4.499

SSD



Corsair Force GT 120GB

Price: ₹9.999

SPECIFICATIONS

Resolution14 M	Ρ
Optical Zoom:	Вx
ConnectivityUS	В
ISO range 80 - 160	0

Controller	SandForce SF2281
TRIM Control	Yes
Form Factor	2.5 inches
Weight	80 gms

TEST CENTRE RATINGS (All Scores out of 10)

Features...... 6.0

The HP CC330 has modes like Auto. Movie, Panorama and Scene. It also has intelligent features like face detection, blink detection, etc.

Performance5.5

Indoor shots are noisy and will require flash. Colours in the outdoor shots are natural. Noisy beyond ISO200.

Build quality6.0

The plastic body looks tacky but is sturdy. Buttons have a good feedback. The camera lacks a good grip.

Value for money 5.5

At ₹4,499, the camera's priced high considering its basic features.

Features...... 7.5 Has 16 NAND memory units of 8 GB each, support for SATA 3.0 port.

Performance8.0

This drive led to the highest SSD scores we've recorded so far. So without a doubt, it's super fast!

Build Quality.....8.0

The SSD is covered on all sides in sturdy metal and has an anodised red/black colour which makes it look attractive.

Priced decently at ₹9,999, Force GT 120 GB is priced lower than other 128 GB SSDs we've tested.

WE SAY



HP CC330 has a decent set of features for an entry-level pointand-shoot. We liked the depth in the number of SCN modes (around 20) and the panorama mode. Features such as blink detection, face and smile detection are impressive, but its poor screen resolution really makes matters worse. The buttons on the body offer decent feedback, but the overall feel and grip of the camera is not up to the mark. It shoots videos decently at 640x480 pixels. The pricing should be lower, as in this range you can get the Nikon L23 which has a similar feature set and a much better screen resolution.



Corsair Force GT 120 GB SSD gave scores that beat the previous Best Performer - Kingston SSDNow V+ 100 - hollow. It crossed 240 MB/s in sequential reads and almost touched 200 MB/s in sequential writes, so this drive is ideal for transferring heavy audio/video and other type of files. At ₹85 per GB, its pricing is lesser than ₹117 per GB of the Kingston V+100 drive and that is a SATA 2 drive with an older controller. So with the faster Force GT 120 GB SATA 3 SSD, you're comfortably future proofed.

ALSO SEE:

1) Kingston SSDNow V+ 100 July 2011

Bazaar mini

Quick insights from indepth tests

Google's 'Body Browser'

Don't let your imaginations run wild though, there's no groping involved http://bit.ly/pHcqq7

Windows 8 tablet likely

Microsoft and Samsung will launch a spanking new quad-core Windows 8 tablet at BUILD next week http://goo.gl/jcxGg

EARPHONE



Brainwavz M3 Price: ₹4.200

Cord length.....

-	- 1-	1
639	The same of the sa	_

Epson Stylus Photo R3000

Price: ₹69.990



Dell 1250c Price: ₹17.000

BLUETOOTH DEVICE



Jabra Freeway In-car Bluetooth Speakerphone Price: ₹7,499

S	Ρ	Ε	\mathtt{CI}	FΙ	C/	ΥT	10	NS

PRINTERS

	Colour Inkjet Printer 812.8 x 614.8 x 424 mm
Weight	15.9 kg
Cartridges	9
Display	Yes

Туре	Colour LED Printer
Dimension	400 x 406 x 412.8 mm
Weight	11 kg
Cartridges	4
Display	No

Build Matte black finish, Visor mount
Battery (Standby) 40 days
Talktime12.5 hrs

13 m

The Brainwayz M3s come with three pairs of foam and silicone tips along with a hardcase.

Sensitivity.....115 dB Impedance.....20 ohm

Frequency response......20 - 20,000 Hz Driver size10.7 mm

Performance 7.5

The M3s perform surprisingly well. They retain the roomy feel of the M2s while the bass is much tighter.

Build Quality...... 7.0

Wire, housing and tips build quality is decent. The extension on the housing helps hold the headphones firmly in place.

Value for money......6.0

Although a strong performer, the upgrade over, say, the M2 for the increment in price isn't much.

Features...... 7.5

Has an ethernet port and Wi-Fi 802.11n connectivity, apart from a USB 2.0 port. Also has a separate tray for CD/DVD media printing.

Performance7.0

Results were high-quality even at speed modes with vivid colours and gradients. OSD has a good menu and is great to use.

Build Quality.....7.0

Huge and heavy at 16 kgs. Well built, good tray quality and easy-touse buttons.

Value for money......6.5 Good for pro photographers and artists. Expensive for home users.

TEST CENTRE RATINGS (All Scores out of 10) Features.....5.0 Can only be used with one PC at a

Performance6.0 Colour and contrast level in test prints were good, but we noticed

time. Not at all feature-rich.

minor streaking.

Build Quality......7.0

Sturdy and well-built, it has a compact footprint for a laser-like printer. Cartridges are accessed on a side panel, thoughtfully designed.

Value for money...... 5.5

Not the most feature-rich printer out there, and only for personal use. For its overall performance and size it's worth consideration.

Features......8.5

A Bluetooth speaker with voice guidance and FM transmitter. Boasts 2.1 virtual surround sound.

Performance.....

Long lasting battery offers12.5 hours of talktime and nearly 40 days on standby.

Build Quality......7.0

Sturdy design with a clip or stand at the back to hold it firmly to your car's visor.

Value for money...... 6.5

Slightly expensive but okay for the features it offers like surround sound speakers and conference call support.

WE SAY



A step up over the M2s, these in-ears are the flagship headphones from Brainwavz. In terms of performance, the headphones are suitable for almost any kind of music. The bass is fairly tight and the quantity is not too overwhelming. The sound signature is not bright and if we were to put a label on it, we'd say it tends to sway to the warm side (mids accentuated) ever so slightly. One of the better sounding in-ears to enter our test centre; however, a bit expensive and the performance boost over the M2 is perhaps not fully worth the 1.5k jump in price.



This isn't your average photo printer. With a range of connectivity and printing options, it can print on CDs and DVDs too. It's ridiculously easy to set up and use - same with cartridge installation. Apart from the standard pull-out paper feeding tray, you can fix rollers to attach a sheet of roll paper at the back. Photo prints are of high quality on premium glossy paper with high colour precision due to nine cartridges. We can't vouch for the printer's running costs in the long run as Epson doesn't give a number, but anyone seriously interested in high-quality printing at A3/A4 sizes should consider this.



Dell 1250c is a compact colour LED A4 printer for anyone who requires a fast printer with good quality prints. Its inlet and output paper tray are compact yet perfect for A4sized printing. Setting up the printer is quite easy with the bundled disc, but the installed software could've been more intuitive to use - it's not difficult, though. There's no Ethernet, Wi-Fi connectivity or OSD panel. But this speedy Dell printer churns out copies at an impressive rate: 30 seconds average, be it photos or mixed documents. Its toner cartridges are a touch expensive, but overall this is a laser-like printer with good build quality and performance.



If your car doesn't already include inbuilt Bluetooth, the Jabra Freeway is for you. It's as easy a device to use as there could be – the speaker is loud and clear, voice commands work quite well and you now have the ability to listen to your phone's music on the speaker or your car's stereo. The Jabra Freeway is also 'HD voice ready', a forward looking feature for when mobile operators start offering HD voice on their networks. Noise Blackout Extreme technology enables background noise cancellation using digital signal processing. When you leave the car, it automatically powers down in five minutes.

Sling the tablet

SlingMedia shows off media player app for Android Honeycomb tablets

Courting battles

Rumors suggest Samsung will attempt to block sale of iPhone 5 in Korea

Bazaar mini

CONTROLLER



Razer Onza TE Price: ₹3,499

Microsoft Lifecam HD-3000 Price: ₹1.710

BLUETOOTH HEADSET



Jabra Stone 2 Price: ₹7.999

STORAGE



Iomega iConnect Wireless Data Station Price: ₹6.500

SPECIFICATIONS

Third-party Xbox 360 and PC controller with two programmable buttons. Connects via USB.

16:9 widescreen video in 720p for up to 30 fps, inbuilt, uni-directional noise-canceling microphone

WEBCAM

Voice control to receive and end calls, voice updates about status, dock and charging unit

Marvell 6281 @ 1 GHz CPU; LAN (IEEE 802.3, IEEE 803.2u); Wi-Fi 802.11 b/g/n); 4 USB 2.0 ports

TEST CENTRE RATINGS (All Scores out of 10)

Features8	.0
Performance6	.0
Build Quality8	.0
Value for money5	.0

Features	5.5
Performance	6.6
Build Quality	5.0
Value for money	7.0

Features	7.5
Performance	6.0
Build Quality	7.5
Value for money	5.5

Features		7.5
Performance		NA
Build Quality		7.0
Value for money	·	6.0

WE SAY

The Onza features back-lit face keys, adjustable tension analogue sticks and a redesigned D-pad and triggers, and a 15-feet-long braided cable. Its force feedback could be better and the triggers aren't good for extended use. D-pad isn't best for fighting games. Looks cool and very well built, despite high price.

Lifecam HD 3000 lets you shoot sharp 720p HD video at 16:9 widescreen cinematic aspect ratio and Microsoft's patent True Color technology that delivers bright and colorful video, in virtually all lighting conditions. Fully integrated with Windows Live, it makes uploading, tagging and sharing easy.

Stone 2 has excellent 6.0 looks, and the portable charging dock is a huge value ad. However, the 2-3 hours talk-time on a single charge kind of defeats the purpose of the device. Call quality is good if in a silent environment, but suffers in noisy or windy surroundings.

An ideal device for those who want a central access point for their data resting on a variety of external HDDs. You can also access files remotely via a web interface and can attach upto two USB printers. It has an inbuilt torrent client, making it an extremely feature-rich proposition.



65W Universal Notebook Adapter Price: ₹2,250



Silicon Power E20 SSD Price: ₹6,240

PORTABLE SPEAKERS



Logitech Z120 Price: ₹775



Gran Turismo Maserati Mouse

Price: ₹3,250

Output Power: 65W; Efficiency: >85%; Operating Temperature:

0-40 degrees C; Adapter pins: 11

Capacity: 64GB (59.63GB effective); Interface: SATA 2; Weight: 70g;

TRIM Support: Yes

Portable 2.0 speakers; Weight: 530 gram; Dimension: 8.8 x 9 x 11 cm;

Freq. response: 20Hz ~ 20KHz

Connection Type: Wireless, Frequency: 2.4 GHz, Range: 10 feet +, Warranty: 1 year

TEST CENTRE RATINGS (All Scores out of 10)

SPECIFICATIONS

Features 7.0
PerformanceNA
Build Quality7.0
Value for money5.5

Features 7.0
Performance7.0
Build Quality8.0
Value for money

Features6.0
Performance5.5
Build Quality6.5
Value for money 7.0

Features4.0
Performance6.0
Build Quality5.0
Value for money4.0

WE SAY

Huntkey notebook adapter is a boon for those having multiple laptops, as it has up to 10 adapter tips for charging all brands of laptops. This 65W power adapter also comes with protections such as overvoltage protection, over-power protection among others. Pricing is a bit on the higher side though.

The E20 SSD has impressive sequential read / write speeds of 228 and 119 MB/s respectively and modest assorted read / write speeds of 132 and 41 MB/s. Wearlevelling and NCQ operations are two good features. It's better performing, cheaper and cost per GB is lesser than other 64GB SSDs.

These are powered via a 6.5 USB cable. Overall, the sound quality is not bad at all for portables. Of course, don't expect them to do 30 Hz samples or crystal clear highs. For ₹775 they do well to boost your laptop's audio output, and beats lugging around heavy sound bars or externally powered speaker.

The Maserati Gran Turismo mouse literally resembles a toy car. It connects and charges through a USB dock. The mouse supports up to 800 dpi and has a slider at its base to lower it. Its ergonomics aren't great, but its range is well over 10 feet. Overall, a good accessory to have, but this isn't a practical solution.

Street smart

Killer Rigs

Build your system with the best components based on your budget

120

Price Watch

Updated prices of the latest technology gadgets at your disposal

Do you even need a tablet?

Thinking of buying a tablet this festive season? First you need to figure out whether you even need one

Agent 001 agent001@thinkdigit.com

ablets are essentially the hottest gadgets you can buy at the moment. However, with the amount of choices available, making a decision is tough. And it's made tougher by the fact that this device attempts to fit into the very small gap between the laptop and the smartphone. Should you buy one?

Why do you need a tablet?

The jury is out on whether the tablet is as useful a device as it's made out to be. It does most of the things that you can do on a smartphone and on a laptop. The real thing to figure out – and this completely changes from

Apple iPad 2

person to person – is whether the tablet fits in with your lifestyle. Between the smartphone and the tablet, that is.

Multimedia consumption: The tablets, with their 5-inch, 7-inch and 10-inch screens, offer a much better experience than the good old smartphone. Most can handle HD video playback, but then again, for every iPad we have an HTC Flyer that can't.

Document viewing/
editing: For document
viewing, the tablet's bigger
display is a lot more convenient than the smartphone. A tablet with its touchscreen,
however, won't be as comfortable as
something with a physical keypad.

Web browsing: Perfect devices for this. Access mail and browse the web on the move, at home, wherever – the tablet with Wi-Fi or mobile network connectivity will make the investment all worthwhile.

Gaming: Good enough reason only if you're buying the iPad. Most Android tablets I've tested till now either don't

have the grunt or prove to be let downs when it comes to high-end gaming titles.

What to figure out

AGENT

Do you carry a laptop with you at most times? If yes, then all these tasks that can be done on the laptop, can be done quite comfortably on a slightly bigger

display. If you're at home, again the laptop can be used for the same stuff. Or you could view multimedia on TV. In this scenario, how does the tablet fit into your life? The answer will

differ from individual to individual.

Maybe you're planning on replacing the laptop with the tablet. However, do so only if you're comfortable with typing out long emails and documents on a touch screen. For the calling bit, the smartphone is the most convenient. And then again, most tablets don't offer that feature anyway.

In an alternate scenario, you could possibly have been doing all these tasks on a smartphone. And at home, you don't really use the PC or have one. In that case, the tablet could be just the device for you. Not only does the portability bit remain in tact, but the bigger display and better battery life makes it the perfect roadrunner device.

However, while this little bit of this and little bit of that exists, the tablet does have a lot going for it. Thanks to the superb battery life almost all tablets offer, they're extremely good companions on the road. Also, the sheer amount of apps you can download, be it on Android or iOS, will ensure you won't get bored. Thirdly, this device does have a certain amount of show-off value to it! Walk into office with one tucked under your arm and be sure that a few questions will come hopping your way.



WP7 apps on Nokia Belle

Nokia has debuted some Windows Phone 7 apps on its Symbian Belle platform http://bit.ly/osHLgg



iSWiFTER

You can now view flash content on your iPad without jailbreaking! http://bit.ly/qdiasA

Agent 001

Melp me build a PC

I want to build a PC for around 30-35k. I haven't decided whether to go for an AMD Phenom X6 Black Edition or Intel Core i5 2500k. And plz specify respective best motherboards. I plan to buy XFX GeForce GTS 450 1GB card. Is it good? If not, which one is better considering system details?

Swapnil Kadu

You've mentioned that you want to select between AMD Phenom II X6 Black Edition and Intel Core i5 2500k; we're assuming you're looking for the 1100T BE model as you haven't specified it. In terms of performance, the Core i5-2500k trounces on the AMD 1100T in most of the benchmarks. Pricing wise, the Intel one is a bit higher than AMD, but if sheer performance is what you want, then Intel is the way to go. Six cores is not going to help you in gaming, but can be quite useful for multi-threaded applications such as video encoding, rendering, etc.

Mission: Gaming Laptop

Your mission, if you choose to accept it, is to find me a great gaming laptop and an NVIDIA 9800m GS Graphics card. I currently have an Asus G50-Vt, but its graphic card (NVIDIA 9800m GS) got fried. Do you know where I can find this specific, or compatible, graphics card? In or around Lucknow or New Delhi would be preferable.

Also, I might buy another gaming laptop within the next six months. I'm currently looking at Alienware M14x & M17x. Which is better for a mobile hardcore gamer like me? When will Asus G series laptops be available in India? Unfortunately, I can no longer order it from the US.

Rohit Kumar Singh

You seem to be looking for a gaming laptop that's better than the Asus G50-Vt laptop, with support for DirectX 10 or higher. If you want a lightweight and portable gaming laptop, consider the Dell Alienware M11x, which is priced around ₹60,000 and weighing under 2 kgs. However, if you want a much more powerful gaming rig, then you should go for either the Asus G74SX or the MSI GT683. The MSI GT683 is currently the best gaming laptop around, considering its overall configuration and price. Its complete specs are available at the following link: http://www. msi.com/product/nb/GT683. html#/?div=Specification The Asus G74SX is priced around ₹1,19,995, while the MSI GT683 is reasonably priced at ₹75,000. We recommend the MSI GT683 for it gives you the best value for money in its price range.

You should know that most branded laptops come with factory-assembled video cards that are not available as a spare part. Also, most laptop video cards do not support upgrade capability. So, it's a good idea to buy a better gaming laptop.

Motherboard with i3 support for ₹5000

I want to purchase a motherboard that can support the Intel i3 processor. My budget for the motherboard is up to ₹5,000/-. Can you please suggest one in this budget that will be suitable for the processor?

Vivek Prabhu

You can get the Asus P7H55-M LX Intel H55 Express which is available for around `4000. It has six USB 2.0 ports, VGA and DVI video outs, a single PCIe x16 slot. If you want the USB 3.0 ports you'll have to stretch your budget to ₹5500 for which you can get MSI H55MA-E43.



Which is better, quicker and sexier – Dell or Dell?

I plan to buy a laptop and face confusion as to which one to buy. Dell XPS 15 (Core i3) and Dell Inspiron 15 (Core i5) cost almost the same. I want one with good performance in terms of speed. At the same time I want good quality such as strong body, durable keyboard, good screen and good built-in speaker. Will the performance of Inspiron 15 (Core i5) be much faster than XPS 15 (i3) in term of processing? If the performance is almost the same, my preference is XPS 15 (Core i3), so kindly suggest which to buy.

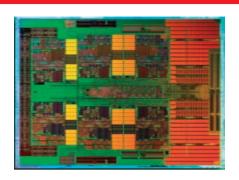
Lalrin

The Dell XPS 15 is better built than the entry-level Dell Inspiron 15R. The XPS also has better on-board sound and keyboard compared to the Inspiron. Between the Core i3 and Core i5, it's difficult to say with certainty how much the performance will differ since you didn't mention the exact processor model – but yes, there will be little difference. However, unless you'll be doing video encoding or graphics design, you shouldn't experience a whole lot of performance difference. And remember, a low performing processor almost always has a direct impact on the laptop's battery life. Low profile processor = greater battery life.



everything you'll ever need to build your own PC. whatever your budget.

PRIMARY COMPONENTS



PROCESSOR

- AMD Athlon II X4 635 -₹4,000
- AMD A6 3500 -₹5.500
- AMD Llano A8-3850 ₹6,900
- Intel Core i5 2500K ₹10,300
- Intel Core i7 2600K ₹15.800



MOTHERBOARD

- ASUS M4A78LT-M LE ₹2.600
- ASUS A75-M LE ₹5,300
- Gigabyte GA-A75M-UD2H ₹6,591
- ASUS P8Z68 V ₹11,800
- ASUS Z68 V Pro ₹14.000



RAM

- Corsair 2GB DDR3 1333MHz -₹800
- Corsair 2x2GB DDR3 1333 MHz -₹1.750
- GSkill 2x4GB 1600MHz -₹3.000
- GSkill 2x4GB 1600MHz -₹3.000
- GSkill 2x4GB 1600MHz -₹3.000



HARD DRIVE

- Seagate 500GB 7200.12 ₹1,700
- 500GB WD Caviar Blue ₹2,000
- WD Caviar Black 1TB ₹4.400
- Seagate Barracuda 2TB ₹4,700
- 2x Seagate Barracuda 2TB ₹18,600
 - + Corsair Force GT 120gb SSD



GRAPHICS CARD

- None
- Galaxy GTS450 ₹6,490
- MSI N550GTX Ti ₹9,500
- MSI N570 GTX TwinFrozr II -₹19.700
- 2 x ASUS ENGTX580 -₹54,000



MONITOR

- ViewSonic VA2038wm ₹5.600
- BenO G2220 ₹7,200
- Samsung P2350 ₹10,800
- BenO V2410 -₹14,500
- Dell Ultrasharp U2311H -₹14.000

- Basic rig = ₹19,140
- High-end Multimedia / Gaming rig = ₹51,686
- Ultra high-end PC / Gaming rig = ₹1,50,640
- Multimedia cum gaming rig = ₹35,440
- High-end gaming PC = ₹81,200

SECONDARY COMPONENTS

CABINET

- Zebronics Bijli w/o SMPS ₹1.100
- CM Elite 310 ₹1,500
- CM Elite 430 ₹2.620
- NZXT Guardian 921B - ₹3.700
- Cooler Master HAF922 -₹6,700



SPEAKER

KEYBOARD

Logitech K100 - ₹265

Logitech K100 - ₹265

Logitech K100 - ₹265

Razer Cyclosa (bundle) – ₹2,200

Razer Arctosa Gaming Keyboard – ₹2,200

- Logitech Z313 ₹1,000
- Altec Lansing V2621 ₹1,960
- Altec Lansing V2621 ₹1,960
- Creative Inspire T6200 ₹4,250
- Logitech Z506 ₹4,700

MOUSE

- Microsoft P58 ₹375
- Microsoft P58 ₹375
- Logitech MX518 ₹1,200

- Razer Abyssus (bundle) ₹0
- Razer Death Adder ₹2,100



OPTICAL DRIVE

- LG 22x SATA DVD Writer ₹950
- LG 22x SATA DVD Writer ₹950
- LG 22x SATA DVD Writer ₹950
- LG 12x Blu-ray OEM RW ₹6,000

SOUND CARD

Asus Xonar DX 7.1 / ₹4,740



POWER SUPPLY

- VIP 350 Watts ₹800
- Corsair CX430 ₹2,200
- Cooler Master GX450 ₹3.500
- Corsair TX650 ₹5,400
- Seasonic X850 ₹9,800

MISCELLANEOUS



HD MEDIA PLAYERS

- Asus O!Play Mini / ₹4,000
- WD Live TV Hub / ₹11,500
- Iomega ScreenPlay 1TB Director /



- Platronics Gamecon 367 – ₹1,700
- Alienware TactX Headset - ₹3,500
- Corsair HS1 ₹4,999



PORTABLE DRIVES

- Seagate Expansion Pocket 250GB ₹1,950
- WD Passport 500GB ₹2,950
- Iomega eGo 1 TB USB 3.0 drive ₹6,500

MOUSEPAD

- Razer Goliathus / ₹450
- Cooler Master Storm CS-M / ₹850
- Razer Goliathus Fragged Control Edition / ₹999

GAMING CONSOLES

- Sony PlayStation
 - 3 Slim (320GB) with Move ₹19,990
- Xbox 360 (250GB) with Kinect ₹30,061
- Nintendo 3DS Black ₹17.490



POWER PROTECTION

- APC (BR600CI-IN) ₹2,165
- Numeric SB1000 ₹4,700
- APC (BR-1000IN) ₹5,500





RFID jeans trousersWhat if those new jeans you've just bought start tweeting about your location? http://bbc.in/oBMuwW

PEND SMART

Updated prices of top Cabinets, monitors, DSLRs, All-inones and hard drives from Digit Test Labs



Street smart

CABINETS

Cabinet	Price (₹)	5,25"/3.5"(int)/3.5"(ext)	PSU Location	Fans	Expansion Slots	Dimensions(LxWxH)
ePRO Dragon	2,250	3/5/1	Bottom	3	7	49.5x19.6x44.4
NZXT Guardian 921RB	4,200	3 / 4 / 2	Bottom	3	7	52.2x20.6x45.9
CoolerMaster HAF922	6,700	4/5/1	Bottom	3	7	56.3x25.3x50.2
Circle Black Hawk	6,900	3 / 7 / 0	Bottom	7	6	53x20x56
CoolerMaster Elite 335	4,625	4/6/1	Тор	1	7	46.8x19x43.7
NZXT Tempest EVO	5,700	3/6/1	Bottom	6	7	56.2x21.1x52.1
Zebronics Aviator	2,550	4/5/1	Тор	4	7	46.6x18.5x43.7
Antec Sonata Pro	3,445	3 / 4 / 2	Тор	1	7	44x20.5x40.1
NZXT Gamma	2,200	4/7/0	Bottom	6	7	50.8x44.9x19



LCD MONITORS

Monitor	Price (₹)	Size	Resolution	Interface	Panel	Aspect Ratio
Acer G195HQ	4,825.00	18.5"	1368 x 768 px	DVI, D-Sub	TN	16:9
NEC EA191M	30,000.00	19"	1280 x 1024 px	DVI, D-Sub	VA	5:4
AOC e2043Fsk	6,000.00	20"	1600 x 1200 px	D-Sub	TN	16:10
BenQ G2200HD	7,200.00	21.5"	1920 x 1080 px	DVI, D-Sub, HDMI	TN	16:9
BenQ E2420HD	11,300.00	24"	1920 x 1080 px	DVI, D-Sub, 2x HDMI	TN	16:9
Viewsonic VA2431WM	9,780.00	23.5"	1920 x 1080 px	DVI, D-Sub	TN	16:9





Price watch



Model	Price (₹)	Processor	RAM	GPU	HDD	USB Ports
Lenovo IdeaCentre B320	29,900.00	Intel Core i3-2100	3 GB	Intel HD 3000	1TB	7
Apple iMac 21"	64,990.00	Intel Core i5-2400S	4 GB	AMD Radeon HD6750M	500 GB	4
Zenith Smart Style PC	18,500.00	Intel Core i3-550	2 GB	Intel HD	320 GB	7
HP Omni 200 - 5310in	40,337.00	Pentium Dual Core E5800	2 GB	Intel GMA x4500	500 GB	7
Dell Inspiron One 2310	52,065.00	Intel Core i5-460M	4 GB	AMD Radeon HD5470M	500 GB	2
Lenovo IdeaCentre A320	50,990.00	Intel Core i3-2300M	3 GB	Intel HD 3000	750 GB	4
Zenith Smart Style ECO PC	22,000.00	Intel Core i3-370M	1 GB	Intel HD	320 GB	2

INTERNAL HARD DRIVES

Hard Drive	Price (₹)	Capacity (GB)	Cache	RPM	Interface
Seagate Barracuda ST31000524AS	2,750	1TB	32 MB	7200	SATA II
Western Digital Green WD10EARS	2,700	1 TB	64 MB	5400	SATA II
Hitachi HDT725050VLA360	2,450	500 GB	16 MB	7200	SATA II
Seagate Barracuda ST2000DL003	4,150	2 TB	64 MB	5900	SATA II
Seagate Barracuda XT ST 32000641AS	8,000	2 TB	64 MB	7200	SATA II
Western Digital Blue WD5000AAKS	1,900	500 GB	16 MB	7200	SATA II
Western Digital Velociraptor WD3000HLHX	13,400	600 GB	32 MB	10000	SATA II

DSLRS

Digital Cameras	Price (₹)	Resolution (MP)	Video Encoding	ISO Range	Shutter Speed (Sec)
Nikon D3100	29,900.00	14.2	NA	100/3200 (12800)	1/4000-30
Canon EOS1100D	27,000.00	12.2	720p @ 30fps	100/6400	1/4000-30
Nikon D5100	39,000.00	16.2	1080 @ 30fps	100/6400 (25600)	1/4000-30
Sony A33	37,000.00	14.2	1080 @ 60fps	100/12800 (25600)	1/4000-30
Canon 600D	49,000.00	17.9	1080 @ 30fps	100/6400 (12800)	1/4000-30
Nikon D7000	74,000.00	16.4	1080 @ 24fps	100/6400 (25600)	1/8000-30
Canon 60D	64,000.00	17.9	1080 @ 30fps	100/6400 (12800)	1/8000-30
Olympus E5	85,000.00(Only Body)	12.3	720p @ 30fps	100/6400	1/8000-60
Canon EOS 7D	87,000.00(Only Body)	17.9	1080 @ 30fps	100/6400 (12800)	1/8000-30

Street smart

NVIDIA quad-core tablets

NVIDIA will be bringing out guad-core Android tablets towards the end of 2011 http://bit.ly/nBnBGU

Android 4.0 this month

Google Android 'Ice Cream Sandwich expected to arrive by October 2011 http://bit.ly/n2psrL

Rights come with responsibilities

Find out what your responsibilities as a consumer are...

Kapil Rustagi readersletters@thinkdigit.com

e often come across consumers who complain of being supplied substandard goods and services. Don't they have the right to get the full value of their money spent for the goods and services they want to avail of?

The answer is "yes". Often, though, consumers themselves are responsible for the deficient goods and services provided to them. Isn't it their responsibility to give full details of the goods and services required by them?

Let's discuss the rights and responsibilities of consumers. First comes the responsibility of self-help, which means a consumer shouldn't depend on the seller for information and choice as far as possible. As a prudent consumer, you're expected to act in a responsible manner to protect yourself. It's always better to be forewarned and forearmed rather than pay the price later. Choose the right goods at the right prices and find out how to use the products to prevent damage or loss. Keep yourself informed about

consumer problems.

Also, it's the responsibility of the consumer to always check the quality of the goods and services when they receive the same.

The next vital duty of every consumer is preserving the proof of purchase (cash memo) and documents relating to purchase of durable goods. Should you need to complain about defects, the proof of purchase

will enable you to establish your claim for repair or replacement, Similarly, durable consumer goods like TVs, refrigerators, etc. come with warranty or guarantee cards which entitle you to services such as repairs and free of cost parts replacements for a certain period after purchase.

However, note that exorbitant claims can backfire. During the guar-



If you're facing a problem with your purchase, write to us at help@consumermate.com

antee period, consumers tend to use their products roughly. So, always use products properly and carefully.

Only if you're willing to fulfill your responsibilities as a prudent consumer can you exercise your rights.

COMPLAINTS RECEIVED

Laptops

Lenovo is not providing the gifts promised at the time of purchase

I had purchased the Lenovo Z570 with serial no. WB01793198 from Orissa for my son studying at NIT Rourkela. At the time of purchase, there was an offer of free gifts (i.e. pen drive, MP3 player, wireless mouse and speakers) from the company for students who, after purchase, register the same. Accordingly, my son had registered the same, attaching the required documents, on August 7. He received an email from Lenovo confirming the registration. It read, "Congratulations!!! You have got wonderful gifts. The gift will be delivered to you within 6 weeks. Your most awaited gifts are on their way". I also visited its site and verified the status of registration wherein there are big red tick marks against the documents required. Then, Lenovo informed my son of non-receipt of the documents and advised him to resend. Even though we

received the confirmation email from Lenovo and the status report generated from the site shows that the registration was done in time and documents were received, he resent the documents on 25th August.

On our constant asking for confirmation of receipt, suddenly on 2nd September my son received a mail from Lenovo stating that the last date for receipts was 26th August, hence Lenovo was unable to process the request.

From the above I could infer that Lenovo, being a reputed and highly placed company is playing cheap tactics of business, by which it will be deprived of its valued customers (specially students) by not fulfilling the promise made at the time of sale.

Non receipt of a few gifts will certainly not reduce our value of being a customer. But a dissatisfied customer will certainly reduce the market value of any organisation. Even one dissatisfied customer can create a big hole in the marketing area and any organisation

should hope they don't have a customer who is dissatisfied.

Kindly look into this and help me get the gifts offered at the time of sale.

Contacted By: Rajani Kanta Mishra

Answer By Consumermate:

Dear Consumer,

It is unfortunate that once the product is sold, the company never looks back at the consumers who are the base of its business. A consumer must get what he has been promised and shown. The offered gifts were part of the offer for which you parted with your money. You are legally entitled to it. If the problem persists, then you can send them a legal notice and call upon them to resolve the issue within a specified time period. Please do take postal and other receipts as these are the only pieces of evidence which would help you prove your case in the consumer or any other judicial forum. Keep a record of all related documents which could be crucial to establish your case in the consumer forum.

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Arko Lite



Arko Pro



Explode



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Co



Dio



Trip On

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Tech @ Work

Industry connect Map your career with IBM's initiatives and learn about Diwali shopping trends



Metro on Xbox 360

Microsoft will update the Xbox 360 dashboard with the new Metro UI http://bit.ly/oEhbsS

Starting with Django

Diango is a web development framework that every Python developer should experience.

Kshitij Sobti kshitij.sobti@thinkdigit.com

jango is a free open source framework for developing web sites. It offers unprecedented ease in defining complex data structures. It emphasises rapid development and the DRY principle (Don't Repeat Yourself). There are several advantages of Django. For example, the applications you create cleanly separate the model (the part that describes your data), the view (the part that generates the data to be displayed) and the template (the part that defines the visual appearance of your content).

Django lets you describe how your data is related in Python by defining model classes. For whatever kind of data structure you create for your web site, an administration panel is automatically created, and is usable outof-the-box. The panel can be further customised for even better usability.

Installing Django

You need Python 2.7, not Python 3. Refer to bit.ly/python-install for directions on installing it on Windows.

If you're running Linux, it's likely you already have Python and may be, even Django. In this case, install from your distro's repos - on openSUSE it's sudo zypp install python-django. Similarly, on Ubuntuit's sudo aptget install python-django.

If these don't work, go to https://www. djangoproject.com/. Extract the archive to a known directory, and in the command line go to the directory in which you have extracted Django. Now run sudo python setup. py install on Linux or python setup. py install on Windows. Although you'll need an SQL server and a web server to serve your Django application in a production environment, we'll use the inbuilt SQLite database and inbuilt server for now.

Creating your Diango site

We'll be making a simple application that lets you track books you've lent to others.

First, let's decide the structure of our data. We need to be able to store a list of books and persons, and associate a book with a person if it's lent to them. A person will have a name, a phone number and an email address so you can contact them. A book will have a name, an entry for the person who took it and the borrowing date. Now, let's move on to the next few steps.



Adding a Book

1. Create a site

Go to a folder where you wish to start this project in the command line and type the following:

python django-admin. py startproject myproject

This will create the basic structure of your web site inside the directory "myproject". Enter that directory. Note: django-admin.py might not be in your path on Windows. You can find it

at C:\Python27\Scripts\djangoadmin.py in which case use that path instead of just django-admin.py.

2. Create an app

You've created a web site, but it needs to have an application that contains a bulk of the code. A site may have multiple apps and an app might be used by multiple sites. You can create one by using the command: python mange.py startapp books

3. Set up your database

Open the file called "settings.py" in your project folder in a text editor like Notepad++. Right in the beginning you'll find a configuration setting called DATABASES, under which you will find "default". Under the default database setting, change the ENGINE setting to d jango.db.backends. sqlite3, and the NAME to something like myproject.db. The NAME setting is just a path to the database.

4. Add your app to your site

In the same settings file, go down to the INSTALLED APPS setting, and add books - the name of your application - right at the end.

5. Enable the admin panel

At this point, you might also go ahead and

uncomment the line that says django.contrib.admin by removing the "#" in the beginning of that line. Close the settings.py file. Open the "urls.py" file in the same directory and uncomment the admin lines as instructed in the file. Close the file.

6. Create the models

Open the books directory in your project folder and open the models.py file for editing. Add the following to the file (it should already have "from django.db import models" else add that as well):

class Person(models.Model):

first name = models.

CharField(max_length=50)

last_name = models.

CharField(max_length=50,

blank=True)

phone = models.

CharField(max_length=15,

blank=True)

email = models.

EmailField(blank=True)

def __unicode__(self):

return self.

first_name + " " + self.last_name

class Book(models.Model):

name = models.

CharField(max_length=255)

borrowed_by =

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A Google a day

Sharpen your googling skills with one Google search a day http://goo.gl/jUHu5

Developer corner

models.ForeignKey(Person, blank=True, null=True) borrowed_on = models. DateField(blank=True, null=True) def __unicode__(self): return self.name

These lines describe the data structure of our web site. The Person class defines the person and the Book class defines the book. The first name and last name are character fields of specified length. The phone number is stored in a character field as well, in case you wish to store numbers as "+91 99 9999 9999" and the email is an email field, which is optimised for the purpose.

In the Book class, the name is a character field with a much larger limit on length. There's a borrowed_on field to store the date on which it was borrowed. Finally, you have borrowed_by, which relates the Book to its borrower. We can directly use Person here as it's already defined, but otherwise we would have to enter it as "Person". With this kind of relation, one Book can only go to one person, but one person could have borrowed multiple books.

By setting blank=True we've made entering those fields optional. So if you want, you can just enter the first name of a person, with an option to enter a last name. a phone and an email as well. Similarly for a book, all you need is a name. Not all books will be borrowed, and once a book is returned, it will need to have no one associated with it. In addition to blank=True, we need to set null=True for ForeignKey and DateField for this to work.

Finally, the __unicode__ function describes the string representation of an object. If you were to remove that, every book would be called "Book object" in the admin panel.

7. Add the Book and Person objects to the admin panel

Create a file called admin.py in your books app directory, and add the following to it:

from books.models import Book, Person from django.contrib import admin admin.site.register(Book) admin.site.

register(Person)

This code registers the Book and Person classes with the admin site, so they can be managed using the automatic admin backend.

8. Run the syncdb command

Now, in your project directory in the command line run the following command:

python manage.py syncdb This command will create the database and the basic structure required by each application. It will also ask you to enter a username, email and password for the default site administrator. If you modify your application, you'll need to delete your database file and run this command again. You'll lose your data in your process though! There are other ways to accomplish this without deleting your data but they are beyond the scope of this tutorial.

9. Start your server

In the command line in your project directory run the following command: python manage.py runserver This is not a production worthy

server, but is good enough for testing. By default, it will launch a local server that you can access by entering 127.0.0.1:8000 in the browser address bar. The server is smart enough to automatically restart if it detects that you have changed your code. It won't detect if you have added new files, and might stop working if you save a file with an error though.



Adding a Person

10. Use your web site

Enter http://127.0.0.1:8000/admin in your browser address bar, enter the username and password you picked earlier. You'll now be able to access a fully functional admin panel that will let you browse and edit the books and person you have added.

You're nearly done! Now all you have is a web site that has an admin panel, but not a frontend. In this example, it might be enough to simply view all details in the admin panel, but a normal web site will have a frontend. For that you need to learn how Django views and how templates work which we'll cover in a future article.

You can see how easily we have a web site up with customised functionality. You could now easily modify this site and add an owner for each book so it works as a book management system that works for multiple people.



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Instant, Hakka & Pad Thai Noodles, Soups, Sauces & Miracle Masala

Ching's Khao, Baki Bhool Jao





Tech@Work

Portable powerhouses

'They do it all' laptops that students can buy http://bit.ly/qCa6qO

Is 3G for you?

The 3G question: To connect or not to connect? http://bit.ly/paceHR

Map your dreams

We spoke to Himanshu Goyal, Country Manager, Academic & Developer Relations of Career Education & Localisation at IBM. He shared insights on academic initiatives. Excerpts...

Nash David nash.david@thinkdigit.com

What are the various activities initiated by IBM developerWorks?

Through developer Works, we constantly look at engaging developers and encouraging them to try their hands at IBM software. For instance, the IBM Developer Superstar contest challenged Indian developers to conceptualise smart application ideas and build a prototype using IBM software.

Our pan-India road show last year, Develothon, attracted a large following. Over 40 days, our software and technical experts conducted briefings and lectures at various engineering colleges and cities for the developer audience on emerging technologies such as cloud computing, business intelligence, mash-ups, collaborative solutions etc.

The developer Works platform itself (ibm.com/developerWorks) is probably the most extensive resource you'd find on IBM software and open technologies, providing in-depth technical know-how coupled with the advantages of a social network in My developerWorks (ibm. com/developerWorks/mydeveloperworks).

I How good do you think the Indian education system is?

Our education system is definitely one of the best in the world. Sure, there's always room for improvement, but the emphasis on the basic building blocks in our education system serves as a very good starting point for anyone.

What our system lacks however - and I find this specific to the IT industry - is the lack of experiential learning coupled with functional competencies. For instance, if you were to look at career paths for professionals such as academicians or doctors, you'd find each step very struc-



Himanshu Goyal, Country Manager, Academic & Developer Relations, Career Education & Localisation, IBM Software India/South Asia

tured, in terms of defined education paths and experiential learning. In contrast, if we look at Computer Science and Engineering, the unfortunate reality is that by the end of the final year, the student is only looking at getting a job but is still unclear of the area of specialisation due to the surfeit of career options thereafter.

Our solution to this lacuna is the IBM Career Education Program (ibm.com/in/ careereducation). This programme checks the basic skill areas of the candidate in three basic strengths: whether he is an observer, planner or doer. We further broaden this to relate these key strength areas to disciplines of Quality, Manager and Engineering. We then provide detailed career paths to the young professionals and help them gain all the relevant skills, complete an IBM-certified project and make themselves adept with largely used IBM products. They're equipped with the knowledge to serve some of the largest enterprise businesses. This programme brings together the latest software

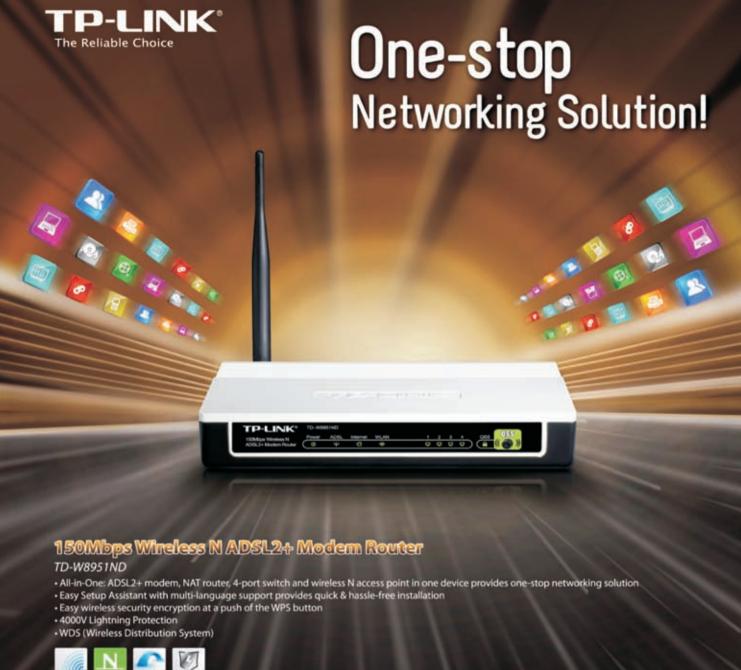
content, real-world industry experience, hands-on lab courses and best practices to a single unique education platform.

d Any advice to budding software engineers/ developers on picking a career opportunity? What factors should they consider?

My advice would be to build on your strengths and inherent skills. The beauty of the IT industry is that there are a plethora of career choices available, each of which provide you the flexibility to build on your strengths and interests, yet help you reach the role that you desire. For instance, a person skilled in conceiving, designing and creating applications could look at the career paths for Software Engineers (or *Doers* as we call them) which would lead them to the role of a Principal Engineer or a Solution Architect or an Information Architect, etc., while someone who has a keen eye for detail, or for reviewing things and adding value to make them should look at the career paths for a Quality Analyst (or Observer), while someone who excels at co-ordinating. managing people and projects, and juggling multiple stakeholders, could look at the career paths for a Planner and hence build their career in the Management function. Within each such broad career or skill options we see multiple career paths that could cater to different platforms and technologies, for instance developing embedded applications for mobile phones, ATMs, etc., enterprise applications using Java/J2EE, etc.

Could you sum up IBM's 100 years?

Over the last 100 years, IBM has constantly redefined innovation - think about the barcode, fractal geometry or the first computer to beat the reigning champion at chess, the list is endless. Innovation, that has allowed Information Technology to solve real-world problems. Along the way, IBM has also broken many social barriers, be it our first woman vice president in 1943, or hiring Michael Supa, a blind psychologist in 1942. One thing I can be sure of - the next century will be even more exciting than the one that went by.













300Mbps Wireless N ADSL2+ **Modem Router**

TD-W8961ND





54Mbps Wireless ADSL2+ **Modem Router**

TD-W8901G



ADSL2+ Ethernet/USB **Modem Router**

TD-8817/8816



150Mbps Wireless N **USB Adapter** TL-WN721N



Where to Buy:

Ahmedabad: Aditya Peripherals: 9825044306 GOIP Global Services (P) Ltd: 9824499716

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New Delhi: Advik Compware Pvt ltd: 8800848377 GOIP Global Services (P) Ltd: 9910506766 Pune: Burhani Computer.com: 9765089452 Raipur: Hitech Solutions: 9826160789

Xenium comes to India

Philips re-enters mobile phone market in India with Xenium technology http://bit.ly/n3mDBL

The third wave

Samsung's Wave III handset set to arrive in the UK in October

Digit speaks to eCommerce web sites

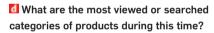
Since we're talking a lot about shopping, deals and finding stuff online, we decided to get some info straight from some of the leading websites in this space

Siddharth Parwatay readersletters@thinkdigit.com

Based on last year's data. do online transactions actually spike during Diwali? Kunal Bahl: There is a definite increase in the sales through online shopping during Diwali, but the spike is not as prominent as it would be in some of the categories offline.

Amarjit Batra: The spurt on OLX happens just before Diwali.

Manu Agarwal: Yes, it increases to 10-15 per cent in overall sales pattern.



AB: Household Goods like TVs, washing machines, furniture etc. and Personal Goods like mobiles and laptops. Other categories that see a spike are used and new motorcycles and cars.

KB: Mobiles and Electronics. MA: Gifting items like Silver coins,

Gold coins, Kitchen utensils and appliances, Cameras and Mobiles.

What kind of offers will be available on your site during Diwali?

KB: To cater to the festive season, the focus will be on diamond jewellery, gold coins and other festive-related preferences of consumers.

MA: There will be bundle offers, lots of freebie distributions,



Amarjit Batra, Country Head, OLX.in

Manu Agarwal, Founder & CEO,

Naaptol.com

contests and prizes during this period. We'll run Shopping Fest during the OND Ouarter across categories - Specially Gadgets and Gifts.

How much do customers spend on average in a oneyear period?

AB: Since we don't track the completion of transaction, because we only help the buyer and seller match their needs online, we can't say for sure on the

transactions pertaining to second-hand products. But, if you take a ballpark number of even 10 lakh people who sold their old (actual numbers will be much much higher as every individual would have a second-hand phone every year and some, every six months) phones last vear, it's a sizable number.

> KB: The range is quite vast, since Snapdeal.

com customers have options to spend from as low as ₹400 to ₹40,000 in any given transaction, depending on type of deal.

MA: Around ₹7,000 - ₹10,000

Mhat are the most preferred modes of payment and from which regions?

KB: Currently, the most preferred modes of payment are credit and debit cards, followed by net banking. Given the recent introduction of Cash on Delivery as an option for payment, the mix might change in the days to come.

MA: Prepaid modes are preferred. We'll be introducing Easy EMI options of three, six and nine months from October for Citibank and ICICI credit card holders. COD along with net banking and debit cards will also be available. Preferred regions are Tier I, II and III cities.

Overall, what kind of trends are seen in consumer behaviour for consumer electronics and tech shopping?

AB: There are two clear trends emerging. Once a buying decision is finalised, consumers compare prices and research

> supply sources. Besides eCommerce sites, a portion of users also look at Free Classifieds sites for this.

The other emerging trend is an increasing number of tech shoppers going online to sell and buy second-hand goods.

KB: Post the first purchase, the probability and frequency of buying products online is pretty high. This is specially in categories like Electronics and Tech shopping. To drive this

first purchase, attractive offers and ease to the customer through multiple options for any category help.

MA: It's all about experience. If people are satisfied with the quality they do buy online. We need to target people with the kind of products they're looking for. We do lot of segregation while communicating with the customers based on buying patterns, browsing history, interest and other parameters.



Kunal Bahl, Co-founder & CEO, Snapdeal.com



Get Groomed for Global Success

uality education leads to quality living. Life, nourished with knowledge of the highest order, not just stirs up your potential, it also takes you beyond your capabilities.

Obsessed with the idea to transform education from being a cluster of wellunderstood subjects to becoming welladapted aspects and principles of life, Galgotias University adds the "I can relate to" element to education. Education that, besides adding to your qualification, adds to your sensibilities and personality. Indeed, this unprecedented approach is seeing many takers, be it students, faculty, researchers. These are people coming from the best

academic backgrounds to acquire education that inspires them.

Galgotias University, at its sprawling, state-of-the-art campus designed by Arcop International, a Montreal-based company, has an impressive faculty strength that includes teachers and professors, all Ph.Ds, from world-class universities like Carnegie Mellon University, Purdue, etc. Experts from all over the world are coming together, bringing along diverse cultures and capacities, creating a highly interactive and encouraging learning atmosphere.

And of course, recipients of world-class education disseminated here are sharp, meritorious minds having scored 90 percent



"We want the best to come and make full use of the rich resources collated here. The stringent screening process will ensure entry of only the deserving few. Indian or foreign students admitted will be getting all what they expect from a global university right here."

Suneel Galgotia, Chancellor, Galgotias University

or above in the XIIth boards or equivalent in other countries.

Students are offered study programs in Engineering & Technology, Computer & Information Science, Management, Art & Social Sciences, Journalism & Mass Communication, Finance & Commerce and Basic & Applied Sciences. The Fully Flexible Credit System gives them an opportunity to design their own curriculum and enjoy multi-disciplinary learning. There is certainly an effort to encourage analytical thinking and introduce new set of social and leadership skills to education.

Having the obligation to teach, Galgotias University also provides the freedom to conduct research. The faculty and students can pursue their research ideas and create knowledge. There is strong emphasis on producing cutting-edge discoveries and using that knowledge to serve the society. The Chancellor firmly believes that every ingenious research and scholarly output will add to the growth of the industry.

The University enjoys strong tie-ups with industry and research centres for enabling its students to explore, experiment and establish their achievements in the chosen fields. In fact, they have got world's best academic and research programs to gear them up for challenges of the new millennium. Of course, there is an educational legacy behind this mammoth initiative. The prestigious Galgotias Group has proved its professionalism and strong commitment to educational excellence for over eight decades and has been conferred with noteworthy awards and recognitions in India and abroad. Build on such invaluable experience, Galgotias University, with a clear vision of tomorrow's needs and expectations, sets new benchmark of global education.

Digit 101 Things to consider before buying a laptop: processor, keyboard, battery life, etc

Why we yawn

According to a study, we yawn to keep our brains cool. http://bit.ly/oxuLrT

Bizarre things

The weirdest, strangest stories doing the rounds on the net...

iPhone 5 prototype left behind in tequila bar

http://tgr.ph/oawQy3

No, this isn't a case of deja vu. In a near exact re-enactment of the unforgettable incident last year, an Apple staff member left behind a prototype of the next iPhone in a San Fransisco bar.



10 bizzare video game accessories

http://bit.ly/r0XYIZ

Long before Kinect let you become the controller, the LJN Roll & Rocker let you become the d-pad! This is just one out of ten really weird, and maybe useless, video game accessories in this list.



25 weird and wild subdermal implants

http://bit.ly/bwxYHW

A subdermal implant is a kind of body jewellery that is placed underneath the

skin, allowing the body to heal over the implant and create a raised design. Check these wild ones out.



Diwali games

Want to kill some time but don't know how? Here are some games that will help you out in a rather fiery way.

Diwali Dhoom

This free arcade game is a festive remix of Asteroids in which you can fire rockets at gift packages and collect some virtual coins. Visit: http://bit.lv/cPgnSG



Diwali Dhamaka

You have 40 clay lamps arranged in the form of the sacred letter 'OM'. Only 20 are clickable. Light these 20 clickable lamps in 60 seconds! Visit: http://bit.ly/nPmWxg



Supersonic Diwali Fun

Featuring Sonic and Silver, the hedgehogs, riding rockets for some reason, this game's objective is to collect as many firecrackers as possible without crashing. Visit: http://bit.ly/r8PE3t



Card-n-game

Make receiving an e-greeting for your friends and family this Diwali a whole lot of fun with an inbuilt game. Shoot the atom bomb and collect points.

Visit: http://bit.ly/ cbHfaZ



Fireworks Extravaganza

A puzzle game with a diwali flavour, Fireworks Extravaganza makes you arrange blocks of different shapes and sizes in order to create some spectacular fireworks. Visit: http://bit.ly/roQDWl



Kill Ashura

Shoot Ashura's head and collect points. This fun game checks how quick you are by having you point, click and



shoot at Ashuras flying up the screen in their escape bids.

Visit: http://bit.ly/oBx9CE

Buy a card, get a bat free! Arkham City will be bundled free with

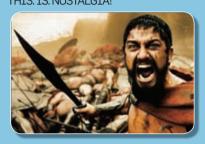
select NVIDIA cards

Unwind

How we unwind

300

In the midst of issue closing, someone brought a Blu-ray of the movie, thanks to which we were glued to the screen for two and a half hours. Magazine? THIS. IS. NOSTALGIA!



tvprX

typrX is a multi-player typing game that allows players to compete against each

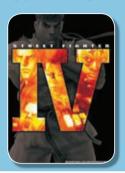
other over the Internet and also improve their typing speed in a fun way. We pitted our typing skills against each



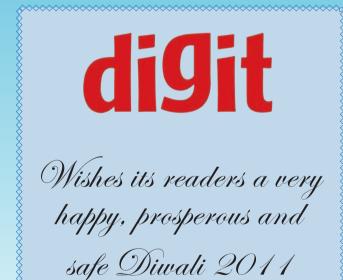
other every chance we got in a bid to figure out the quickest article typer.

Street Fighter 4

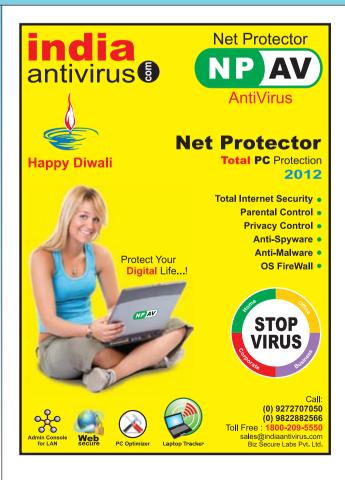
Two controllers were all it took to spark off a massive tournament that included the new guys and the Digit veterans.



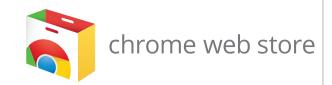
The month began on a very eventful note for Sambhav, with him being picked on by a BMC marshall for littering in a public place. People who don't care enough for your country to keep it clean, kindly note: doing this will result in you being fined 200 bucks! Another 'event'ful day was the day Team Digit mingled with you guys at the Taitra event at Inorbit mall where Malaika Arora Khan made a guest appearance to judge the contestants. With new boys Anirudh R, Aniruddh S, Mithun, Jait and Sriram joining the gang, the office is abuzz with activity... playing Quake III Arena was never so much fun! Also, Siddharth celebrated his birthday this month by getting birthday bumped at midnight and a cake facial at noon (the cake was a lie, though). The weather gave those of us in the Test Centre a hard time. Phew! The things we do to get your Digit issue to you on time!













The journey...

Chrome by Google has rapidly grown to emerge as one of the most significant players in the browser market. What sets it apart from other browsers is the availability of apps that augment standard web experiences and functions to enable an experience similar to tablets and mobile devices. The Chrome Challenge began a couple of months ago, where participants were required to build an app and submit it to the Chrome Web Store at https://chrome.google.com/webstore. All participants who submitted a valid app will be contacted shortly by Digit to inform them of their assured prizes.

Congratulations to the lucky winners!





Astro-Vision Futuretech Pvt Ltd., Kochi **Hindu Calendar** (http://bit.ly/hindu-calendar)

Astro-Vision Hindu Calendar is an interactive app that provides personalised daily predictions and regional calendar details such as star, tithi and rahu for the entire year. Personalised daily predictions are based on Vedic astrology. Regional calendar details are available for more than 30,000 cities across the globe.





Manish Revappa Chiniwalar, Belgaum MindMapr (http://bit.ly/MindMapr)

MindMapr is a mind-mapping application that empowers you to represent your thoughts laterally. MindMapr features HTML5 offline functionality, thereby freeing you from being tethered to the internet. It also employs local storage to save your mind-maps in the browser itself. So go ahead, use MindMapr, crystalise your thoughts, and map your mind!





Qveda Interactive Design, Mumbai Gully Cricket (http://bit.ly/gully-cricket)

The action in Gully Cricket is in the heart of a typical, old, Bombay neighbourhood. The Parsi quizzer, angry cook, and lovely Goan all bring their insanity into the game. Break a window pane, and you'll experience each one of them at their worst in this engaging game!





Himanshu Shringarpure, Bengaluru Wonders of India Puzzle (http://bit.ly/wonders-of-india)

Wonders of India Puzzle is an interactive way of discovering India. The app engages you with a jigsaw puzzle that forms the image of one of the Wonders of India (eg. Taj Mahal). Use your mouse to put this puzzle together while learning about the monument. What's better, this app can be used even while you're offline.





Harshit Jain, Fatehabad **TellMeFilms** (http://bit.ly/tell-me-films)

Using this offline app, you can keep a track of the release dates of your favourite movies. You can watch previews of the movies releasing in the current month in a cool slideshow. It is very easy to see its trailer as the links to their trailers on YouTube are available right under the slideshow, which provides a better experience. It's also very easy to set a reminder through a shortcut to a reminder site.

As a special mention, Team Digit has selected the following two participants for their valuable contributions. They will be receiving a consolation prize. Congratulations!





Rajasekharan R, Bengaluru My Rupee Tracker (http://bit.ly/my-rupee-tracker)

My Rupee Tracker allows you to keep track of your daily expense and income transactions with a new, easy and refreshing UI. The transactions you add are listed in tables at the bottom of the screen. You can also set monthly limits for each category and get notified when you cross your specified limit.





Ranjan Kumar, Pune **News You Like** (http://bit.ly/news-you-like-chrome)

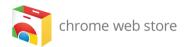
News You Like lets you browse through news snippets of your interest. Click on Settings and a page will appear in the foreground where you can enter topics you're interested in. Once you click Save, you'll find the newly saved topics in the list of news topics. Click on other tabs to read the respective news.



Favourite Bollywood Tweets (http://bit.ly/fav-bollywood-tweets)

An easy way to keep yourself updated with tweets by your favourite Bollywood personalities without even logging in to Twitter! You can modify your choice of Twitter handles anytime. By default, the tweets of your favourite handle will be displayed. Click on other tabs to read the respective news, or use the left and right navigation arrows to scroll through the list of IDs. You can customise the app in every possible way, including changing the theme of the app.



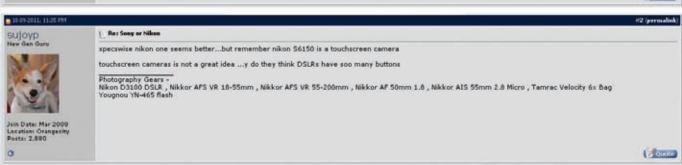


Head over to www.thinkdigit.com/forum, for some of best discussions, buying advice, and user reviews. Of course, you will meet like-minded (and not so like-minded) geeks, leading to some of the most constructive arguments you'll ever have.

Check out this thread below asking for point and shoot camera recommendations

Lots of reccos and lots of buying suggestions! But it's not all forum war, you'll find some interesting info and much more. Head over to the thread via this shortlink: http://bit.ly/qmi5tY





Digit 101



Things you should consider before buying a laptop

Come festive season and we all run to grab the best deals and discounts on offer. The laptop sales sky rocket during this time as most of us wait for deals to go live. Before you hastily make a purchase decision based on the amount of free goodies, we recommend reading through the laptop buying guide below.

Which processor?

For some, this might be the most important parameter to look at, while for the rest not



quite as much. If you're a light to moderate laptop user, it's best to go for a Core i3 2310M processor as most of your work would comprise of editing and creating text documents and Excel sheets, and

surfing the web. If you are a light gamer and also do some video or photo editing then the Core i5 2430M should be the minimum (with an appropriate graphics card). For hardcore gamers and geeks we recommend the Core i7 2670QM to match their demanding graphics and computing needs.

Keyboard



This might not strike you as an important factor to look at, but most of the dust attracted by your laptop accumulates in between the keys. A chiclet keyboard adds a refreshing look and feel to your machine while doing with any dust particles, apart from being great to type on. But this is a subjective choice; test-drive your prospective laptop's keyboard before purchasing it.

USB 3.0

With a transfer rate of about 480 MB per second, USB 3.0 is the future. Make sure your machine ships with at least one port to future-proof the laptop.



Screen size

The screen size of your laptop dictates how portable your machine is, as it directly impacts its overall weight. The bigger the screen, the more difficult it is to move about with. If

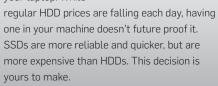


15-inch display measured diagonally

accurate colour representation matters to you a lot, then look for an RGB LED backlit screen which should ensure a whiter and richer colour experience. A good full HD 1080P display is what you should be looking at, but laptops with such screens are generally

SSD or HDD

This has been the subject of quite some debate over the past few months. The decision to choose between an SSD or HDD solely depends on how much you're willing to spend on your laptop. While



SSD

64GB

Weight / build quality

More important factors to look at are the weight of the laptop, overall form factor and durability. Of course your machine shouldn't be built like a tank, but then it shouldn't be too fragile either. Look for a sturdy chassis which will last you till your next laptop upgrade.

Battery life

A lot depends on the hardware that effects your battery life. An average set up ships with a 6 cell battery which would give you run time of about 2-3 hours under normal usage. However if you up your budget by a few thousands you can opt for a 9 cell or a 12 cell battery which would just double your juice

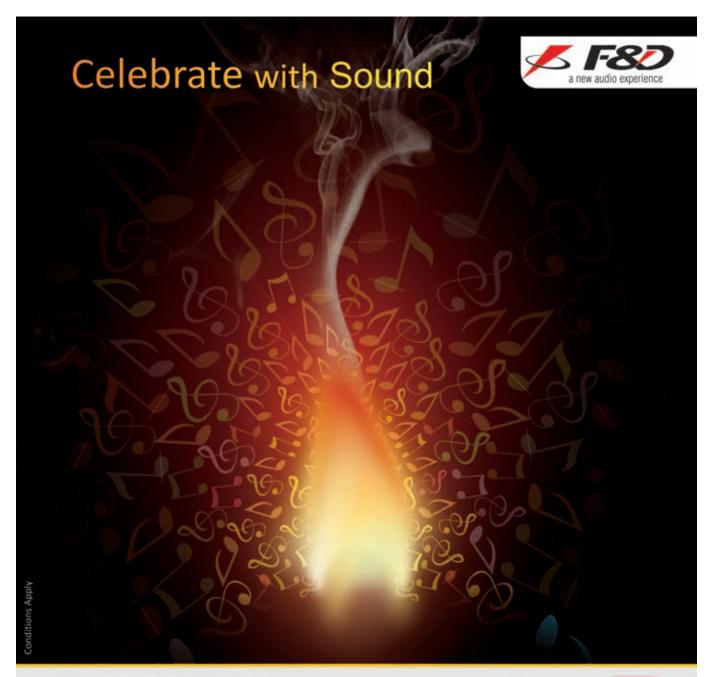


A nine cell battery is wider and bulkier than a six cell



Do I need Windows at all?

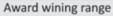
Not really; if you're a Linux fanboy then you wouldn't need it. Opting for Linux will surely save you money which you can invest in upgrading your hardware. Be sure before opting for this route, you'll be putting food on some Open-Source developer's table, which is a good thing.



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- Advanced Battery Management (ABM technology)
- · Automatically charging when UPS off









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