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Get on the technology world map

Digit was recently at Computex Taipei 2010, to get a first-hand look at emerging technology trends from around the world. You can read Digit's coverage in our buzz section (pg. 8), and will also find more pictures and videos from the event online at www.thinkdigit.com.

I've always looked forward to Computex, because apart from being the second-largest technology exhibition in the world, it's also Asia's biggest, with a lot of products that are more relevant to us Indians, rather than just US-centric gadgets that are of no practical use in India.

What's always irked me, however, is that we have to travel abroad for such exhibitions. As Digit representatives, it's a lot easier for one of us to travel to Computex, CeBIT, CES, etc., but where does that leave you? Although you'll see a lot of coverage from magazines like Digit, or online at sites like thinkdigit.com, nothing beats "being there", does it?

Most of the exhibitions we see around us are more to do with mainstream consumer durables, as that's what seems to get attendance. But none of them are even close to the size of CeBIT or Computex. This is just sad, in a country which is considered to be a hot-bed for developers, entrepreneurs and geeks in general, and is touted as one of the world's fastest growing economies and consumer markets.

When talking to people in the industry, the general perception is that housing, job and home expos get attendance, the rest just don't. With more tech companies than ever looking to target India's gigantic market (you), and seeing a lot of potential in our country, I personally think it's time for us to get on the technology world-map.

Perhaps a gross over-simplification, but I think there are three basic things needed to pull off something like a Computex in India – support from the government, an interest from exhibitors and a desire and passion on your behalf to attend.

Look at what the expos have done for the countries or cities they're held in. With hordes of tourists bringing in foreign currency once a

year, and the city being put on the global map, there's obvious value for the government.

Large companies (potential exhibitors), have shown an increasing interest in India, and you've surely seen the change all around you, over the past five years or so. New brands, new gadgets, way too many ads, and an embarrassment of choices.

That just leaves you. I'd like all of you to write in to us and tell us what you'd like to see and experience at the theoretical expo I'm talking about. Would you travel within India to experience it? Does this even interest you at all?

I ask you to write in because I'm trying to understand whether Digit can play a part in exposing all of you to some cutting-edge technology, and also expose the world to some cutting-edge Indian ideas. However, regardless of whether we succeed in putting India on the world expo map, I certainly think Digit can play its part in showcasing the work a lot of you do in the technology field.

We're approaching our 63rd birthday as a free country next month, and Digit is planning on showcasing India, Indians, and made in India technologies. Obviously, we need our community to help us identify noteworthy Indians in technology who may not have got the limelight they deserve. Make sure to get in touch with us, and let us know. We're also going to have a few polls online at thinkdigit.com, so make sure to look for those to express your opinions.

Finally, those of you who did not look at the back page of the DIY Fast Track last month, please do so immediately. Although I'm happy to report that most of the Rs. 4 crore in free gifts we promised have been claimed, I'd be happier still if all of you responded and claimed everything we're offering. We've extended the deadline to the end of July, so as to allow stragglers to catch up and get their free goodies. **d**


editor@thinkdigit.com



"Digit can play a part in exposing all of you to some cutting-edge technology, and also perhaps expose the world to some cutting-edge Indian ideas"

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For every *Digit* contest, there will be only one winner, unless specified otherwise.
In the event of a dispute, the Editor's decision shall be final.

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BAZAAR.....60

ASUS EAH 5850
Dell Studio One 1909
Hitachi Simple Tough
500 GB
INQ Chat 3G
Intel Core i7 875K
Intel X25-V SATA SSD
Lian-Li BS-08
McAfee Total Protection
2010
NBOX N32 HD Media
Player
NuForce NE6 / NE7
Patriot Xporter Mini 4 GB
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Platronics Voyager Pro
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Stellar Phoenix Windows
Data Recovery
Strontium Swift Series 64
GB SSD

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LG BD370
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Onida Blu-ray BDX 1110
Onida DFX 5979
Onida HDR 5522 (Atom)
Philips BDP 3000
Philips BDP 7500
Philips DVP 3556
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Logitech G5
Logitech G9x
Logitech MX518
Microsoft Sidewinder X5
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Razer Destructor
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WIFI ROUTER76

Apple AirPort Extreme
Apple Time Capsule 1 TB
ASUS RT-N13U
ASUS RT-N16
ASUS WL-520GU
Belkin N150 Basic
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Belkin Play Max N + N300
Buffalo WBMR-HP-GN
Buffalo WHR-HP-GN
Buffalo WZR-HP-G300NH
Compex NP25G
D-Link DIR 455
D-Link DIR 600
D-Link DIR 615
D-Link DIR 655
D-Link DSL2640U
Linksys WAG160N
Linksys WRT120N
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Linksys WRT320N
Linksys WRT54GH
Linksys WRT610N
Netgear DGN2200

Netgear JWNR2000
Netgear WNDR3700
Netgear WNR3500
SMC 7901WBRA2
SMC 7904WBRA4
SMC WBR11S-3GN
SMC WBR14-3GN
SMC WBR14S-N3
SMC WBR14S-N4
ZyXEL NBG 460N

GRAPHIC CARDS68

ASUS EAH 5570
ASUS EAH 5670
ASUS EAH 5750 Formula
Big GeForce 9400GT
Big GeForce 9500GT
Big GeForce 9500GT 1GB
DDR3
Big GeForce 9800GT
Big GeForce GT 240
Big GeForce GTS 250
Biostar GeForce GTS 250
Biostar Radeon HD 5670
Galaxy GeForce 210
Galaxy GeForce GT 240
Galaxy GeForce GTS 250
Palit 9400GT Super
Palit 9500GT Super+
Palit GeForce 210
Palit GeForce GT 220
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Palit GeForce GTS 250
PowerColor Radeon
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PowerColor Radeon
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PowerColor Radeon
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PowerColor Radeon
HD 5750
Sapphire Radeon HD 4350
Sapphire Radeon HD 4650
Sapphire Radeon HD 4670
Sapphire Radeon HD 5450
DDR2 1GB
Sapphire Radeon HD 5450
DDR3 1GB
Sapphire Radeon HD 5550
Sapphire Radeon HD 5670
Sparkle GeForce 210
Sparkle GeForce 9400GT
Sparkle GeForce 9500GT
XFX GeForce 210
XFX GeForce 9500GT
XFX GeForce GT 220
XFX GeForce
GT 240 DDR3
XFX GeForce
GT 240 DDR5
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XFX Radeon HD
4350 1GB DDR2
XFX Radeon HD 4550
XFX Radeon HD 4650
XFX Radeon HD 4670
XFX Radeon HD 5450
1GB DDR2
XFX Radeon HD 5450
1GB sDDR3
XFX Radeon HD 5450
512MB DDR2
XFX Radeon HD 5670
Zotac GeForce 210
Zotac GeForce 9400GT
Zotac GeForce 9600GT
Zotac GeForce 9800GT
Zotac GeForce GT 240
Zotac GeForce GTS
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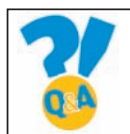
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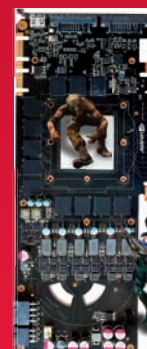


10+
DVD/BLU-RAY PLAYERS



68
Entry level graphic cards tested

for complete comparison tables, go to
thinkdigit.com/d/1007_graphics



55
Entry level graphic cards tested

TRIED & TESTED



064 SAMSUNG ML 1660

A fast, compact, monochrome laser printer



064 INTEL CORE I7 875K

An unlocked processor from Intel



066 INQ CHAT 3G

A QWERTY keypad that fits the bill

ON THE DVD

Mindware Imaging

- Digital Dream Studio 2
- Effectbank 0.8.4.9
- FastStone Image Viewer 4.2
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- Fly Free Photo Editing & Viewer
- Free Image Editor 2.3.4
- Free Picture Resize Starter 4.5.12
- FxFoto 6.0.072
- GraphicsMagick 1.3.12 Q16
- IrfanView 4.27
- Magix FunPix Maker 1.0
- Paint.NET 3.5.5
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- Ultimate Boot CD 5.0.1
- FBackup 4.4.207
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- Genie Timeline Free 2.0.241.301
- PC Inspector Smart Recovery 4.5
- Free ISO Creator 2.8
- Cobian Backup 9.5.1.212
- Glary Utilities 2.23.0.923
- Auslogics Disk Defrag 3.1.4.110
- Smart Defrag 1.45
- Microsoft ActiveSync 4.5
- Pandora Recovery 2.1.1
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- Getting Ready for 3D
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- Basic 3D Editing with Grips & Gizmos
- The ViewCube
- Ground Shadows
- Subobject Editing with Filters

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- Undelete Plus 3.0.0.602
- System Spec 2.75
- Secure Data Organizer
- Sandboxie
- Mp3 Ripper 6.0.8
- MeGUI 0.3.3

By Demand

AutoCAD and Adobe Photoshop tutorials

Playware Gaming

- Game Makers
- 3Impact
- Adventure Maker
- Crystal Space
- Genesis3D
- Truevision3D

Open Source Games

- Frets On Fire
- Globulation2
- Hedgewars
- MegaMek
- Oolite
- Open City
- Smokin Guns
- SuperTuxKart
- Thousand Parsec

Fun Distros

Musix 2.0

Community

4 Short Films and 1 app



030

Drool Maal

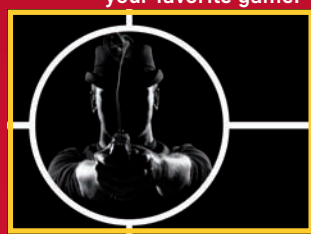
Drool over some of the coolest gadgets and gizmos

008 Computex Special

Check out the cutting edge technology from Asia's largest computer expos

044 Game Engines

Know how of what goes behind in making your favorite game!



076

084 Gaming Peripheral Test

WiFi test

802.11g is out and 802.11n is in. We test the fastest wireless routers in the market



+40 FREE GAMES



060 PLANTRONICS VOYAGER PRO

Going wireless in style



065 DELL STUDIO ONE 1909

Impressive touch-screen all-in-one

Computex 2010

A look at one of the world's largest computer expo

Gigabyte tour

Digit visits Gigabyte's factory, and shows you how your motherboards are made

✉ Congratulations on the 9th anniversary of Digit. I have been reading Digit since 2007, especially the Fast Tracks. I have a small request, please provide us with the PDFs of Fast Tracks, so that we can save them on our PC and read them at our leisure.

I want to request you to publish an article on "Radiation exposures & its hazards". Many of our friends are unaware about the destructive effect of radiation exposures through the use of mobile phones & setting up of mobile towers in wrong places, such as near houses, over buildings etc. Do write about the prevention measures taken up by our governments and laws relating to it.

Abhishek K.

d Thank you for being a loyal reader of Digit. We provide PDFs of our magazine and Fast Tracks in the special issues. You will find the PDFs in June 2010 issue for instance. The topic you have suggested is quite interesting and we will discuss it in our future editorial meets.

Nimish

✉ I am very much influenced by you. You are my "tech idol" after Steve Jobs and Bill Gates. Your articles have greatly influenced me. My all-time favourite is - "If Yan Cook". I have one request; please start a photo caption contest on "Planet ke Rakhwale" campaign. Ask Digit readers to post their photos with their planted trees.

Ashish Badoni

d Thanks a lot for the appreciation. You can see the photos of the plants growing on our facebook page facebook.com/ithink-green. Since there are so many readers, and the growing of plants is an on-going process it is not possible to include those photographs in the magazine. But you can upload the photographs of your plant on the I Think Green page.

Robert

✉ I am one of your old readers. I had discontinued Digit thinking that after retirement and moving to my home town Agra, hardware and software may



not interest me. But I decided to start reading again after a gap of a year. Seeing the variety of technology content on the DVD and in the magazine has made me very happy. The latest trends, TED talks and technology videos have made the magazine very attractive.

I would like to contribute to the green initiative as well as present innovative ideas for improving the quality of life on the planet. Kindly let me know if you can publish them in Digit. I am sure you will find them worthwhile.

G D Sahai

d We'd love to hear your ideas, and share them with the community. Thanks for being a long term reader, we really appreciate your faith in us. Feel free to write in with your thoughts. Also, join our community on Facebook at facebook.co/ithinkgreen and spread awareness on energy conservation and spreading green cover around us.

Robert

✉ I have been reading Digit since the last 8 to 9 years and am a huge fan of the magazine. Digit has helped me increase my interest in technology and to stay above all in technology news.

My feedback is negative this time. I am disappointed by the quality of content and software you have provided

in your anniversary issue. Check out the following.

- Some classic old black and white movies and music are pushed into the DVDs to fill them up.
- The white papers and PDF stuff is just junk. Somebody has just Googled the topic and saved all related PDF docs and dumped into the DVDs.
- The CDs are not compatible with Mac machines.
- The magazine contents are boring. Your competitors are better. This is crucial improvement you need.
- Each page has an advertisement
- The price of the magazine is too high.

I enjoyed reading each and every article in Digit in earlier days. I own a big collection of "Mindware" and "Playware" CDs which are collectables after around 10 years. Please, I have high expectations from the magazine. Do not screw up like this.

I hope this feedback gives some values. This may not be published but should be recognized as letters to be worked upon. The new generation has a lot of options to choose from. Please do not confuse them further. I have a big list of suggestion which I would be posting as and when I get time.

Hoping for a better Digit.

Pratik Trivedi

d We appreciate your frank feedback and we are open to constructive criticism from

CSS: Mac

After Team Fortress 2, Counter-Strike:
Source releases for the Mac

VLC 1.1.0 out

New update adds graphics hardware
support for HD videos

Inbox

our readers. Let us try to make our case here. The BW films that are there on the DVD are old classics, which we feel are worth a watch. As for white papers, well since we cater to readers from across the country, everyone has varied interests, so we try to cover all aspects that we can. In fact, if you have any particular topic in mind regarding white papers, you can ask for it in the By Demand section of the Thinkdigit forum. Since most of the readers use a Windows-based system, that is why we use a Windows based interface for our DVDs. We are a magazine that has its presence across the country, so the pricing is dependent on expenses like paper cost, labour costs, transportation, etc. We are constantly working towards giving you a better product.

Robert

✉ Soon after I received your copy, my daughter (almost 6 years old) repeatedly kept asking me to sow the seeds in a tub. After doing so, now she is asking me: Papa, when it will become a plant? Anyway, it is good gesture from Digit.

My association with Digit goes back to 2004-2005 in which some articles on computer peripherals had triggered my interest in the technology behind computers.

It is generally observed that you are keeping in mind of age group of 15 to 30 while making the issue. You generally do not taken in to account of age group of 6-13 and 35-50. Computers are part of everyone's life now irrespective of the age and need of use.

Therefore, I would suggest you to include all the other age groups as well so that Digit is targeting everyone. Provide software/articles for the said age group also regularly. Avoid too much coverage of mobile phones. Add some in-depth articles on the latest technology. Avoid too much on Bazaar and testing as now in internet age, everybody can get in depth reviews on tech products on the net.

LONG LIVE DIGIT

D K Borthakur
Assam

✉ Thank you for your appreciation. We are glad that you have planted the seeds we provided with our anniversary issue. We

LETTER OF THE MONTH

✉ I am a DIGIT IDOL – Wow!!!

Wow I couldn't believe myself when I came to know that I have been made DIGIT IDOL!!! It's of greater value for me than Indian Idol or Miss (Mr.) India for that matter. It's great to see my photo and short snippet about me featured in India's most read Tech Magazine, Digit.

I have been your loyal subscriber right from your birth. I have still preserved all the magazines and it is no less than a treasure for me. My father used to buy me Digit from shops earlier, but now I am a subscriber.

My interest in computers made my father enroll me into Computer Classes. In 3rd grade, I learnt basics like MS Office suite and Operating Systems. In 4th grade, I learned C language on a Linux system. That laid down the foundation for everything else to come and I became very interested in them.

It has been of very great value for the quizzes that I have participated. I was two times state finalist of TCS Rural IT Quiz. And I have my own blog, website and have even created a professional website for my father's company.

I owe to my Father and Digit a lot for fuelling my hunger for technology. Digit has truly navigated me in this technology world.

I would go on further recommending everyone to buy and read Digit magazine. Thank You Digit!!!!

Devrath N D

✉ Congratulations on winning the Digit Idol. This was one of our way of acknowledging our readers. It feels great to know that Digit has played a role in making you technology savvy.

Nash

try to cater to readers of all ages as our magazine targets anyone who is interested in technology, irrespective of their age. We have dedicated sections like Sci-Tech where we give in-depth analyses of latest technologies. However, we will try to cover more topics in that section. Agreed that there are reviews available online, but how many of those test in India, for India, taking your needs and experiences into consideration? Our test methodologies are made specifically for Indians, and are 100 per cent unbiased.

Rossi

✉ I am a student of class 10 and I have been reading Digit for two years now. I started reading from the magazine from January 2008 but I'm still not a subscriber. This is because I never stick to one magazine every month. But since January 2008 every issue attracted me as it was showcased in the bookstall. So I ended up buying every issue of Digit! Now, I am a hardcore fan of Digit and I don't miss a single issue. Digit got me so involved in computers that I almost lost track of my studies. My class 9 final term result was very disappointing and since then I reduced the time I spend with Digit.

But again the 9th anniversary issue pulled me back. It was a superb issue. The magazine was fantastic, but both the "Mindware" and "Playware" DVDs were very disappointing. There were no movie or game trailers and the softwares were as boring as always. To be honest, I never liked the content of your DVDs specially the software section. You told that the DVD interface will change from this June but nevertheless it remained the same

Why so?

Coming back to the magazine it was flawless and as good as always. Can you please provide a fast track on Web Designing? It will be of great help. I will end my letter here. Wishing you a belated Happy Birthday. Keep up the good work.

Ayan Sarkar

✉ It's good to know that you love Digit, but studies always come first. We have done Fast Tracks on PHP, AJAX and Flash before. You might want to check them out at our store on www.thinkdigit.com/store. This month's Playware DVD has over 40 games. You can also demand which game trailers and movie trailers you want in the By Demand section of Thinkdigit Forums.

Nimish

Dell Chrome OS PCs

Dell is looking forward to start shipping PCs with Google's Chrome OS

Nintendo GPU from DMP

Digital Media (DMP), a Japanese firm announced that Nintendo had chosen the Pica 200 graphics processor to drop under the 3DS's hood

Computex Taipei 2010: The Technology Overload

The Computex is regarded as the second largest computer and technology exhibition in the world. We're India's largest IT publication. It's only fair that we bring you the salient points of this journey

Michael Browne

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Two venues spread across the city of Taipei. 1,715 exhibitors. 4,861 booths. An eight per cent increase in participation from the previous year. In addition to this, the Computex turns 30 – commemorative indeed. The moniker of “shaping the future” seems well deserved, as does the hype. We visited Computex and came away with a lot of knowledge,

everyone comes – from manufacturers to dealers, from distributors to consumers, from media to overseas technology companies – to interact with the technology companies of Taiwan. Throughout the five days, all major companies including those into hardware and software, retail and OEM, showcased products, technologies and services that form their portfolio of products.

This year, Computex Taipei was held at two venues. The first was at Nangang, and the

according to Yi Hsuan Wang, a marketing executive at Antec who guided us through the new products.

The Antec Skeleton requires no introduction; it's an open cabinet, for those who want a radically different look. On display was the Skeleton Mini as well, this one supports Mini ITX systems.

The Lanboard was another noteworthy beauty, with front fans mounted on doors for easy access, and a side panel that can be opened into two parts, a completely tool-less design and an integrated water cooling unit whose radiator can be seen on the top.

We wandered into the ASRock zone next. Amongst other stuff that caught our eye were some new P67 motherboards. If you're wondering which CPU you can buy to use this board, don't – they aren't available yet.

The P67 is the platform for the next generation of the Core series of CPUs, codenamed Sandy Bridge. Throughout the exhibition, we came across motherboard vendors with P67 motherboards on display – evidently Intel is confident enough to put (nearly) all their cards on the table.

Other than motherboards, one beauty caught our eye.

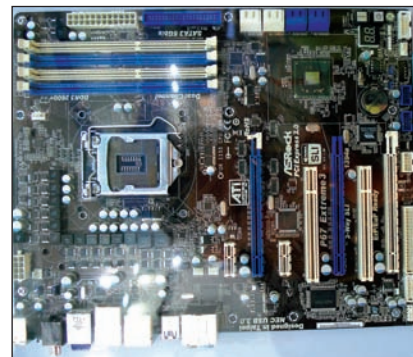


Antec Skeleton and Skeleton Mini

memories and enough information to blow one's mind. As a technology trade show, Computex is by far, the biggest event in Asia. Computex is the playing ground for IT companies to strut their stuff – to showcase their technologies to the world. It is estimated that a whopping \$20 billion worth of purchases and purchase agreements were made during this five-day event. This is where

second was at the TWTC or Taiwan World Trade Centre. The opening ceremony was held at Nangang, and after that we got down to visiting various exhibitions. What follows is a look at the happening stuff we saw during our three day visit.

One of the first exhibitions we came across was Antec, a familiar name, from whom we haven't seen a lot of new stuff in India. That's about to change



ASRock P67



Vision 3D-BD

It is a part of the Vision HTPC series, and features Stereo 3D support. With a Core i5 mobile processor, 2.5-inch HDD, 4 GB DDR3 memory and a choice between GeForce 300 or 400 series GPUs this tiny thing packs a powerful punch. It's got a slot-loading Blu-ray drive for crying out loud and is called the Vision 3D-BD.

Genius is a brand owned by the KYE



Antec Lanboard



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Win 7 SP1 to testers

Testers have received the anticipated SP1 of Windows 7, according to reports

150 million copies of Win 7 sold

150 million licenses of Windows 7 have sold, making it the best selling OS ever

Group. They had a whole host of peripherals on display from laptop bags, to camcorders, cameras, a huge variety of funky keyboards and mice, digital writing pads and more. KYE showcased a new brand called "Agama" at the Computex. One of the neat products was an automated cleaning system, that senses drops, walls and obstructions, and even charges itself automatically – strictly for the hardcore couch potato!

ZOTAC's GTX 480 AMP! – a card we'll see in India very soon; with 756 MHz on the core,



Agama Vacuum cleaner



ZOTAC GTX 480 AMP!



ZOTAC Zbox

alongwith the really funky flash drives themed on the upcoming animation movie, *Toy Story 3*.

Kingmax showcased their

for all the popular handsets including Nokia, Sony Ericsson, Motorola, LG and Samsung.

ECS is also a huge OEM



Kingmax Nano cooling technology



Kingmax Li-ion cellphone batteries



Genius camcorders

this is one hot Fermi.

We also had a chat with A-DATA personnel, who assured us the Indian market scored big in their future plans. They showcased a lot of products, storage and memory products, including a new SSD on a SATA 3.0 interface and another based on the SandForce 1500 controller.

Their tough series of drives are really tough as shown,

new Nano Cooling Technology, as you can see, this 2400 MHz DDR3 kit doesn't have a heat-sink, most other kits would fry at this speed. Nano particles that transfer heat at a greater rate than the substrate it is applied to are used, and quite effectively we might add.

Kingmax is also about to launch cellphone batteries, this will also be available in India. They have models



A-DATA storage underwater. Now that's tough



A-DATA's funky flash drives for Toy Story 3

player, aside from the considerable motherboard business they have. They had 3D displays, gesture-based dis-

plays, E-book readers, and mini ITX solutions for net-tops.

In the afternoon there was a press conference by NVIDIA,



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*As of 21.05.2010, AMD offers a six core consumer CPU at a lower price than competing four core consumer CPUs from Intel. Intel Core i7 930 priced at Rs 15,379 inclusive of VAT as advertised on www.techshop.in on 21.05.2010. AMD's MRP for the AMD Phenom II X6 1055T processor is Rs 14,500 inclusive of taxes.

BDXL Blu Ray disc

BDXL Blu Ray discs will be available in triple layer 100 GB or 128 GB quad layer format

FroYo on Droid

Android 2.2 is expected to appear on Droid in late July, and Droid X in late August



ECS E-book readers

addressed by Jen-Hsun Huang, co-founder and CEO. Although (surprisingly), NVIDIA, (and AMD), did no major product announcements at this Computex, Huang spoke extensively about the 3D PC and how it is a necessity for the entertainment-driven home. NVIDIA also feels this is a segment that will see an explosion of growth over the next couple of years.

The next day, we headed to the TWTC, and one of the first, (and largest), exhibitions was by ASUS.

From the usual gamut of motherboards and graphic cards and booth babes there were some special items. Like ASUS' CG8490, a killer configuration for extreme gamers built around a Core i7 980 Extreme, 12 GB of RAM, and two Radeon HD 5870 graphic cards.

ASUS also had a new HD media player. But what really took centre stage was the "concept device" region. People flocked to see the new developments. The Waveface Ultra



ASUS Waveface Ultra Wrist

for example, a concept device that can be used in a number of ways. As a cellphone, you get an ultra slim bezel and a large touch display. You can wear it like a wristwatch as well.

And a tablet based on the same concept.

The Waveface Casa was the last of the concept devices, a large floating display meant



Waveface tablet by ASUS



Waveface Casa, also by Asus

for the connected household.

MSI also had a pretty big exhibit, they were showcasing a multitude of technologies, some of which we haven't seen before. All of this is heading to the Indian market, so watch

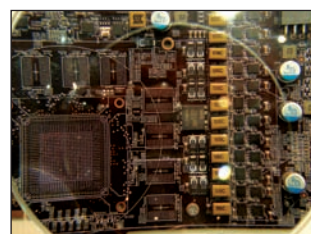


MSI graphics cards

out.

First up, we have graphic cards, featuring their new dual fan coolers. These cards will feature the latest GPUs from NVIDIA and AMD.

MSI also showcased their commitment to quality. Among other things they spoke of the grade and quality of components used on their graphic cards and motherboards. MSI is using "military grade" components to ensure reliability and this was something they advertised in a big way. Seen alongside is a GPU PCB, under a magnifying glass; they had other such exhibits to showcase the quality aspect.



GPU PCB



MSI gesture based computing system



MSI Dust Buster

action that is to be performed. Obviously, more complex functions will require you to use it like any regular PC, but for browsing through images, playing media files and so on, this is pretty nifty.

And finally, MSI's own dust buster which will be available in India as per the MSI personnel present. Besides these, there are videos that can be viewed at www.thinkdigit.com/d/1007_computex. [d](#)

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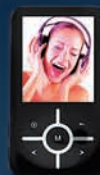
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- Built-in Analogue TV Function
- AV Input and output
- CD Ripping To USB
- FM Radio

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Next big thing

Apple's Face Time is poised to become that one app which pioneered mobile phone video calling facility

Big brother Google?

Google recently removed two Android apps that violated the Android market rules, remotely



Gigabyte miniature factory

A byting look at the making of some Giga boards!

During the Taipei Computex 2010, we got a chance to check out one of Gigabyte's motherboard manufacturing plants. We bring you all the dope on the process.

Michael Browne
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Gigabyte makes great motherboards – a fact nobody can deny. So when we were given a chance at a peep inside their Nan-Ping factory, that assembles and manufactures motherboards, graphic cards, server components and embedded solutions, we naturally jumped at the opportunity. The Nan-Ping plant is an eight-storey building, with 45,000 square meters of floor space and is located in rural Taiwan, about an hour away from Taipei by road.

Inside the plant, we were greeted in a huge foyer, and given footwear to wear on top of our shoes. There is a beautiful miniature model of the factory

made totally of motherboard components, including expansion slots and heatsinks.

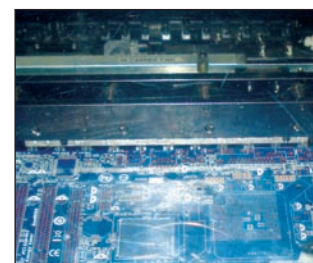
Before entering we passed through an air shower



Conductive solder gets on to the PCB here

to remove dust particles. There was a brief conference explaining the process. Gigabyte doesn't manufacture PCBs. They receive the PCBs in a semi-finished state. After this, manufacturing is a four-stage process.

SMT process: Acronym for Surface Mount Technology, this stage, as you might guess, is where the conductive layer of solder paste is printed on the bare PCB. After this tiny components like resistors and voltage regulators are mounted. Core components like main chipsets (Northbridge, Southbridge) are mounted next. The machine doing this is called a "component gun", and can mount components very, very fast. This is actually one of the main stages of the production, where all the finer aspects (read smaller components) are taken and mounted.



After conductive soldering

Obviously, each machine needs to be calibrated and set up for a particular model of motherboard. As motherboards are made in batches, at one time, you will only see one particular motherboard model being made. After a batch of identical motherboards are churned out, the machines need to be recalibrated, which is an automated job done by software, to handle another model of motherboard.

Shown above is what the motherboard looks like after conductive soldering is done.

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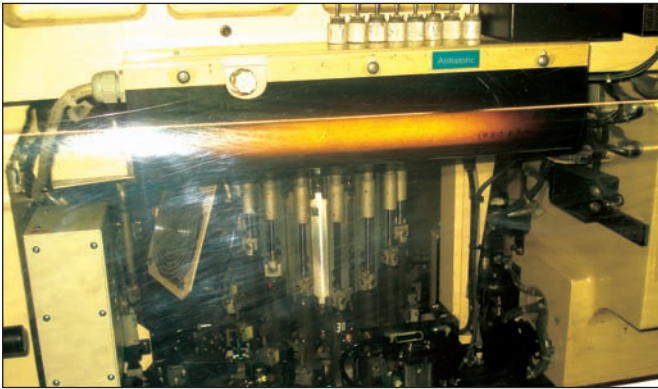
Microsoft + GM

Automobile giant GM is partnering with Microsoft to promote its electric car Volt through multi screen campaign which also taps the new Kinect for Xbox 360

Buzz

Bing scores ahead of Google

While Google plans to debut its online music service this year, Bing scored by showcasing the entertainment features which includes music



Component gun

The component gun can mount as many as eight components in one second.

Then a process of reflow soldering is done, followed by a test and inspection stage. The human element is ever important, on the right is an employee in the process of visual inspection.

If you'll notice, this stage is mostly completed by machinery and is automated. The only human element is involved with the inspection.

At this point we realised the futility of photos to describe what is, essentially a moving work process and switched to video shooting. Please check out www.thinkdigit.com/d/1007_gigabyte for some more videos highlighting important points of the manufacturing process.

DIL: An acronym for Dual in-line package, this is a stage where larger components like the expansion slots resistors and capacitors and chokes are fitted on to the motherboard. These components are put on to the motherboard by hand. All these components mount on the motherboard via insertion into precision holes on the PCB, and are soldered from the other side, which is why the name i.e. dual in-line. This process has a lot of manual labour and there are parallel lines of people sitting in long rows plugging in

these components on to the motherboard. The level of concentration required is rather amazing, as is their ability to work mechanically. They have boxes filled with various components, and each person will attach up to six components on a single motherboard. The line never stops, so they are working on a motherboard that is slowly moving along an assembly line. At the end of the line when all the components are mounted, there is a process called Wave soldering that is done to fix these loosely inserted components. As the name suggest a wave of liquid solder is washed on to the bottom side of the PCB, coating the metal pins of the inserted parts.

This part of the process is pretty much the same for the graphic cards. All the components including capacitors and even the power connectors are manually inserted and then the cards go through the wave soldering process. When the motherboards emerge, a thorough quality testing is done through visual inspection.

Final Testing: At this stage each component is tested, for any sort of malfunction. There is a set of quality control standards in place, and each motherboard is functionally

checked. There are different parts to this testing from visual inspection to individual component testing, where a semi-automatic machine is pressed down, inserting expansion cards into various ports and slots, checking for proper functioning. There is also a burn-in testing that is done to two per cent of the motherboards in each batch. We were told that problems are divided into two parts – process based problems, where a fault develops in the assembling process, and component-based problems, where one of the components fails. In the latter case, the production process might be stopped if a batch of parts used in the motherboards is found to be faulty. During retesting of such a batch, 5 per cent of the

driver CDs, SATA cables and so on. Then a specific number of boxes are packed in a larger cardboard box and this box is weighed and then sealed after the required designations are printed on the sides. There is an inspection done after this to ensure packaging is proper and all the markings are correct. Boards then go into the warehouse or are directly shipped out to various destinations, as the case may be.

Throughout, the workplace was well lit, and extremely clean and airy. Employee comfort is important to Gigabyte, and this is evident from the environment. The human labour on the production line remains a largely rinse and repeat affair, and is considered a labour (read blue collar) job



Visual inspection

boards are tested for burn-in, and this can be escalated to as much as eight per cent.

Packaging and bundling: This is another process that involves a lot of manpower. Flat boxes are seen along a production line where automated machinery shapes the carton. On another line, the motherboards get some final stickers like batch numbers, dates and so on. Once this is done, the motherboards are packed in antistatic bags and the boxes are populated with accessories like the

in Taiwan. However, factories such as these employ people by the hundreds, and we counted up to 95 people on a single motherboard line, and the Nan-Ping factory had eleven such product lines. We're told Gigabyte has another factory a mere ten minutes away, and there are two larger factories in mainland China. These four factories are responsible for supplying Gigabyte motherboards around the world. As they say, every motherboard has a story... **d**



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Google TV's companion box - the 'Logitech Revue' unveiled



Logitech's Google TV set top box, or companion box as it is called, has been made official, and it is called the Logitech Revue with Google TV. Due to be released in the American Fall, the Revue will apparently combine your TV, DVR recordings and the entire internet.

Logitech has reportedly employed an imaginary tagline describing the virtues of the Logitech Revue as, "If you can think it, you can watch it", which means you can search for and tune to that particular channel using the universally acclaimed Google search engine interface on your TV! What's more, you can also tune

to your favorite TV shows, and schedule certain shows for recording. These recorded and saved shows are stored in the list format for future access. Google TV also ships with a web browser, which allows you to browse video albums and online content including your favorite videos under the favorite list. In addition, you could check your online fantasy team stats, while you are watching your favorite football match on the same screen in split-screen mode. Thus, the browser and the TV work hand in hand to deliver amazing out of the box experience. Google TV also includes customiza-

tion options to organize your TV channels with captions and names, organize your photos, videos and music playlists summing up to be a complete home entertainment device for the next generation.

Most new TVs are said to ship with 'Google TV' pre-installed on them or you could buy a separate box that fits into the TV, you already own. Apart



Logitech Revue with Google TV - the envisioned ecosystem

from the companion box, the device also features an "intuitive controller" (which combines a compact keyboard, remote control and touchpad), the Logitech Revue will apparently give you access to the features that Logitech is known for, from peripherals to video calling, entertainment control to streaming media, and new smartphone applications such as Logitech Harmony Link - an IR signal translator meant to control the companion box via a smartphone that has infrared capabilities. Due to this versatile nature, it has been reportedly named the Revue, along the lines of the theatre style popular in the Modern European Drama of the early 1900s, known for its multi-act nature.

In the meanwhile, Logitech wants you to think of the Revue this way:

"Google TV = seamless discovery of content. Logitech + Google TV = seamless control over how you experience the discovery of content."

Google opens a new portal to cloud nirvana - free online YouTube Video Editor

In an era of fast changing technology and rapidly growing strength of internet revolution, we are moving closer to the cloud nirvana. As more and more cloud apps make their presence felt, the potential everyday apps are getting popular indeed! While free apps are more welcome than the paid ones, the quality apps generally come at a premium price. But, a revolutionary cloud based YouTube Video Editor from Google, promises to change

the scenario by offering its services free of cost. No wonder, this news would make a lot of buzz in the market and not to forget the infinite possibilities that cloud concept brings with it!

Recently, Google reported that they were testing their own web based YouTube video editor app. The application primarily provides the privilege to edit YouTube videos, with the following feature enhancements:

- Trimming the beginning and/or end of a video

- Split/join YouTube videos to produce a new video
- Replace original soundtracks to the videos from the AudioSwap library. However, one should note that only one song can be added to a video at a time and the replaced original soundtracks cannot be recovered.
- Create new videos and publish to YouTube without having to bother about the file format or worry about uploading them.

YouTube Video Editor promises ease and fun with

usage. Aspiring users can give the YouTube Video Editor a try in the TestTube (a YouTube ideas incubator), where budding YouTube apps are tried and tested before coming out of the cocoon. CaptionTube, Video annotations, HTML5 video are some of the other upcoming TestTube projects in their beta stage. YouTube promises to open a new portal to cloud nirvana with constant upgrades and improvements, along the lines of open source mantra!

OnLive opens the portal to cloud gaming nirvana - a new lease to serious gamers!

Finally, it's some good news for hardcore gamers, who were counting on the infinite possibilities of cloud gaming concept. OnLive - a US games streaming service has reportedly launched a new service, wherein the users could login to their registered accounts and utilize the online streaming service to download and play their favorite games even on low-end PCs. The icing on the cake is the availability of hottest game titles at your fin-

gertips, that too free of charge for 1year, if you happen to be one of the lucky few who registered with OnLive before the official release announcement. The new entries are expected to be charged a registration/membership fees of 15\$ per month. However, this service is currently available only in US and is expected to hit UK late next year. Hopefully, OnLive will unleash a global portal in the near future and make a million dreams come true for the global gaming fraternity.



OnLive cloud gaming nirvana

Microsoft showcases upgraded version of Hotmail - Windows Live Hotmail Wave 4

Last month, Microsoft had introduced new look and features to their E-mail service, Windows Live Hotmail Wave 4. Microsoft has now started upgrading Hotmail users to the new version of their Web mail service. This update includes support for larger (upto an unbelievable 10GB) attachments and new views for looking at attached photos and documents.

The company has started upgrading the service to the users one server cluster at a time - and assuming that it has hundreds of such clusters - it will take time for the new

service to be available to all users. "If you don't see these features today, please hold on just a little while longer - everybody will be upgraded this summer", program manager Mike Schackwitz announced in a blog post on Tuesday.

The new Windows Live Hotmail Wave 4 will include the following enhancements:

- Send large photo files effortlessly via SkyDrive (a free online storage service from Microsoft) up to 200 files each of 50MB totaling 10GB, share previews of the photos with options to launch a slideshow or download the images as a single zip file.

- Integrated Web Office Apps: Allows the user to download, view and edit Microsoft office files without the need to install MS office software through a built-in Web Office Apps service. It even retains the original file format and allows the user to upload the file over skydrive and then access it remotely.
- Sweep feature: Automatically removes the spams and other junk mails from unknown sources from the inbox.
- Provides a platform for organizing the messages based on content, contacts, conversations and priorities. Accordingly, the user is offered various views like contact view, conversation view, et cetera.
- Hotmail active views within the e-mail, provides an integrated platform to manage social networking invites, watching web videos,

viewing online photo albums, checking the status of tracked packages or interacting with online shopping sites like amazon.com

- Better mobile experience, including Push e-mail. **d**



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Wi-fi on wheels

The 2010 Jeep Grande Cherokee features a Uconnect Web, which is a WiFi hotspot allowing you to surf from inside the car

24-in-1 card reader

Lexar's has released a 24-in-1 card reader that can hook up to the Apple iPad through its camera connection kit allowing importing pictures to iPad

3D in your hands

Nintendo's plans were to make 3D a reality for the mass market without making people invest thousands of dollars, the Nintendo 3DS is their solution. An upgrade of the Nintendo DS, the immensely popular handheld gaming device, the Nintendo 3DS can display 3D images and video without the use of special glasses. Lack of glasses and the affordable price tag of the 3DS is also a huge push for the mass popularisation of 3D. 3DS was Nintendo's trump card at E3 2010.

Nintendo 3DS looks just like a DSi, with two screens, a 3.5-inch 3D capable widescreen on top, with a smaller touch-screen at the bottom. Apart from adding 3D, Nintendo has

is no gimmick, and the screen actually works. 'Parallax barrier' is the technology behind the glasses-free or auto-stereoscopic screen of the Nintendo 3DS (*Editor's Note: that the 3DS uses parallax barrier technique is an educated guess as this has not been officially revealed to be the case*). This screen has a coating of what is called the 'parallax barrier aperture array', which is a set of vertical black bars provides a separate 'window' for each eye to view alternate pixels, which is like doing the job of googles at the display level. However, the viewing angle is limited in an auto-stereoscopic screen. The parallax barrier coating is actually like another screen and the spacing between the 'black bars' can be changed to



Nintendo3DS

Powerful new GPU

As the 3D effect requires rendering of the scene twice, from two different angles, the 3DS is very graphic-intensive. The difficult job of being the Graphics Processing Unit (GPU) of this new console is done by Digital Media Professional's (DMP) Pica200 GPU. The graphics core achieves high performance with low power consumption. PICA200 is an OpenGL ES1.1 chip with DMP's proprietary extension graphics API called Maestro, the combination making it an equivalent of an OpenGL ES2.0 chip. This API enables hardware-based graphics rendering, including the T & L (transform and lighting), texture processing and full screen anti-aliasing, among a host of other post-processing effects. The other noticeable factor is the ultra-high polygon rendering rate, adding up to 15.3 million polygons per second at a native clock speed of 200MHz.

Other new features include a camera with two lenses 3D photos. The screen can support playback of 3D movies, and there might be possible

content tie-ups with Disney, WB, and DreamWorks. The Nintendo 3DS features wireless functionality, where it can communicate with another 3DS, even when it's in sleep mode. The device will also retain compatibility with its predecessor, the DSi. It can also access the internet through WiFi, and get downloadable content. There's apparently no monthly fee required for this.

The titles announced at launch for the 3DS include :

- Kid Icarus Uprising (Out in the "summer")
- DJ Hero 3D
- Kingdom Hearts 3D
- Saints Row 3D
- Madden
- FIFA
- Resident Evil Revelations
- Assassin's Creed
- Metal Gear Solid
- Final Fantasy
- Codename: Chocoboco Racing 3D
- Super Street Fighter IV

Neither the release date, nor the price were unveiled at the time of printing, but the rumours are of a December release with launch price between \$249.99 and \$299.99. d



A demo frame rendered using Pica200

also made some other hardware changes to the DS to up its graphics capabilities, and give the player better control with the new accelerometer and gyroscope, and analog stick.

The wonder-screen

We have not had a hands-on with the 3DS, but those who have had a look say that the 3D

change the apparent depth of the 3D images. This is done by the '3D depth slider' provided on the side of the console. This slider also allows a person to switch to 2D whenever 3D gets too heavy on the eyes, as it often can. The 3D screen has a resolution of 800x240, which effectively becomes 400x240 when viewing 3D images.

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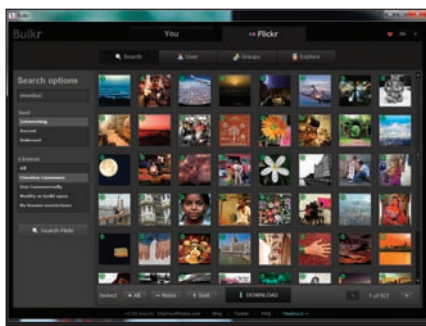
Flicker clock

It's like a time line of pictures being uploaded as per the chronological order. Another fun way of browsing images (or even video) - www.flickr.com/explore/clock/

Motivational posters

Head over to www.clipyourphotos.com/motivate to exercise your wit in turning any photo into one of those black framed motivational (or demotivational) posters.

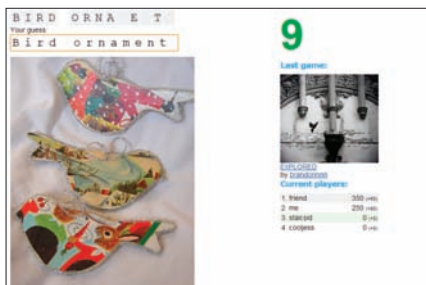
Feature



Bulkr

stream of content uploaded to flickr. For instance you can play a spin-off of the ever addictive Sudoku at <http://flickrsudoku.com/>. One of the most fun games we found was the Guess the Tile game (www.bighugelabs.com/guess.php). The game will throw random pictures at you and you have to guess what the title could be. Choose a handle and start guessing! The quicker you guess the title, the more points you earn. What adds the competitive edge is that you get to play against real people from around the world.

Fun ways to browse



Guess the title game

Flick River (www.flickriver.com)

This well designed web site allows you to view literally hundreds of the most interesting photos on flickr in one seamless stream. The infinite scroll starts with 500 photos and it shows you how many have been loaded. There's no need to press next or anything, just keep scrolling down in your browser window and click on any photo you like to enlarge it.

FlickeFlu (www.en.flickeflu.com)

This interface is designed for large screen glory. The first thing that'll catch your attention is the minimalist approach at showcasing images. It's all black with

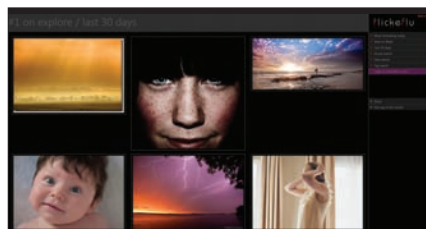
images arranged in a grid. It almost reminds you of the zune interface in some ways. With FlickeFlu you get to browse the most interesting photos by user, by group, search photos by tag or explore by a point in time.

Fluidr (www.fluidr.com)

While FlickeFlu is nice but slow, this web site has somehow managed to speed things up a little. Here to you'll find the minimalist black interface, but with more options to explore. We particularly liked the 'surprise' button that streams in a set of random but highly rated photos. You can truly lose several hours with this site.

Phrasr (www.pimpampum.net/phrasr/)

Phrasr is more of a fun app than any-



flickeflu

thing else. They say a picture is worth a thousand words right? Well this web site turns this funda on its head. It lets you enter a sentence and then search for images that will express that sentence using pictures. We got some interesting results for Bombay Rains are fun. Once you're done you get to 'publish' your 'work' too. The only trouble is

FLICKR PRO

With a free account you get to do a lot of things but there are of course a few restrictions. You can upload 100MB worth of photos each calendar month, which is more than enough for most users.

But the most annoying caveat is that only the most recent 200 of these photos become a part of your Photostream. There is also the condition that you can post

pictures in up to 10 group pools. Yahoo! sent us a Pro Account code to review some of the Pro features. With Flickr Pro you get unlimited photo uploads, the ability to replace a photo and your 10 group upload limit gets upgraded to 60. Perhaps the best Pro feature for hardcore Flickr enthusiasts is the Stats feature. It brings you important information in the form of easy to understand charts and

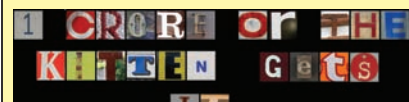
graphs about trends regarding your most popular photos. For instance where most of your visitors are coming from, which of your photos are gaining the most popularity etc. All these goodies will cost you a good \$24.95 for a 1 year. Some photography buffs find this cost of around a hundred bucks a year worth it, especially since you can flaunt that little "Pro" tag next to your name.



Write a ransom note using Flickr

You know one of those ransom notes that are made using letters cut out from newspapers.

You can make one of those using flickr images! Simply use a tool called Spell With



Flickr (metaatem.net/words/) and start typing. The app will gather those letters for you from flickr and string them together.

to start over you need to refresh.

Tagnautica (www.quasimondo.com/tagnautica.php)

An interesting navigational tool that allows you to explore the space of related Flickr tags. Type in one start tag, hit [Enter] and dive into tag space. Bubbles of related tags start appearing around the main tag. You can jump from one bubble to another. There's interesting use of motion in the interface. **d**



Make a Flickr Badge

With this tool you can make a nice little flash grid of dynamically changing images that can be embedded on any of your web sites or blogs. You can pull in your own photos or images based on a search keyword. Simply head over to <http://www.flickr.com/badge.gne> and follow the four step process to get your code.

Safari 5.0

Safari 5.0 has been released, boasting of greater speed, a new Java script engine called Nitro, among other changes

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Cool your lappy



Nash David

nash.david@thinkdigit.com

Take a close look at your laptop before you attempt building the laptop cooler. The elements that heat up, namely the processor and power supply unit could be placed differently thereby requiring different placement of the cooling fans.

Start by cutting an acrylic sheet the size of your laptop.

What you need

Acrylic sheet, Hacksaw
5V cooling fan – 2 nos
connecting wire, USB
connector (male) – 1 no
Fevikwik or cyanoacrylate-
based adhesive, hacksaw for
cutting acrylic sheet

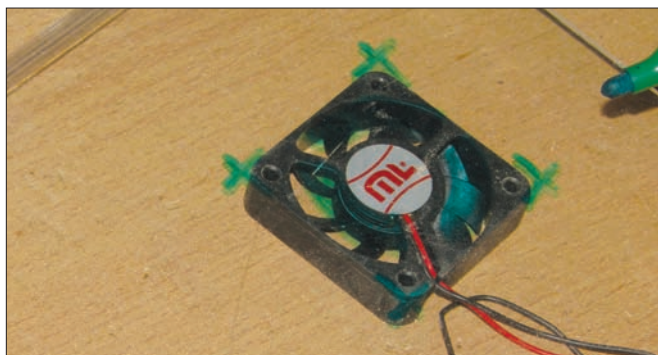
This will form the base of your laptop cooler. Generally the heating elements are near the upper portion of the laptop. So you can also conveniently place three fans in



All that you'll need to make your laptop cooler



Inspect your laptop to find the area where you need to add cooling



Cut out circular pieces out of the acrylic sheet to allow air flow

Robotic Foxconn

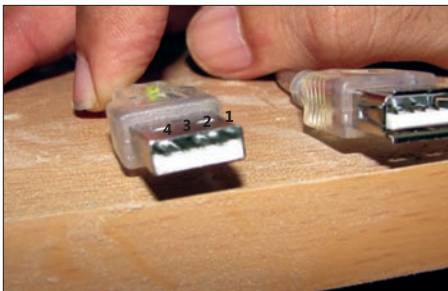
In the wake of the shocking suicides among the workers of Foxconn, the company is considering replacing part of the workforce with robots



Cut out circular pieces to allow air flow

a line so that your laptop gets adequate air for cooling.

Once you have located the region at



Pin out diagram of a USB connector

the base of your laptop that needs cooling, mark it on the sheet you have just cut.

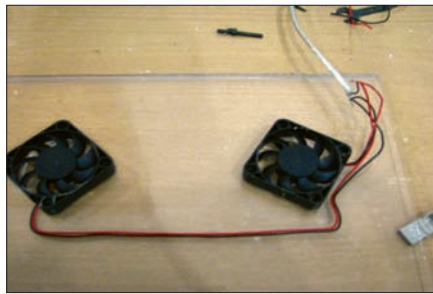
For proper airflow, you'd need the sheet or the base of your laptop cooler



You could use a wooden piece for legs

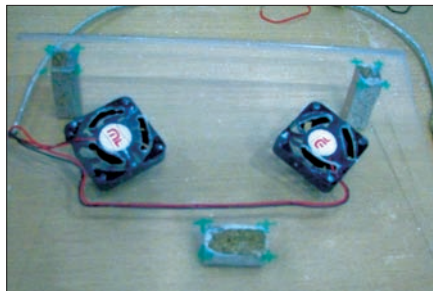
to be elevated from your workspace.

There are several ways you can do this. However, the more complicated path you choose, the more complex your construction is going to get and your budget going to increase. We've tried to keep this design as simple as possible, so that you don't need any complicated tools and that the cost of your laptop cooler is kept at the bare minimum. Cut a rectangular piece of the acrylic sheet according to the dimensions of your laptop. To avoid



After cutting the pieces, fix the fans and wire them

unwanted scratches on the acrylic, do not remove the protective sheet until you are done cutting. Using a pencil, mark



Connect the fan between the shielded wire and pin 1

out the areas you need to add the fan. Two 5V fans should be sufficient for a basic laptop.

After you have fixed the fans and



File the wood leg to give the required tilt

wired them, you need to connect the male connector of the USB cable so that you can power your laptop cooler via the USB port of your laptop. You're nearly done with your laptop cooler. Your last step will be ensuring a stable base. Cut strips for mechanical support of the laptop cooler.

Stick the acrylic sheets for mechanical support, and you're done. Connect the cable to the USB port of your laptop and the fans should blow air. **A**


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<HTML5, De-bunked>

Looking beyond the HTML5 hype, so you don't have to

Anonymous Writer #4492
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Before you continue, please take a moment to read the following paragraph.

~Are you excited about HTML5? Web video! On your iPhone! Without Flash! Wahey! Soon everything will be HTML5-ed, and we'll be able to liberate ourselves from Adobe's proprietary deathgrip, and everything will be open! And standard!~

If your sentiments in re HTML5 mirror the above, congratulations. You're now part of an elite club — inhabited in significant part by middle managers, "tech pundits" and morons (not mutually exclusive groups, mind) — that bandies about terms in inverse proportion to how much they know about it. See also "Web2.0".

It's not (entirely) your fault, though. In fact, it'd be perfectly reasonable for us to fill these two pages with swear words directed at Steve Jobs, and knock off for a game of ~Quake III~. Apple isn't one of our advertisers, so the people at the top would let it fly, too. But we like to think we're above that sort of thing, so here's something less childish instead.

<Where this story begins>

Rewind to five minutes before this article was born. Picture a carefree Chrome window (or tab, if you must), browsing happily through the Web. News of Apple's HTML5 demo page breaks. "Groovypants!" thinks the tab, hastening to the site, "I was made for this." Then things go a little south. "You'll need to download Safari to view this demo."

"Odd," thinks the tab, "I've got the same rendering engine; that should have worked." Skip to the developer demos — essentially the same demos, only Apple now reveals how to create them — and those work just fine. Curiouser and curiouser.

This will probably be old news by the time you've read this, but if you're not still ticked off about this, it's probably time to look yourself in the mirror and reflect on what you've done with your life.

But let's save the bile for a bit. Let's look past the irony that someone could actually say "open standard" with a straight face while locking other browsers out of the demos for those open standards. Let us, after 345 words of faffing about, start with a basic question.

<What is HTML5, anyway?>

From html5.org: "HTML5 is a new version of HTML and XHTML. The HTML5 draft specification defines a single language that can be written in HTML and XML. It attempts to solve issues found in previous iterations of HTML and addresses the needs of Web Applications, an area previously not adequately covered by HTML."

Not the most interesting definition; but what did you expect? It's concise and accurate, and devoid of all the manure that anyone else would pad that description with.



A 3D rendering of the earth, done using the canvas element in HTML5

Let's examine that last bit some more: "addresses the needs of Web Applications." Obviously, the most publicised need has been that of delivering audio and video. And, indeed, that's accurate — HTML5 does provide for watching web video and audio without plugins. In fact, the way the web's been

banging on about it, you'd probably think it's the most important thing that HTML5 does. If, that is, you were the sort of brain-dead drool machine that spends their entire day on YouTube.

The rest of us expect a little more than the death of a few brain cells.

<The real HTML5>

One of the big objectives of this "new version of HTML" malarkey is really about taking a step towards building a ~Semantic Web~. If that term sounds familiar, it's because every tech publication and their dog has gushed about this pet project of Sir Tim Berners-Lee in the past few years, only to find out that other than us and Sir Tim gave a toss. Finally, it appears that the powers that be have stopped sitting on their thumbs, and decided get on with this "new web" thing already.

If you've ever taken a look at a page's HTML (right-click > View Source), you may have noticed that its structure is riddled with tags like `<div class="content">`, and other similar constructs, one for each area of the web page. While the generic `<div>` element is a great boon to web designers, allowing them to bend it to their will, it isn't so great for the search engines cataloguing the internet. How is a search spider supposed to tell the difference between the word "Forum" in a menu bar, and the same word inside a paragraph?



Web typography looks sexy and exciting, but it isn't HTML5. It's CSS

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Conditions Apply*

Scribd, the document hosting site, has ditched its Flash-based PDF viewer for a canvas-based HTML5 implementation. Yes, it's good

More search engine goodness: HTML5 can use standardised data formats to offer even more semantic information to any bot that comes a-knocking

With HTML5, these <div> tags get an overhaul, with names that convey their meaning: <article> for anything that may be construed as useful content, <nav> for the site's navigation bar, <header> and <footer> for, well, the header and footer, and so on. This way, search engines know to focus more on the articles, and not as much on the extraneous faff that is the navigation bar or footer. These are just a few examples; we covered creating HTML5 pages in September 2009 (~Cooking with HTML5-), where we talked about these tags, and all their little friends.

<Moving on, then.>

The world's HTML5

You're probably wondering why nobody's been talking about the semantic benefits of HTML5. Are we not all questing for a Better Web™? The "problem" with HTML5's semantic tags, unfortunately, is that you can't see them. It may help the web function better, but still look the same.

And that's a problem in marketing departments. Invisible changes that are trying to weave a whole new fabric of the Web? Meh. Rounded corners and shiny buttons? Yippee!

And so the term HTML5 is now a catch-all for a "family of technologies", namely HTML5 the markup language, CSS3, and JavaScript.

And what a family it is. HTML5 is the dad, on whom everyone depends — giving CSS3 and JavaScript the tools they need to let their specialness shine through. CSS3 is the neurotic mum, cleaning and polishing everything so it all looks pretty when the guests come in, and JavaScript is the redeemed little brat — unmanageable and quite useless at first, but now all grown up, and hangs out with the other cool languages.

All right, so it's a stupid analogy. That said, this family of technologies does earn some of those tongue-baths that writers have been lavishing upon it. Let's address the big green elephant in the room first.

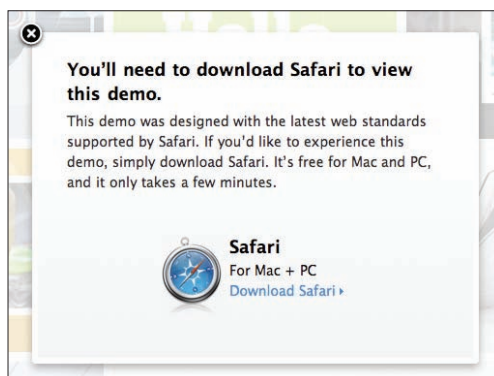
<The Flash-killer(?)>

The second part of HTML5 that everyone hopes will put Flash in the ground forever is the <canvas> element (the first

being <video>, of course). In the HTML5 code, it isn't much — just an area that tells the browser, "This is a canvas. Someone will draw on it."

And that Someone is JavaScript. The HTML5 specification provides a bunch of application programming interfaces (APIs) that allow developers to use JavaScript to draw on that canvas. "Draw", there, is a loose term: developers could draw something on the canvas at 50 frames per second, for instance, making movies. The Flash animations of yesterday could thus become the JavaScript-powered canvas drawings of tomorrow, if you will. To see what canvas madness people have come up with, head over to www.canvasdemos.com.

Whether this combination will kill Flash still remains to be seen. Still, we



If Apple's been listening to the feedback, you may not see this message any more. But here it is, preserved for posterity — the message you get when you try to view Apple's HTML5 demos in Chrome

can't but help imagine a future where we aren't listening to our laptop fans go nuts as soon as the Flash plugin kicks into action.

<And that's not all. >

The extended family

Have you noticed that you can somewhat use Gmail and Google Docs even when your internet connection is playing coy? That's because both sites use HTML5's Offline Application Caching API, which lets web applications store data on your PC, making them run faster, or remain accessible even when you're offline.

Then there's Geolocation, which lets web applications access your cur-

rent location (with your permission, of course), and deliver location-sensitive content, whatever that might be.

But really, let's get back to that Flash-killing issue again.

<Flash-killer, II>

The short answer is no. HTML5 won't kill Flash — at least not as fast as Apple would have you believe. Firstly, with Flash, nobody has to reach a consensus on a video format — if you can write a Flash player, you can write it to pick up any video format and play it as Flash video. With HTML5, on the other hand, browser developers are still arguing over which format gets supported inside a <video> tag by default — will it be the Apple-backed H.264, Google's WebM, or the open source evangelist's favourite, Ogg? While everyone else waffles on the issue, Flash will remain where it is.


Secondly, you can't view videos in full-screen. You will eventually (one hopes), but right now, you must settle for whatever size the video's creator displays it as.

Finally — and this is crucial — HTML5 video doesn't support ads. YouTube gets its money from ads that appear before or overlaid on videos, and sites like Hulu would fail instantly were it not for the mini commercial breaks within programmes.

For video then, the future isn't now. It's still the future. The canvas element though, has a much better chance against Flash animations — it may be harder to create those animations in JavaScript, but in all probability, we'll see tools that make it easier.

This battle looks even, for now.

<Endnote>

So, what have we learned today? We now know that any talk of HTML5 outside of the web design community must be taken with massive piles of salt, for one. For two, HTML5 may bring the semantic web closer to reality, so we won't look like idiots in four years. For three, video is not the only feather in the HTML5 cap. And finally, while the HTML5 family may substitute Flash in a few places, it isn't quite the killer everyone pretends it is. 

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Linux user groups

We take a look at various Linux user groups across the country

Did you know?

In May, an average YouTube user watched over 100 videos creating a milestone in the company's history



Eton Voicelink FR 1000

If you are heading out for your adventure trip you might want to take the Voicelink FR 1000. Meant for the harsh rough outdoors this radio unit has various power options like Dyanamo crank, AA batteries and an AC adapter to power its AM/FM, 2 way GMRS, weather radios, cellphone charger, sirens and flashlight making it a must have for your outdoor activities. Replace a bag full of other gadgets with this self powered crank radio. If Bear Grylls was a gadget this would surely be it.



Zoom Q3 Handy Video Recorder

The Zoom Q3 video recorder from audio technology pioneers Samson probably has one of the best audio grabbing devices as it houses the industry leading H4n Handy Recorder mics which are placed in the same X/Y pattern as other Samson products. The Q3 is sure to give you a true professional sound and visual recording experience. The Q3 renders crystal-clear video at 640x240 resolution making it an awesome audio and video grabbing combo. Footage over 16 hrs can be recorded as the Q3's memory can be expanded upto 32 GB.



SkyFactory Escape

Have a refreshing look at your window with a different view and sound each time. Sky Factory's Escape window panels are a fusion of fine art and technology. The idea is to mount a 42inch HD LCD in a custom made window panel with speaker systems. There are eight interchangeable videos or views ranging from 30 minutes to an hour long footage of sandy beaches, waterfalls, sunsets and so on. Its a virtual window for your living room or bedroom which brings the events of nature anytime anywhere.

7 per second

Microsoft Windows 7 has sold 150 million licenses, which amounts to 7 copies sold per second

Exemode SQ30m

Exemode, a Japanese company has come out with a mini digicam which houses a 1.95MP sensor and weighs 21 gms

Droolmaal



Samsung C9000

Samsung introduces the C9000 series of ultra slim TV's. What's unique about this TV is its Wi-Fi enabled remote control which uses the DLNA technology to merge other gadgets in the house and stream videos, photos or music onto the TV screen. Sounds fascinating then hold on to this, on the remote's screen which has a resolution of 1080p you can surf for content on other channels while a Blu-ray is being played on the TV or its tuned to a channel which you dislike. However the remote looks suspiciously like an iPhone.

Panasonic HD 3D Cam

Everybody seems to be bitten by the 3D bug these days, continuing the march forward is Panasonic unveiling world's first 3D camera the AG-3DA1. Introduced at the annual CES convention this surely is a breath of fresh air for film makers and video enthusiasts as it is a convenient replacement for their 2 camera and mirror, setup which was earlier used for recording 3D footage. Now this single unit does it all, recording 3D HD content on 2x32GB SD cards. It will go on sale by the end of the year for \$21000 and is made to order.



NuMark TTi USB Turntable

For all the old school music enthusiasts who want to digitise their music collection basically switch from vinyl records to an MP3 library, then the NuMark Turntable does the trick for you with just a few mouse clicks. An add on is the availability of an iPod dock where you can simply dock your player and transfer music directly from vinyl to the ipod. The NuMark turntable comes with Gracenote MusicID technology software which analyzes the vinyl and retrieves information like album art, song, artist information on your PC or Mac.



Zenith Xtreme Tourbillon ZeroG

Do you spend a lot of time in Zero G environment and find it hard to keep track of it? then your cries have been heard as Swiss watch maker Zenith has made just what you have been looking for the Xtreme Tourbillon ZERO-G El Primero. This state of the art watch can operate in zero gravity environment and is water proof up to 1000 ft. The watch is made from two of the most toughest materials known to man- titanium and kevlar. The watch is mounted with a free-moving gyroscope which always points down no matter how it is positioned. Starting from just \$ 500,000 this is a must take accessory for your trip to the moon.



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Installfest

An event sponsored by a local Linux User Group, university or LAN party involving mass installations of computer operating systems or software

Hackfest

Similar to Installfest, this is also sponsored by user groups with emphasis on security issues and reverse engineering of operating systems

Feature



Open-Sourcing India

The concept of free and open source software gained significant ground globally. India is not left behind with several user groups across the country

Arpita Kapoor and Mohit Rangaraju
readersletters@thinkdigit.com

What do Flickr, Facebook, Orkut, Twitter and hundreds of other powerful and popular applications have in common? They all use open source tools. The web has now taken FOSS tools into serious consideration. Various organisations have been set up with a view to create trained man power and increase awareness about FOSS. We thought it would be encouraging to feature organisations / communities in India working for this noble cause. While we covered various open source professionals in the June 2010 issue, this time our focus is on government and student initiatives.

Government initiatives NRC-FOSS

The most influential government initiative for FOSS devel-



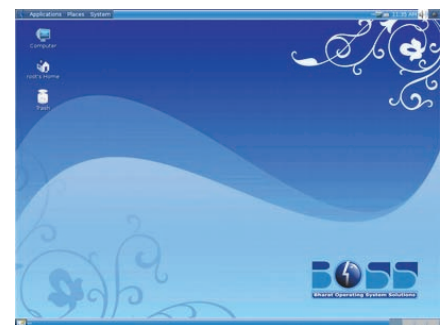
NRCFOSS is a government of India initiative

opment is NRC-FOSS. National Resource Centre for Free and Open Source Software (NRCFOSS) is an initiative by the Department of Information Technology, Ministry of Communications & Information Technology, Government of India which began in April 2005. NRCFOSS was set up in Chennai with the aim of contributing to the growth and development of FOSS in India through research and development, networking, human resource and entrepreneurship development. NRCFOSS today serves as the focal point for all FOSS related initiatives, events and activities in the country.

NRCFOSS is a multi-institutional project coordinated by C-DAC Chennai with support of various institutions including AU-KBC Research Centre (Anna University Chennai, IIT Bombay, IIT Madras and C-DAC Centres in Mumbai, Hyderabad and Delhi.

After NRCFOSS was set up, with joint efforts of C-DAC Chennai and the AU-KBC Research Centre, Anna University, Chennai, major steps were taken by NRCFOSS. Some of them that are worth mentioning include Development of BOSS (Bharat Operating System Software) which is an Indian version of distribution based on Debian, designed to cater to e-governance applications and the Introduction of FOSS Elective Courses and Laboratory classes into the syllabus of Undergraduate Engineering Programs such as Computer Science and Information technology in India. Under this initiative, NRC FOSS facilitated teacher training, textbook content and various student project opportunities.

NRCFOSS-AU Phase-II began in 2009 where in IIT Madras, IIT Bombay and other C-DAC centres joined the project. These institutions carry out research and development on specific FOSS technologies and build compilers and operating systems based on them. They also look into deployment and promotion of FOSS products developed by the community. The emphasis here is on creation and maintenance of FOSS



Bharat Operating System Software in Debian, but Indianised

repositories and databases for educational, scientific and training purposes.

To support the student community in the country, NRCFOSS has a student internship program to help and guide final year students of computer science stream to do their academic projects on open source technologies at NRC-FOSS. With an effort to create trained resources in Free/Open Source Software NRCFOSS has been working with universities and colleges for introducing FOSS into their

HTML5Rocks

HTML5Rocks.com is a website being promoted by Google which will have nine HTML5 tutorials and a code playground section for developers

Google CL

Google has announced a new set of command-line tools named Google CL which will allow you to use Google's popular services from your Linux terminal



A FOSS class in progress

formal syllabus opening new horizons for students to acquire FOSS awareness. Various universities including Anna University Chennai and Rajasthan University have introduced FOSS courses as electives. Anna University, Coimbatore has introduced a FOSS Core Course and Loyola College, Chennai has a FOSS Elective Cluster that includes courses such as Introduction to FOSS, Enterprise Application Development using FOSS and Web Programming using FOSS. NRCFOSS is also looking into development of a FOSS-based CSE Degree Program.

To realise the goal of developing a trained human resource in FOSS, NRCFOSS has introduced various competency certification programs that are open to interested people without necessarily having to enroll in a university or college. Such candidates can take the exam conducted by NRCFOSS and after clearing it they get a certificate from the body stating their level of FOSS competence.

NRCFOSS also conducts FOSS workshops and seminars throughout the country to increase the awareness of FOSS among Indian people. NRCFOSS is also working on "Open Source Maturity Models" that exist for FOSS products and are widely used to evaluate the suitability of a FOSS product for an organisation's use.

Institute for Open Technology and applications Student initiatives The LUG @ IIT Madras



LUGs are active in IIT Madras...

The IIT guys are in no way less active when compared to any other open source community. The Linux User Groups (known as LUG) has a decent history. Mr. Prabhu Ramachandran (author of Maya Vi and a SciPi contributor) started LUG at IIT

Madras in 1997. Since then, LUG has been in an active state. Most of their activities take place online where members help out each other and other interested ones who joined their online community at linuxusers-iitm@googlegroups.com. The LUG members meet at regular intervals throughout the year and hold regular talks on topics ranging from introductory sessions for freshers to detailed topics such as using GNU plot or SciPy. Additional events include sessions over Linux kernel's internals.

When we contacted the current president of LUG @ IIT Madras, he said that recently members of LUG in collaboration with Team Shaastra (the annual techfest of IIT-M) initiated "Shaastra Distro", a project to create a Debian-based distribution.

This project will feature applications written by freshers of IIT Madras, under the guidance of their seniors that would make usability of Linux terminals easier. This distribution would encourage the usage of Linux in rural areas. The LUG members have made decent contributions in several open source projects including KDE, GNOME, OpenEmbedded, git, Minix, ZSH, Scipy and Debian.

Creative initiatives

When we asked them to note some creative initiatives that the LUG at IITM started, the immediate answer was "Hackfest", event conducted as a part of Shaastra. It aims at taking the participants into the world of development, teaching them to help open source grow by giving back something to it. The event is conducted by experienced student contributors from various technical institutions for over 2-3 nights. For many participants this is an eye opening introduction to real life coding. Initiating students with concepts such as IRC, version control, build systems, bug trackers and large-scale software design, this event aims at teaching the participants how they can contribute to the open source community (hopefully by getting a bug patch from them by the end of the event itself).

The LUG @ IIT Delhi

"LUG@IITD is an initiative of the students of IIT Delhi to promote the use of GNU/Linux among its students and staff" is the simple one line introduction the members give. But their activities prove LUG @ IITD is much more than what they define.

Workshops

Since its establishment in 2008, LUG

@ IIT-D organized various workshops and seminars. Starting with a workshop on the basics of Linux, kernel programming and installation of few popular distros, the next workshops covered conceptual topics such as Fortran Programming on Linux, Advanced C pro-



...and IIT Delhi as well



This is my old phone

I dropped it off at Nokia

so simple!



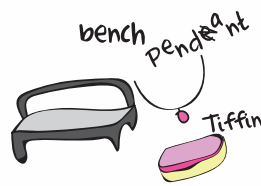
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Ubuntu Light

Canonical has announced that development on the tablet version of Ubuntu is underway and it will be merged with the netbook edition to be named as Ubuntu Light

Steam coming to Linux

Valve software will soon be releasing a Linux client which promises to provide another option for Linux gaming community

gramming and scripting with Ruby. A workshop on Blender, an open source tool used in gaming and animation acquired a lot of participation.

Further workshops included topics such as Code Documentation using Doxygen, Latex, and Wiki as a documentation tool, GNUplot for plotting and linkscape. This workshop mainly focused on the importance of documentation and how it can be done through open source.

Open invitation to participate and organise was an interesting feature in these workshops which encouraged participation and motivated other students to join LUG. For each workshop, a web page for workshop is created on the group of 250+ members, where each member can edit the page and assign the responsibility to himself. It demonstrates the work culture of an open source community.

Apart from the workshops, LUG also organised two installation demonstrations - "Install Fest" and another was during "Openhouse" 2008. In the Openhouse, LUG conducted discussions, talks and demos on various aspects of Linux, both for kids and for grown-ups.

Open source projects

The community started two open source projects - Eduvid and Free world. The project Eduvid generates vector-based education videos, that is intended to replace whiteboard teaching technique to more efficient electronic board teaching. It creates automated slideshow based on presentation timings that are recorded automatically in browser.

The idea of the free world is to create peer-to-peer communication network for sharing data and for instant messaging. The peer-to-peer network will be based on some form of network connectivity, LAN, WAN or internet.

SF-Foss @ IIITM Gwalior

Here comes Indian Institute of Information technology and Management-Gwalior working its way towards development of Open source. In collaboration with NRC-FOSS and Sun Microsystems, its student forum for Free Open Source Software (SF-Foss in short) aims at developing

various open source solutions for various problems existing in present date. The forum conducts many activities that helps it realise its ultimate goal of "Spreading Knowledge.. Unrestrained". The prime activities that took place included expert talks on a long list of topics; including Linux, Apache, MySQL, PHP attended by students of various premier technical institutes. From time to time, major events such as documentary production (on FOSS), workshops and sessions are organised in which people from various parts of the globe participated.

In order to take a leap forward in promoting open source, the following events were organised SF-FOSS:

Release of Fibonacci

Fibonacci is an international magazine published under SF-FOSS in collaboration with NRC-FOSS and SUN Microsystems.



Student's forum at IIITM Gwalior

tems. At a glance the magazine consisted of 46 articles from 41 authors from all around the world including personalities from major open source organisations such as SUN Microsystems. This magazine is downloadable at <http://sf-foss.iiitm.ac.in/fibonacci>. With over 2 lakh downloads, and articles from countries, the magazine received a tremendous response from the open source community.

Free/Open source software for higher technical education (FOSHTE)

It is a 2-day workshop organised under SF-FOSS. Several sessions were delivered by open source experts from CDAC, Delhi

and NRCFOSS. The session started with installation of BOSS (Bharat Operating System Solutions) and was followed by sessions by Dr. S. Srinivasan, NRCFOSS. This created awareness among students from various institutions in India regarding open source and its usability.

Documentary on "Growth and Evolution of Open Source Software"

This multilingual (Hindi/English) documentary focused on how open source software came into existence and the advantages that it offers. The multilingual nature helped it to percolate to the roots of the society familiar with information technology. This multilingual documentary screened at various occasions helped people in rural areas get familiar with open source technologies.



Participants engrossed during an IIITM activity

Applications developed

Two active members of SF-FOSS at IIITM Gwalior developed an open source application "File Tracking System"(FTS) that was deployed at Narcotics, Gwalior. FTS gives a solution to the problem of file tracking that exists in various organisations. This application is advantageous in many ways as the creators of FTS quote - it saves a lot of paper work and indeed paper, and secondly it keeps track of every file submitted and the application is coded to give constant reminders to the person for forwarding of a file/request/suggestion.

It is evident that if these organisations keep working with full enthusiasm and zeal, India will surely witness some great open source applications and skilled developers in near future. **d**

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LUCKY LIPS

Modern technologies are enabling communication without actually talking. Soon you could speak to another person without actually talking!

Arpita Kapoor and Mohit Rangaraju
readersletters@thinkdigit.com

What's been holding up the development of speech recognition? Common sense, for one. Imagine our crowded office environments with everyone around you screaming commands at their PCs. Or imagine yourself on a noisy street trying to get your stupid phone to call home, but only getting "please move to a quieter area" messages. Now imagine a technology that could allow everyone to make phone calls, and talk, without making a sound... serene, peaceful and heavenly, right? This year at CeBit, on of the largest trade fair showcasing digital IT and telecommunications solutions for home and work environments; a new concept called "Silent sound Technology" was demonstrated.

As the name suggests, it's a technology that helps you to transmit information without using your vocal cords. Cool isn't it? This technology aims to notice lip movements and transform them into a computer-generated sound that can be transmitted over a phone. Hence the person on the other end of phone receives the information in audio, as he would normally have. Scientists and researches at Karlsruhe Institute of Technology(KIT), Germany are working on this technology and claim this is the future of telecommunications.

The underlying technology When we generally speak aloud, air passes through the larynx and the tongue. Words are produced using articulator muscles in the mouth and the jaw region. Recently, it's proved that the articulator muscles become active irrespective of whether air

passes through them or not. Even by saying words without producing sound, weak electric currents are sent from your brain to the speech muscles. These electrical signal are known as electromyograms and this technique for evaluating and recording the electrical activity produced by skeletal muscles in general is known as Electromyography.

There is a device/sensor developed to work out the "Silent Sound Technology" at KIT. It monitors tiny muscular movements that occur when we speak by using electromyography and converts them into electrical pulses that can then be turned into speech - which simply means sound is produced without a word spoken.

The electromyographic sensor that is attached to the face, records the electrical signals produced by the facial muscles, compare them pre-recorded

Research in India

Speech and Vision Laboratory (SVL) is a research laboratory in the Language Technologies Research Center (LTRC) at the International Institute of Information Technology Hyderabad (IIIT-H), India

Francesco Redi

In 1666, Francesco Redi demonstrated electromyography for the first time

From the labs

signal pattern of spoken words. When there is a match, that sound is transmitted onto the other end of the line.

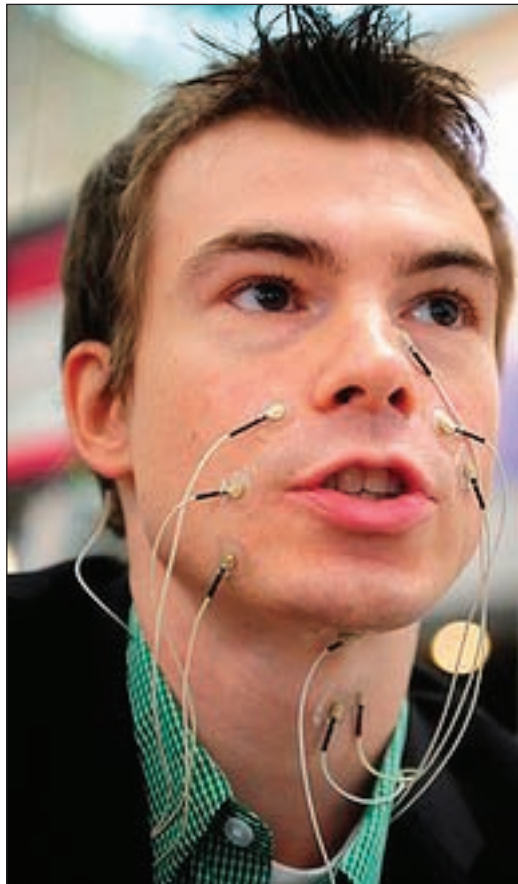
Applications

Applications are huge in number. The major one being able to make silent calls even though you are standing amidst thousands without disturbing others. Now you can avoid unwanted noises around you to reach out to the person you're talking to.

This technology is very useful at areas where audible speech is impossible: astronauts in space (remember sound does not travel in vacuum), divers, fighter pilots, or those working in nasty environments can communicate successfully.

Even the speech impaired can talk over the phone now. This technology is helpful for people without vocal cords or those who are suffering from aphasia, an acquired language disorder that causes difficulty in reproducing or comprehending spoken or written language. Such people would largely benefit from this technology.

The whole range of information security issues will take a positive bend where information can be exchanged vocally without any



The silent sound setup in use

unwanted interception. To tell a secret PIN number or credit card number on the phone would now be easy, as there's no one to eavesdrop any more.

Since the electrical signals gen-

erated are universal, they can be translated into any language. Native speakers can speak in their language and language translators can translate it before sending it to the other side. Hence, it can be converted to any language of choice currently being German, English and French.

Restrictions

Translation into majority of the languages works well. But for languages such as Chinese, different tones hold different meanings, facial movements being the same. Hence this technology is difficult to apply in such situations. From the security point of view, recognising who you're talking to gets complicated.

Even differentiating between people and emotions can't be done. This means you'll always feel you're talking to a robot. This device presently needs nine leads to be attached to your face which is quite impractical to make it usable.

Future prospects

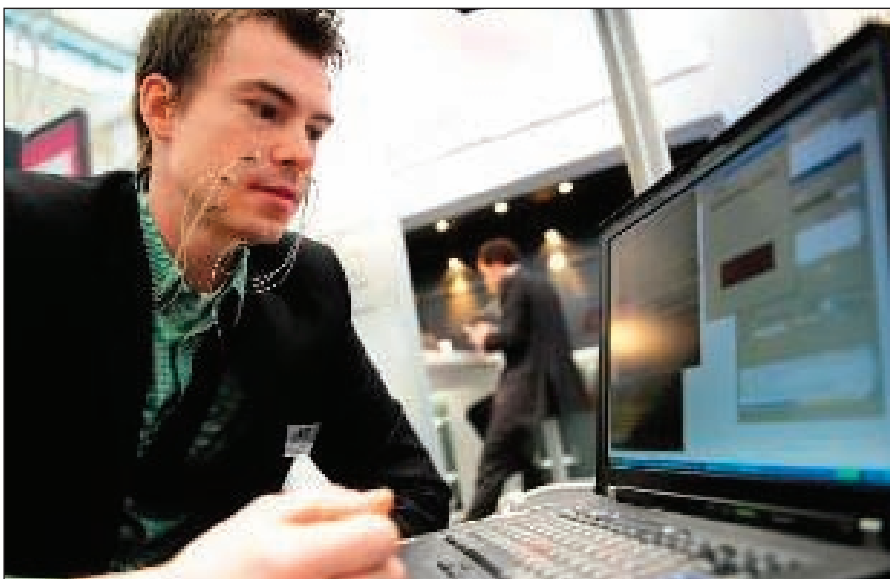
Silent sound technology gives way to a bright future to speech recognition technology. From simple voice commands to memorandums dictated over the phone, all this is fairly possible in noisy public places.

Also without having electrodes hanging all around your face, these electrodes will be incorporated into cellphones making them look more usable.

Some suggest it would be great to have lip reading based on image recognition and processing rather than using electromyography. Also, incorporating nano technology would be a mentionable step towards making the device handy.

Conclusion

The engineers claim that the device is working with 99 per cent efficiency. This means out of 100 words being recognised, one is interpreted wrong. The developers say the device would be everyday use in about five to 10 years. **d**



Hopefully silent speech technology could be a commercial product soon

Chrome OS to come soon

Google has announced that it expects the first Chrome OS netbooks to be launched between September and November this year

IMMINENT TECHNOLOGIES

Upcoming Technologies That Are All Set To Change Our Lives

Madhusudan Mukerjee
readersletters@thinkdigit.com

Arthur C. Clarke, the incomparable sci-fi novelist, futurist and inventor, believed that a sufficiently advanced technology often seems like magic to us. One of the few accurate predictors of technologies of the future, Clarke would have been pleased to find that all

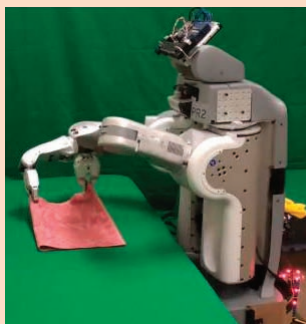
around the world, scientists are steadily working towards the attainment of technologies that even magicians would have a hard time pulling out of their hats. Besides, none of these are even close to the typical apocalyptic doomsday scenarios of Hollywood sci-fi projections. Here's a quick look at scientific innovations that are likely to reach culmination really soon and change our lives for the better.



Sci-fi flicks tend to paint bleak pictures of future technology

Robo Sapiens

Robotic assistants have been around for some time, but none of them have proved to be viable alternatives to human helpers. All that is set to change. The rapid commercialisation of robotic technology and large amounts of private funding over the last two decades (cases in point are Honda's ASIMO and Sony's AIBO) has taken the field ahead by a quantum jump. Robots are soon going to be an indispensable part of your home.



Doing more than just the laundry

'Soft' Skills

Another interesting robotic innovation is a robot that folds towels. Assistant Professor Pieter Aibeel of UC Berkeley and Jeremy Martin-Shepard have, with the help of the robotics company Willow Garage, developed a robot that folds piles of towels of different parameters with as much efficiency as any homemaker. Finally, computer 'sight' capabilities have been taken to a point where robots can effectively deal with deformable objects too. While this is at the prototype stage, it signifies an important advancement in robotic programming and one major step into our homes.



Robots that clean up for you

Mint

Pasadena based Evolution Robotics Inc. and Yves Behar, the industrial designer, have teamed up to create a little robotic appliance called 'Mint' that makes your vacuum cleaner look like a horse carriage. This is all set to give other home gadgets such as iRobot's Dirt Dog competition. Mint dusts and mops hard surface floors using branded cleaning materials and uses a special movement to clean the cracks and crannies that typically accumulate dust. What makes it unique is that it uses a navigation technology called North-Star (created by Evolution too) that enables it to map a room, plan the cleaning path and avoid patches that have been already cleaned. Sensors allow Mint to differentiate between types of floors (rough or slippery) and it never gets caught in a rug. While it should be launched in the US anytime soon, consumers all around the world would be able to leave the cleaning to somebody - or something - else by the end of 2011.

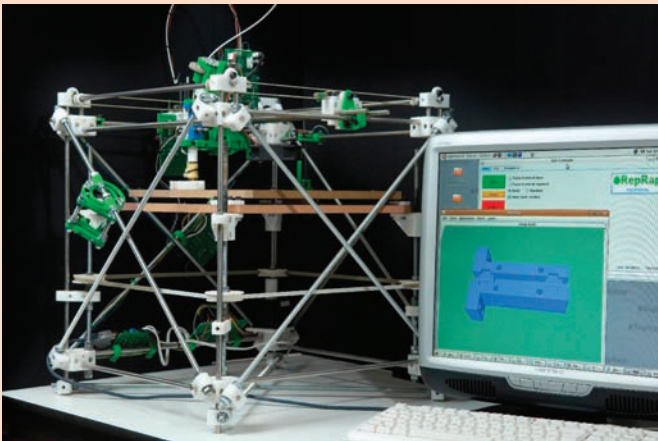
Dual SIM on a watch phone

Q8 Watch phone has support for dual SIM cards, 2 MP camera and a microSD card slot

Entertainment on Bing

Microsoft has added an entertainment vertical to its search engine Bing, a dedicated search for music, movies, games and TV shows

Tomorrow's tech



Doing more than just the laundry

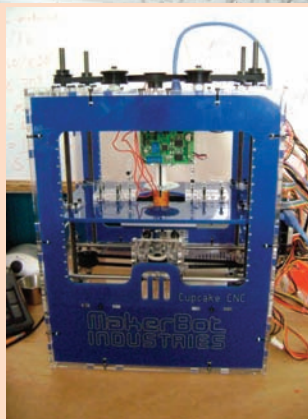
Replicators 3D Printers

You probably saw them in *Star Trek: The Next Generation* and in the *Stargate SG-1* series and you wondered when you could



A chair created by the FabLab students at Barcelona

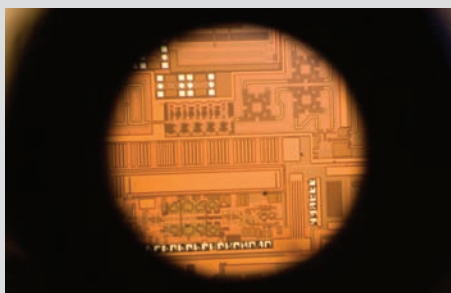
get your hands on one of those replicating machines. The day that happens doesn't seem to be far off although the ones that are happening right now are not



Make your own tools at home

exactly what you saw on TV.

The Centre for Bits and Atoms at MIT promotes the FabLabs project that works to develop the 'MultiFab' – an incredible contraption created by Ilan Moyer (an MIT graduate) that prints plastic, sculpts figures out of wax, vinyl and, plastic.

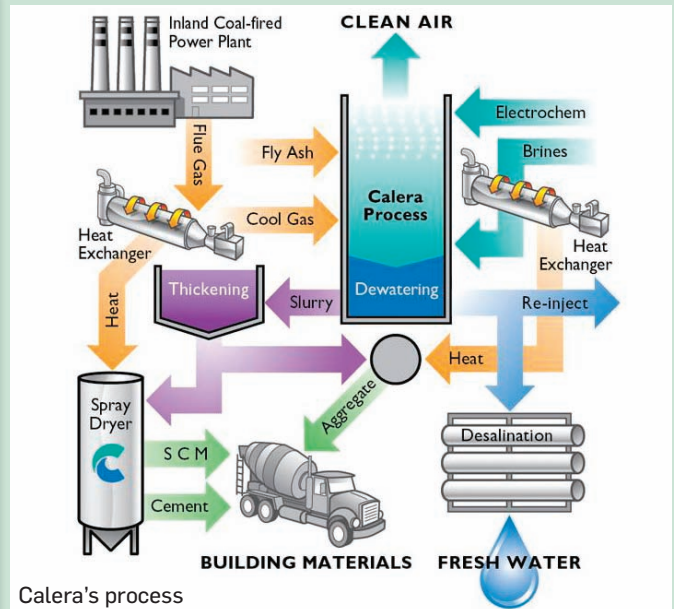


The retinal implant

Implants

Bionic implants are one of the many possible solutions for restoration of sight. The Australian gov-

ernment has promised more than thirty million US dollars to the bionic eye project which is working to create an implantable device into the eye. Associate Professor Michael Ibbotson and his team at The Vision Centre and Australian National University, have discovered that electrodes implanted on the retina of a living eye can be detected by the brain. The little gadget is made



Green Machines Environment-friendly Production methods

A London-based venture called 'Novacem' is working hard to reduce the immense carbon footprint that gets created by the manufacture of something as ubiquitous as concrete. Cement and carbon? Don't seem to fit, right? Ordinary portland cement which is manufactured by burning a mixture of limestone and clay at high temperatures and then by grinding the residue along with gypsum - needs a lot of natural gas or coal to bring

the mixture to a temperature of about 1,450°C. Start-ups like Calera in California and the Geopolymer Institute in France are trying to change all this. Novacem's Nikolaus Vlasopoulos does this by adding water to magnesium compounds to produce a hardened cement that was as good as the Portland based ones. Calera is working on cements that can be added to Portland instead. If any of these reach large scale production levels, almost 5 per cent of worldwide carbon emissions could be reduced. Let's hope they succeed.

up of a tiny camera mounted on glasses that takes photos of the image in the front and sends them to a microprocessor that the user keeps in his pocket. The chip sends the signal to the implant that stimulated the few active neurons in the retina. Evidently, then the contraption is for victims of Retinitis Pigmentosa – or retinal degeneration due to age. While complete vision does not return, at least key points of light can be identified by the brain to enable the elderly to see better. The first human implant, however, is not scheduled before 2013.

PCs go Green Wipro's Greenware

Usually, the typical PC contains a whole lot of PVC (Polyvinyl Chloride) and BFR (Brominated Flame Retardants)Wipro all of which are biodegradable.

Wipro Infotech, India has recently released a new range of PCs called Greenware and are free from plastic and flame retardants, making them easy to recycle and much safer for the environment.

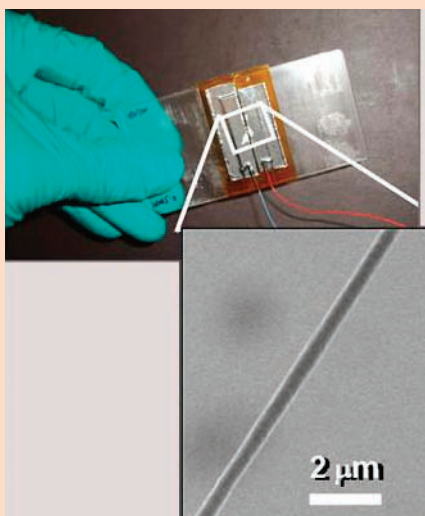


Adobe Flash 10.1 for mobiles

Adobe has launched Flash 10.1 for mobile phones and is available for immediate download for FroYo users for now

Google music download

Google plans to launch a music download service with online subscription service by 2011



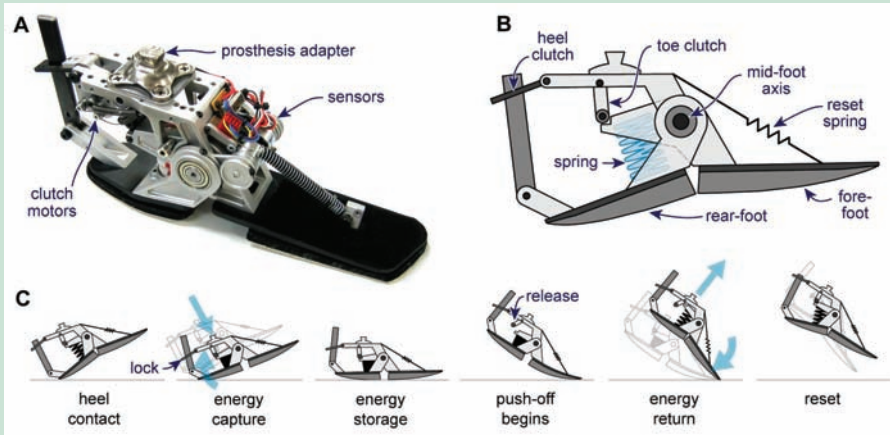
A fibre nanogenerator on a plastic substrate

Nanotechnology

Clothes that charge

Ever had your MP3 player to run out of power just when your favourite song is about to come up? No sweat. Just plug it into your clothes. If you think we're kidding meet Mr. Liwei Lin, UC Berkeley professor of mechanical engineering and head of an international research team that has developed this new technology. The team has created fibre nanogenerators that have piezoelectric properties – fibres that can convert the stress and strain of stretches and twists into energy. Their success is thanks to a process they call "near-field electrospinning" – a technology that has enabled them to arrange the tiny fibres on a collector plate in a very controlled manner.

These fibres can be woven right into clothes without the least difference to the comfort of the wearer. This can have fantastic implications like being able to charge your cell phone while jogging or power up your laptop while you're exercising. Lin and his team have successfully transformed the mechanical energy of moving a finger into electricity by using the nanofibres attached to a surgical glove. Don't forget that a nanometre is just about the width of 10 atoms. It would take millions of such fibres to charge your laptop – but then again, a million such fibres would barely be bigger than a grain of sand. The availability of such garments could be a blessing to backpackers, soldiers, travellers and the like, who have to carry cumbersome chargers for their different gadgets, wherever they go.

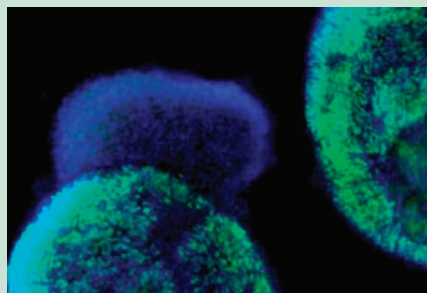


Putting people back on their feet

Bio-tech

Prosthesis

The loss of a limb can have devastating effects and the only hope for the victim to lead a reasonably ordinary life again is a prosthetic limb – an artificial extension or replacement of the missing body part. Recent breakthroughs in prosthetic science have greatly improved the quality and range of prosthetic extensions. The use of electronics has augmented the positives too.



The green spheres are the early retinal cells

Artificial feet can be heavy and every amputee knows that it's a tough task to learn how to walk with prosthetic feet that have metal parts inside. An artificial foot created by Art Kuo (Art Kuo, professor of biomedical engineering and mechanical engineering at the University of Michigan)

and Steve Collins helps the user to walk more easily by recycling the energy of each step. Although it's only in a prototype stage, the idea of an energy-recycling prosthetic foot is unprecedented. As the foot pushes off the ground, the machine inside the prosthetic limb catches the dissipated energy and returns it to the system at the appropriate moment with the help of a programmed microchip. This reduces almost by half, the amount of energy required by the user to lift the foot. The product is now being tested at the Seattle Veterans Affairs Medical Centre and is in the process of being commercialised.

Scientists at the University of California have created a 3D retina-like structure out of embryonic stem cells that have raised hopes of restoration of vision by the replacement of the retina by such bio-synthetic implants. A pilot test on a few patients has revealed that vision returns to a degree. Hans Keirstead, project head, along with his team, created two different types of cells from the stem cells taken from a human embryo – early cells of the retina and Retinal Pigment Epithelium cells. These were put together in an environment and exposed to different chemicals that encouraged them to grow. Remarkably, they grew to form three-dimensional structures.

Summing up

Arthur C. Clarke, in his many magnificent science fiction adventures, predicted the end of the world due to the consequences of technology several times. Hollywood movies such as the Terminator series, The Matrix and I, Robot, among many others, have often resorted to dystopian visions of technological development. At the end of the day, however, we only need to look around us to see the innumerable benefits of scientific development. Technology today is helping the blind to see and the crippled to walk. Power may become cheaper, robots assist us in our daily chores and printers print out things we need, when we need them. Technology, after all, is only as good as the hands it is in. As of now, it seems to be in safe hands. d

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UNDER THE HOOD

Arpita Kapoor and Mohit Rangaraju
readersletters@thinkdigit.com

Most of you would wondered how kratos (of God of War fame) is made so lively or how the whole backdrop of the game is made so involving. Although we wouldn't go to the extent to say that it's an easy job, we'll definitely say it's not rocket science either. With excellent open source software tools available, you can create your own game for free.

Don't get confused between a game and a game engine – these are two distinct entities. Consider a bike. It has its own engine. The same engine fitted into a another body makes it a different bike altogether. Similarly, the game engine doesn't define your game. It just equips it with the necessary tools to feel like a game, such as game objects, characters, animation and artificial intelligence based codes.

Although game development is a multi-billion dollar industry, it's possible to create your own game using free and open source tools

Renderer and basic graphics pipeline flow

Rendering is the process of generating an image from a 3D model using a computer program. Simply put, without a renderer you won't be able to see anything at all. A renderer helps you visualise the scene and makes your game stand out.

How 3D models and worlds in your game are stored in memory is a function of the renderer. 3D objects are stored as points in a 3D world. These points called vertices are associated with each other in terms of surfaces and lines that make up triangles and polygons that recreate your 3D object. If you're rendering a cube using a game engine, it means you're drawing eight points that make up the vertices, twelve lines that make up the edges and six surfaces.

If, for example, you're making a 3D model of a car, you're dealing with thousands of polygonal surfaces. On the other hand, if you're talking of the

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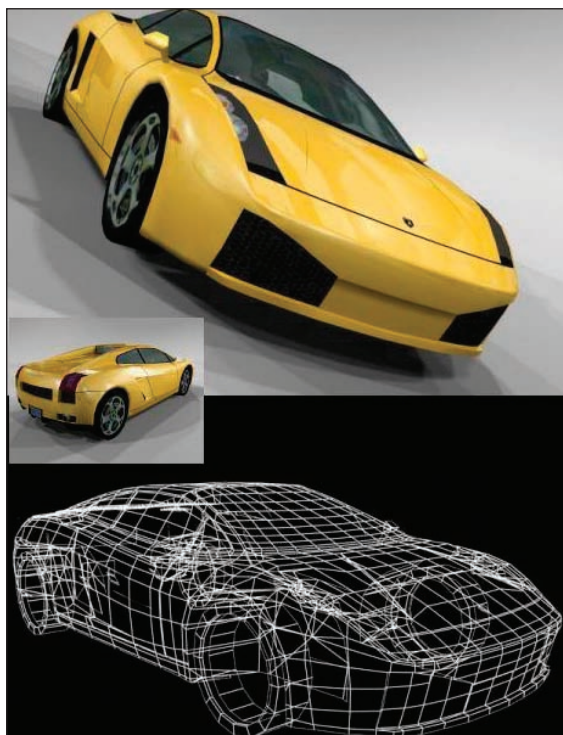
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Did You Know?

The term "Game Engine" was first used in mid 1990's especially with reference to 3D FPS games

RenderWare Game Engine

Widely used cross platform game engine RenderWare was used in the creation of the Grand Theft Auto & Burnout franchisees



The renderer passes the information of the polygons that make up the car's bonnet (shiny yellow texture) to the graphics card. Also, renderer discards the polygons that make the car's trunk

first level of God of War III, you're talking of hundreds of thousands of vertices and polygonal surfaces.

Consider a game object such as a car. The renderer doesn't really know what exactly a car will look like in the 3D model, what texture it uses (colour and shades design), how it is animated and where it is located in the game. Also it doesn't know where the camera is located and where it is directed. All this information needs to be provided to the renderer by the game.

The game passes information about the object (a car in this case) to the renderer. The renderer, in turn, looks at the size of the 3D model of the car and the location of the camera and then decides if it is on the screen, behind the observer or completely off the screen. It then discards the polygons of this car model that are not faced by the camera. The renderer sees the texture of the polygon and ensures the graphics card uses the same texture while rendering. The graphics card receives the relevant information from the renderer and displays the graphics.

The creation tool - Editor

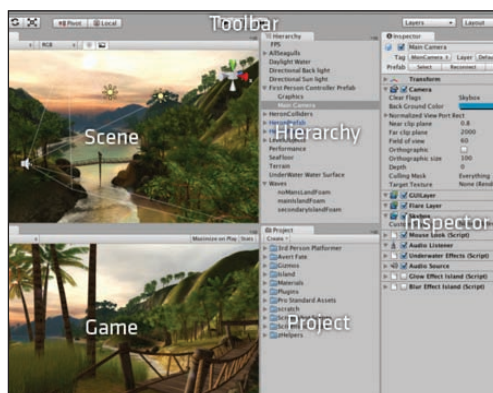
Game engines normally include a creation tool. This is an interface you use to communicate with the game engine. It needs to be flexible to let you drag and drop game objects into the scene, remove them, manage their lighting and save your work. All major game engines let you create projects (games), scenes, import 3D models (game objects) from major 3D editors such as 3ds Max, position them, add levels, adjust and preview lighting, attach physics to your objects, add scripts to them and test run your level before letting it go into the game. The interface of different game engines may be different, but essentially they all do the same thing.

For example, Unity game engine has an interface with a game view and a scene view.

It has an inspector window to adjust the position and size of the game objects and attach scripts. Project and hierarchy windows allow you to manage game objects. Unity also gives you an option to preview the scene in game view using a simple play-pause mechanism.

Lighting and shading

Lighting is an important aspect of game design. All major game engines provide good lighting tools. Vertex lighting, polygon lighting and pixel lighting are some lighting techniques that are widely used.



Interface of Unity game engine

Light sources can be added at desired places in the scene. Many game engines allow you to make light maps, which combine the effect of all directional lights in your scene. This gives you better lighting than vertex lighting and speeds up rendering.

Shaders were introduced to give programmers precise computational control over the final colours displayed on the screen. These days, game engines have built-in Vertex and Pixel shaders. These are programs or routines that help you enhance your graphics by adding complex per-pixel effects. With the above mentioned lighting and shading techniques you can try lighting your game using the various options in Unity.

Character modelling

Character animation and modelling defines how the model looks on screen and how it is animated. By using various design tools available such as 3ds Max and Maya, you can make 3D models and characters. The character models can be imported into the game engines. All game engines support major file formats of 3D modelling tools.

You can import these models into game engines and attach animation scripts to them. Animation scripts are lines of code in a supported language (Java Script in Unity) or the in-built animation scripts like Walk, Run can be used.

Animation requires smooth transitions. In simple terms, if a model is animated to walk, and then run and finally kick, the transitions should not be abrupt. If a number of animations are playing on one character, all of them can be blended and added together to make the final animation run smooth using the "Animation Blending" feature of game engines. Another interesting feature game engines such as Unity provide is animation layering that allows group animations.

Game physics

Similar to the real world physics which all the real objects follow, the objects in the game abide by game physics. Game physics has its own set of rules (sometimes contrary to the opposite of real world physics), to bring in the fun

Price to pay

A high end commercial game engine license costs anywhere between \$ 10,000 to the number running in millions with number of licensees reaching dozens of companies

Fast Physics

Need For Speed on the Playstation ran its physics at 100 Hz as compared to Forza Motorsport 2 running its physics at 360 Hz

How stuff works

part. Game physics helps us deal with things such as gravity, inertia, velocity changes, collisions, slopes and walls.

How real a game feels, depends on the physics of the game. It lies in the game creator to cleverly slip real physics into the game without spoiling the fun part. Once your character is modelled and placed into the game world, it has to interact with the other objects following certain principles of game physics.

Making your characters follow real world physics can be quite unrealistic in the game world. For example, in a racing game such as *Motogp*, after a crash your "Avatar" should not be in a condition to ride the bike according to real physics. However, this cannot be included in the game, as the players expect to have fun.

However, some times including real world physics can make the game more interesting. Games such as *Gran Turismo* and *Need for Speed* gives the player the actual experience of riding a car using real world physics. The braking system employed into the cars of the game are similar to the ones in the real world.

Sound and audio

Blending sound and audio into animation is not as easy as it seems to be. There is a huge difference in the sounds you hear with the source just in front of you and the source in another room. (You can notice it games like *Call of duty: Modern warfare* and *Counter strike*). Sounds in game world follow principles of physics like occlusion and obstruction. Both of them are similar in terms of having an obstacle in between the player and the sound source. Occlusion occurs when the obstacle is encompassing, otherwise it's Obstruction. With these principles in action, there is a huge difference in the sound you hear underwater or in a long corridor.

All game engines support adding sound and audio properties to your game. Options for sound mixing and positioning are available in all major game engines. For example, in Unity, you can change the pitch of each audio clip, stream audios directly from the

web, place positional sound sources anywhere in the scene and thus have an impressive audio experience.

Game networking

LAN play when introduced, gave a new dimension to gaming. It merged the concept of socialisation along with gaming. It's also essential to include networking in your game. LAN play increases the longevity of the game as you always have a new contender to combat. May be that's the small little secret of *Counter Strike* that still rules the college hostels in India. To include LAN play, understanding the concepts of internet operation is important.

Multi-player gaming can be done using two architectures: Peer-to-peer and client/server. Peer-to-peer is where a game is set up on two machines. Each individual machine follows its game, accepts input from the other machine and incorporates updates in its game, frame-by-frame. Up to two players can only be supported in peer-to-peer architecture

In the client/server architecture, where one machine is effectively running the game, and every other machine is just a terminal and renders whatever the server tells it to render. This architecture shows the same game in every machine since all the processing is done on one machine called the client/server. This encourages multi-player gaming.

Scripting


Scripting is not the same as AI. Scripting is where the developer takes full control over the scene setting up events that player has almost no involvement. This is very prominent in recent big games

where you have scripting in the form of story telling and pre-scripted flashbacks. There are various forms of scripting. Text-based scripting consists of thread texts being displayed. Visual scripting is more prominent these days with good game engines now available in the market. With visual scripting, you can script using game characters, trace paths for characters to follow and define animations to be used, making your scripting more realistic.

Programming and AI

After rendering, artificial intelligence (AI) is the most important element in game development. One of the most crucial aspect of the game, AI, defines your fun experience during game play. The better the AI, the more involving is the game play. AI is nothing but intelligent codes written in programming languages to take decisions based on your actions in the game. All non player characters (NPC) in the game are controlled by AI. Each NPC should have awareness of the surrounding world, that is, exact information of game objects around it and their behaviour. The programmer decides the extent of the knowledge that NPC can have about the world. AI consists of all decision making routines that determine how the NPCs in your game will behave and interact with the player.

World navigation (path finding) is definitely interesting for budding game developers. World navigation takes into account the complete geography and also the position of objects in the game world and then decides how an NPC navigates from one point to another. All possible options and corner cases have to be considered while writing the code for AI. That's what will make your game more interesting and exciting.

Now that you know the basic architecture of the game engine, you can try and twiddle different game engines and find what suits your need the best. There are a pretty decent number of free and open source game engines available. Some of the good ones we suggest are Unity, OGRE (it's a rendering engine only), PANDA 3D, SAGE. Almost every major gaming company has their own engine with which they create their games. 



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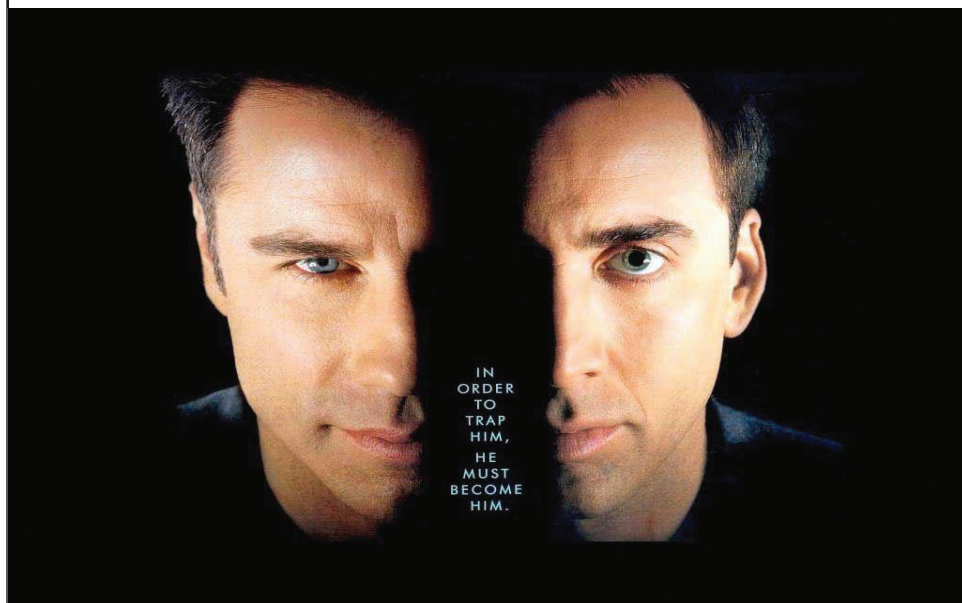
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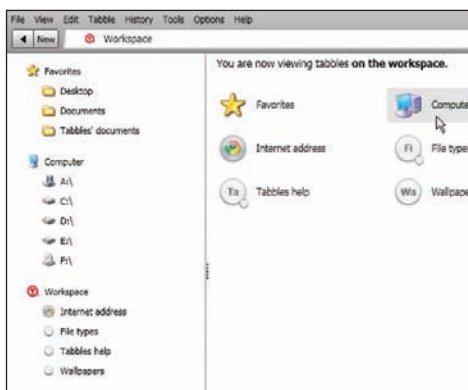
Move over Windows Explorer

Tabbles

Table is short for the 'tag-bubble' – a bubble-shaped tag used to organise your files and folders. Created by Yellow Blue Soft, Tabbles is a relational database management tool that allows you to tag files and folders and create interconnections between files in different folders based on similarities that you determine, using a smooth and swift GUI.

Create a new Table

All of us have sometime wondered whether to make a new folder for a file or save it in an older one. Sometimes files don't fall into categories of folders



Getting started with Tabbles

that have already been created. Often, files lie scattered in different folders on the computer even though they may share the same primary classification. Tabbles makes navigation easier.

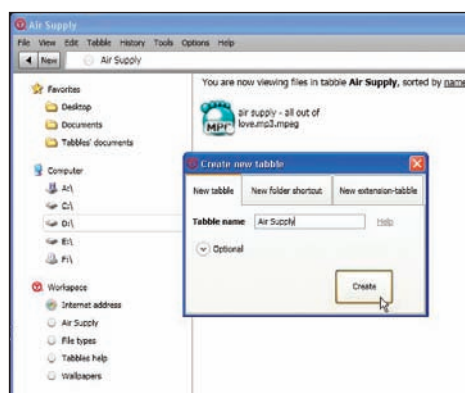
After you install and run Tabbles, it opens up a 'Workspace' to start off. To create a Table, click on the 'New' button above left, or press



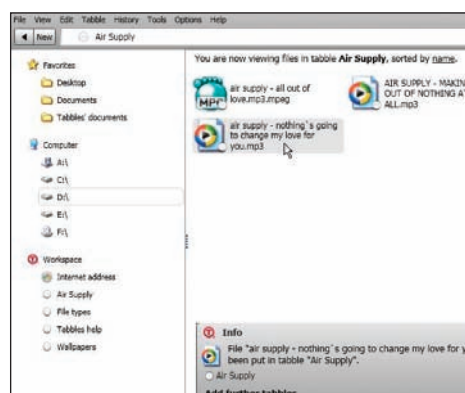
Tabbles	49
Sculptris	51
Songsmith	52
Mozy	54
Soundation	55

[Ctrl] + [N] or click on File > New table. You can now drag and drop all the files that are related to the category into the table you've created.

As soon as you're done, Table informs you in a pop-out bubble that the file has been added to the particular table. Remember that a table is not just a tag – it's also a kind of folder. Besides, every time you add a file to a table, it's not the same as a copy-paste action. Files don't, therefore, get dupli-



Make file clusters more relevant



Information in bubbles

cated, only tagged into groups for future reference.

All new tabbles are created in the workspace and cannot be created within an existing folder.

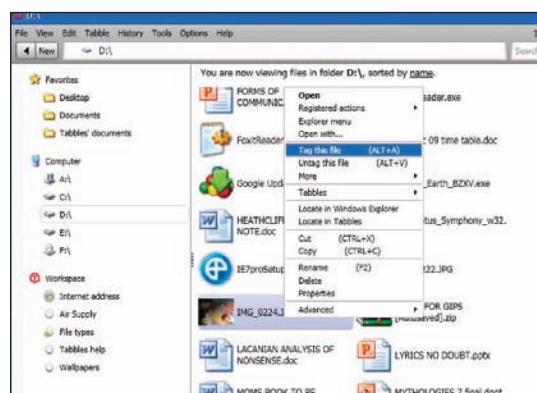
Tag files

Tagging existing files is easy. Icons in the left column of the Workspace dialog box are links to your drives. Click on any of them and locate the file you wish to tag. Tagging can be done in one of several ways. You could either right-click on the file and choose the 'Tag this file' option in the context menu or select the file and use the shortcut [Alt] + [A]. This would open the 'Tag' dialog box that allows you to either add the file to an existing tab listed below or create a new one. Click on the tabble you want or fill in a new title to make a fresh tabble. As soon as you click on one of the options, the title of the tabble floats up to the top of the window. In this way, you

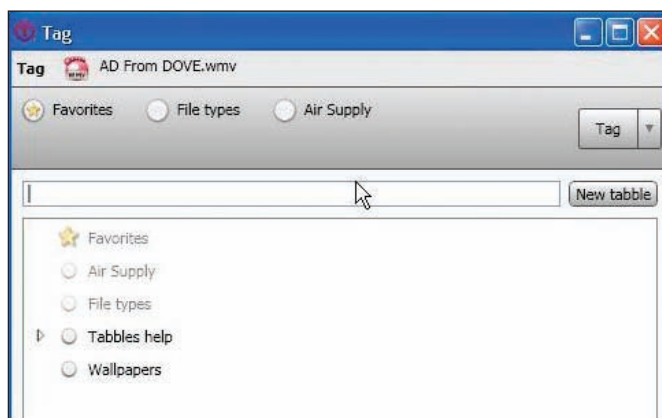
could add it to several of the tabbles already created so that a single file may be classified as related to different folders at the same time. If you change your mind, clicking on the tabble above brings it down to the list below again – meaning the particular file

will not be added to that table.

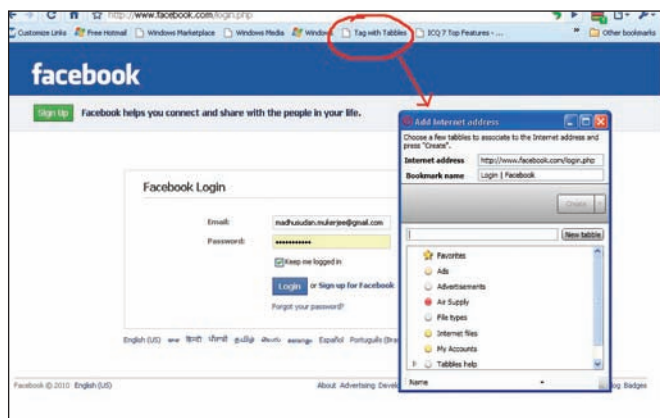
If you add a tag by error, untagging is easy. Simply right-click on the file and choose the option that says 'Untag this file' or use the shortcut [Alt] + [V].



Right click to tag or untag



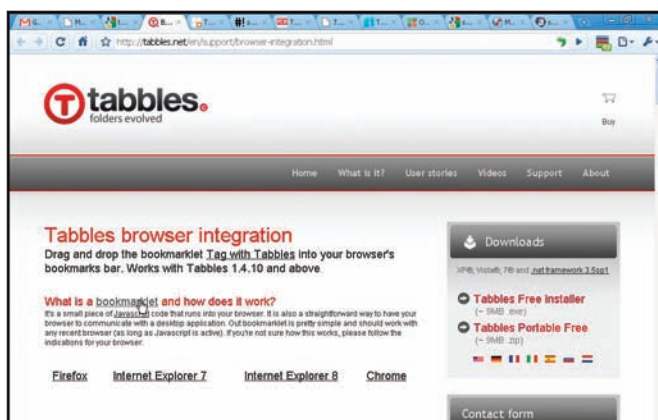
Add a file to multiple tables



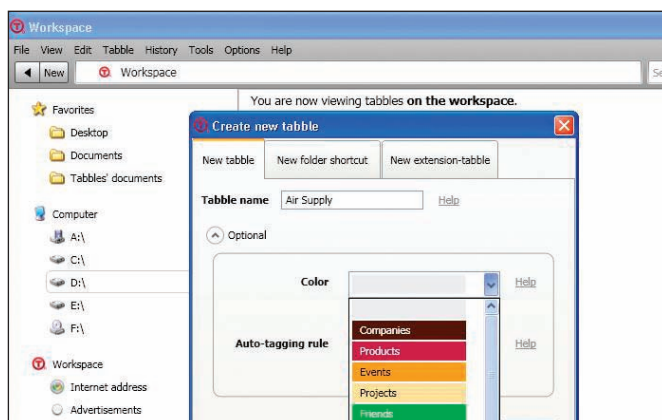
Use the tab to add URLs

Classify with colours

Tabbles lets you add a colour to a table to make the categorisation more fun and more effective. You can choose from a whole range of colours from the drop-down section of the 'Optional' button when you're creating a table itself (New > Optional > Color). Tabbles pre-assigns colours for different categories, e.g. red for music and green for friends. To add a colour to an existing table,



Add the Tabbles tab to your browser



Sort by hues

just right-click on its icon in the Workspace and click on the Properties option. Click on the colour you want and click OK. The table will now appear in the colour you chose.

Tag Gmail and tweets

To add tweets or emails from your Gmail account, you'll first need to integrate it with your browser by adding the 'Tag with Tabbles' javascript book-

marklet to the bookmarks bar. This allows you to tag URLs with a single click.

You can do this by going to the Tabbles web site and clicking on Support > Browser Integration and dragging and dropping the 'Tag with Tabbles' link to the bookmarks bar above. Once you're done, all you need to do is click on it whenever you want to add a URL to your Tabbles

you're done, Tabbles pops out a few windows telling you what has been added and to which table.

The quickest way to add an internet address, though, is by using the shortcut [Alt] + [D] or clicking on Add Internet Address in the Tools menu above when the relevant URL is already open in your browser window.

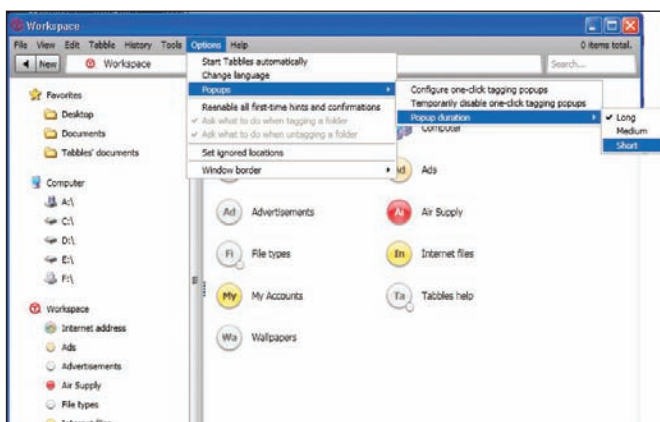
Configure

You might find the typical message bubbles that Tabbles throws up a bit bugging. To alter the duration of these simply use the 'Options' menu in the bar above. Just click on Options > Popups > Popup Duration > Short to ensure the bubbles don't float around for long.

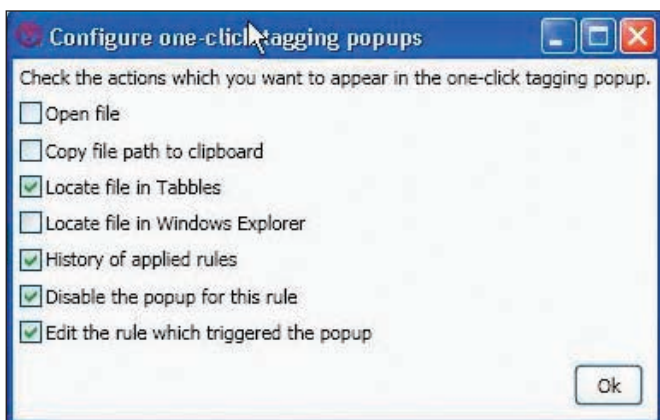
The 'Options' menu could also be used to further alter the way in which the pop-ups behave. You could, for example,



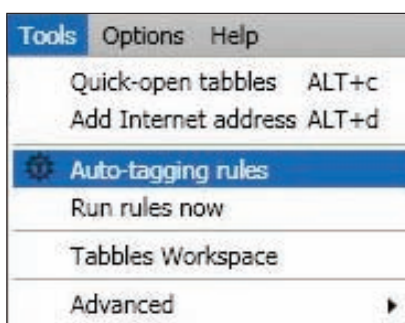
Use Tabbles to tag on Twitter



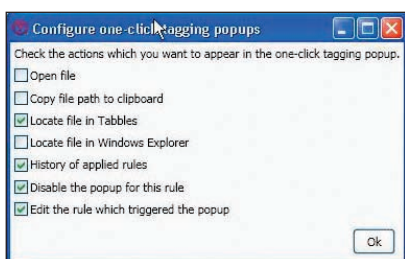
Adjust time settings



Change settings to your taste



Even default settings can be tweaked



Remove unwanted features

also ensure that the files open or are located by Windows Explorer. You could even disable the single-click option if you wish.

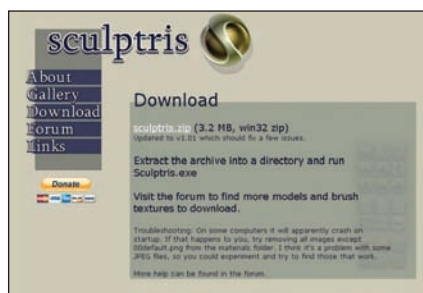
You could disable indi-

vidual pop-ups or edit when they appear by accessing the Auto-tagging rules in the Tools drop-down menu. Simply select one of the auto-tagging rules and click on the Edit button above. Alternatively, click on Delete to remove the feature entirely.

Sculptris

Sculptris is a new and free application created by Tomas Petterson in November 2009 that lets you actually sculpt and paint 3D models as if you were a real sculptor using simple and quick

tools, without requiring you to focus on precise measurements or technical details. Download the zipped Sculptris application (for Windows OS) from <http://www.sculptris.com/download>.



At just 3.2 MB, Sculptris is really light weight

html and unzip it to get started because there's nothing to install. Remember, of course, that if your system has less than 2GB of RAM, there's a good chance that Sculptris may be too slow to use. A good graphics card could also go a long way to make the sculpting process smoother.

Get familiar

The interface is so designed that you don't need any tech-

first. You can use the left and right mouse buttons for sculpting and the middle button or the scroll wheel to zoom in and out or control the camera angles.

On the top left

are the tools that you

could choose

with either of

the mouse but-

tons and the

sliders affect

the range and

depth of each

tool's move. If

you want to

keep a track

of how exactly

the Triangulate

Irregular Net-

work (TIN) you're working on

looks like, just press [W] to acti-

vate it and reveal the

wireframe network.

The tool you acti-

vate will be displayed

on the right of the

toolbar.

Grabbing

The Grab tool is one of the primary tools you'll have to begin with. It's really simple

and reminds you of the Push-



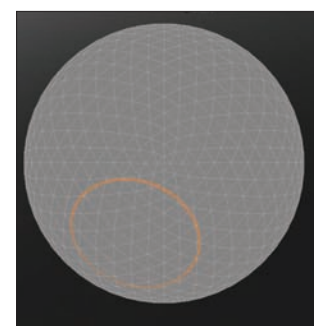
Start with a lump of clay

nical know-how of 3D modelling. When you first run Sculptris, you start off literally with a malleable ball.

To begin sculpting you'll need to figure out the basics



The mouse-hover tells you what each button does



'W' reveals the mesh

pull tool in SketchUp. Position the circle on the relevant portion and left click and drag to extend it outwards. Conversely, you could right-click the area and pull it towards the inside of the ball to create a depression.



Grab a portion and push or pull it around

If you feel your sculpting needs to become more exact, just use the 'Size' slider on the top to reduce the circumference of the circle.



Use the 'Size' slider to heighten

The Grab function extends, elongates or downsizes already-sculpted portions without affecting the symmetrical distribution of its parts.

Draw, Crease and Smooth

Use the Draw tool to automatically raise portions you click and drag the mouse over. To depress the regions you choose use Draw and right-click instead. Use the Crease tool for sharper folds and the Smooth tool to make the edges softer.

The most incredible tool that can be used with other tools is the Symmetry button. Symmetry ensures that every drawing, pinching, inflating, flattening and grabbing that



Add contours with 'Draw'



Ensure 'Symmetry' is activated for quicker sculpting

you do on one side of the ball of clay simultaneously happens on the other side too. This feature is great when you want to make sculptures that are identical on both sides.

Remember to check the Limit option above to work on selected aspects of your image. The Global function,



Enable mapping to begin painting

on the other hand, allows to move the entire sculpture around completely.

Colour your sculpture

Once you're finished with your sculpting you can add colour to it to truly make it a work of

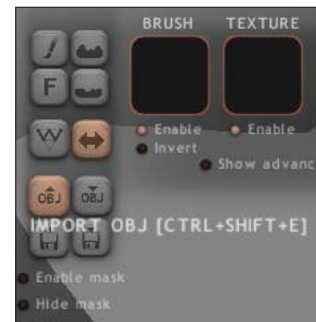
art. Once you click on the 'Paint' button on the top right of your screen and you proceed with colouring your image, remember that you cannot return to the sculpting stage again. So we advise you only resort to adding hues after

you are perfectly sure that the sculpting is done with. To choose the colours you wish, just click on the coloured circles under the 'Airbrush' tab above to reveal a sphere of hundreds of colours and shades to choose from. Clicking on any part of the sphere will select the colour the mouse pointer is on. Click



Let the colours flow

tons on the last but one row of the toolbar are to import (OBJ with an upward arrow) or export (OBJ with a downward arrow) objects from or to other folders. Alternatively, you could use the shortcuts [Ctrl] + Shift + [E] or [Ctrl] + [E] for the same effects.



Import or export objects with just a couple of clicks

Don't forget to take a good look at the 'documentation' in Notepad that comes along with Sculptoris and lists a whole lot of handy shortcuts for your convenience.

Songsmith

Microsoft Research Songsmith is a musical tool that lets you sing any song into the microphone attached to your computer and fills in the musical accompaniment for you. If you always fancied yourself a singer-songwriter but never found a band, Songsmith does the job for you. Let's show you how.

Pick a Beat

After you download, install and run the Songsmith setup file on your computer, you'll be surprised at how easy the interface is. To create a new song from scratch, click on the New Song button and then on Next. Now all you have to do is pick a style. Songsmith offers you plenty of different styles – or typical pre-set drumbeats (with added tunes) – to choose from – anything from Hip-hop to Disco can be used. As you



Everyone's got a song inside

click on each, Songsmith provides a preview of the tune/beat for your convenience. Pick a style to fit the song that's in your head by clicking on one.

Start your new song

If you want to know what each style is about, uncheck the box which says 'Show style details'



Start your new song

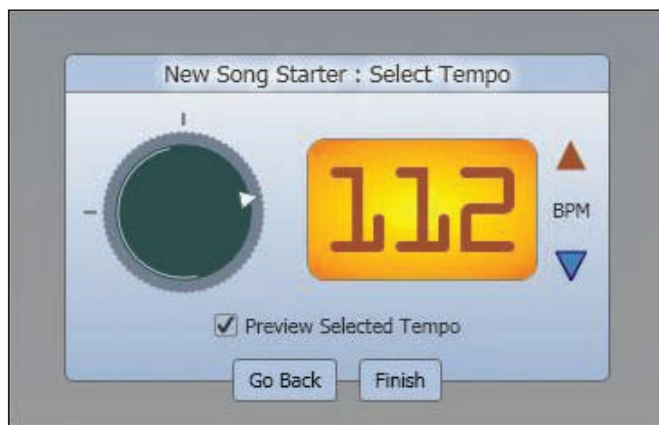
so that each time you click on a style, it now displays the number of beats per bar, the tempo and the date it was created. Once you've hit upon the right beat, click on Next.

Set the tempo

Every musical piece has a particular speed – usually recognised by the number of beats per minute (bpm).



Understanding styles



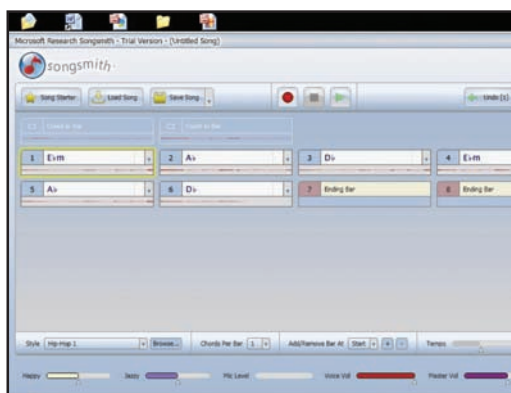
Set the pace

It's not enough to choose the musical style. To create a tune truly appropriate to the kind of song you'll need to set the tempo accordingly (slow for sad songs, fast for dance music, etc.). This part is tricky if it's the first time you're working with music because if the tempo gets too slow or too peppy it could lead to comical – and sometimes disastrous – effects, so choose carefully.

To alter the tempo you could use the mouse cursor to click on the up/down arrows or click and hold the left button of the mouse on the knob and turn it around as you require. Click on Finish and you're all set to start singing.

Record

Click on the Record button that's glowing red in the bar above and start singing. Another way of doing this is by using the shortcut [Alt] + [R], which



Songsmith automatically records in bars

music in the background.

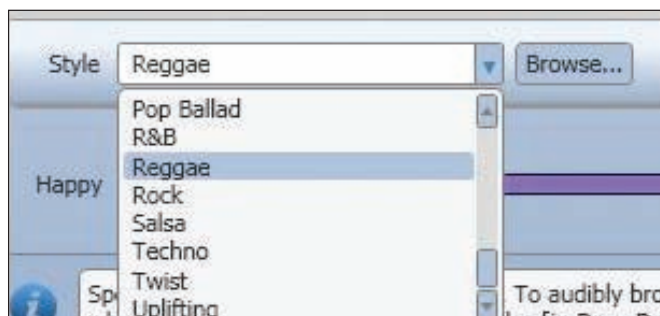
If you think you got it all wrong the first time, re-recording is a cinch. Click on the Record button again and sing along to the same beat to make an entirely different song.

Tweak your tunes

Now that you've recorded your first song, you might want to make it sound better. This can be done in several ways.



Change the mood



Switch styles



Make the styles sound better

is much quicker. After you are done singing, click on the Stop button or use the Space bar. Soon as you stop, Songsmith replays the entire song with your voice and the pre-set

You could make it sound happier or sadder by clicking and dragging on the Happy slider at the bottom left of the window. As you do that, you'll see the chord notations automatically changing. It gets even better with the Jazzy slider. Move it backwards or forwards to lower or heighten the pep in your song.

One of the key factors in your song is how your voice sounds. Tweak the volume with the Voice Vol slider to make your vocals more prominent or tone it down.

If you don't like the style and think reggae or pop would suit it better, Songsmith lets you change it even after a recording is done. Click on the Style button below and choose the new style from the drop down menu. You could go back to the initial view of the styles by clicking on Browse.



Rhythm Notations

If you double-click on any of the chords, Songsmith plays that particular section for you to review how it sounds. You could change the individual chords by clicking on the down arrow and using the drop-down menu. A wise thing to do is to lock the chords you've recorded once you're done by right-clicking each chord and selecting lock. This will ensure that the chords don't change even when you move the sliders around.

Better still, if you're familiar with Western music, just type the chord specifications directly, e.g. 'C' or 'Cmin' (for C- minor), etc. If you want to make the tune sound more interesting, use drum breaks (also known as 'hard stops') by adding a single period ('.'

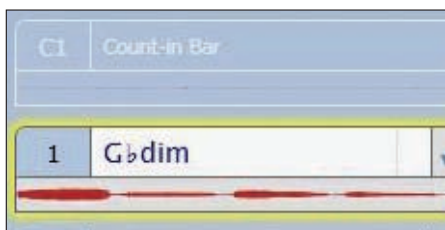


Edit each chord

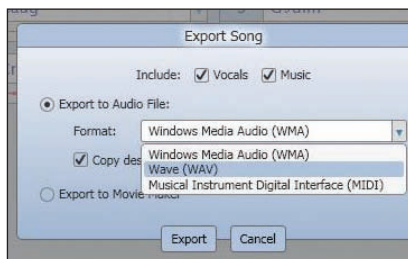
– a dot) to the chord. A single dot would create a silence; two dots denote a hard stop; three for a hanging stop. Adding the notation 'd' (for drums), 'k' for keyboards, 'g' for guitar, or 's' for strings to a chord, followed by a dot or two would tell the software to add a stop or silence to everything except the instrument you have mentioned.

Export Songs

Click on the Save song button to safeguard your first original



Set your own chords



Set your own chords

creation. Now that you've got your first song, you may like to share it. For this, just click on the down arrow next to the Save Song button and then on the Export option. Songsmith allows you to save the song in universal formats like WMA or WAV that makes it compatible with every iPod or MP3 player around. To do this quickly, you could use the shortcut [Alt] + [Z] to bring up the Save As menu and hit [E] to export.

You can even opt to do away with the music altogether so that only your lovely voice get's saved.

The Export to Movie Maker option is a real brainwave because it directly saves it as a MOV file

that you can use to create your own music video. Use your camera to film yourself singing along and put it up on YouTube to show off to your friends.

Mozy

Cloud computing is all the rage and there's definitely no better way to safeguard your data than by storing backup files on the cloud. Mozy is an online backup facility that allows individual users to back up free – a maximum of 2GB on the cloud – but if you're willing to pay, you can upload much more.

All you need to do is access their web site <http://mozy.com/>, register and download their software –

available for both, Windows and Mac. Using the 'Try it free' button allows you to by-pass the payment process and get started. Be sure to give a valid email id.

Getting started

Once installed, Mozy

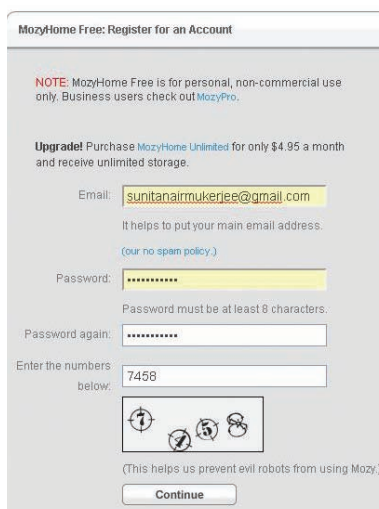
ISO, EXE and system files.

Modify settings

You could deselect the ones you feel are not relevant or vital enough to upload by clicking on 'Next' and then making changes with the 'Settings' option. Clicking on the 'Settings' button takes you to



Store your data on the cloud

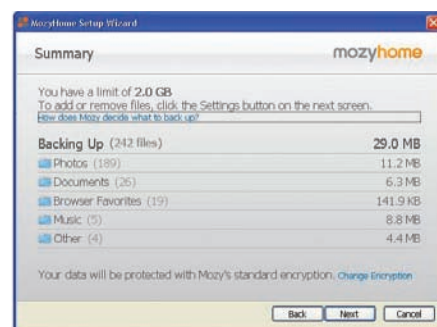


Register to begin

automatically scans your hard drive and classifies data files into groups of files according to their type (eg. Music, photos, text files, etc.). Since the free version only permits 2 GB, only some of these will be selected. Mozy omits

the Settings dialog box that displays the folders created with checked boxes along with the corresponding size of each. Uncheck the boxes you don't want stored.

Click on 'OK' and Mozy immediately begins backing up files online. All data is saved in categories called 'Sets'. This can take a really, really long time if you're working with Mozy Pro, but the free version takes just about fifteen minutes to backup 2 GB of your files.



Mozy auto-selects files to store

Backup Set	Files	Size
<input checked="" type="checkbox"/> Photos	202/202	20.0 MB
<input checked="" type="checkbox"/> Music	5/5	8.8 MB
<input checked="" type="checkbox"/> Documents	25/25	6.3 MB
<input checked="" type="checkbox"/> Videos	1/1	4.2 MB
<input checked="" type="checkbox"/> Email & Contacts	3/3	175.2 KB
<input checked="" type="checkbox"/> Browser Favorites	19/19	141.9 KB
<input checked="" type="checkbox"/> Databases	0/0	0 bytes
<input checked="" type="checkbox"/> Financial	0/0	0 bytes

mozyhome

Backup successful!

Files backed up 245 (31.3 MB)

Next scheduled backup Automatic

Your schedule is 2 times per day [Change](#)

Stow away files under easy headings

Reschedule

Find the process of backing up too tedious? Mozy works so quietly in the background that it is unlikely to hinder you. However, if you're getting bugged, just click on the Pause Backup button, which, well, pauses the backup.

Schedule backup

Once the backup is over, it informs you when the next one is due. By default, the backup is scheduled to automatically begin two times a day. If this is unnecessary, just click on the Change button in the centre of the window, click on the Scheduling tab in Settings dialog box and then change the default Automatic setting by checking the Schedule option. This allows you to determine when to perform backups on a regular basis. Use the up and down arrows to set the exact time and toggle between daily and weekly backups in the Schedule Parameters options.

You could even suspend all backup processes by checking

General Scheduling Performance Local Backup Advanced

☐ Automatic (Perform backups when your computer is not in use)

Automatic Parameters

60 Don't back up if the CPU is over this % busy.

20 Don't back up unless the computer has been idle for at least this long (minutes).

2 Don't back up more than this many times per day.

☒ Scheduled (Perform backups at a time of your choice)

Scheduled Parameters

Daily Back up at 3:30 AM

Daily every 1 days

Weekly

☐ Temporarily suspend automatic and scheduled backups
 ☐ Attempt automatic backup even when a network connection is not detected
 ☒ Start automatic backups when the computer is running on battery power

Put Mozy to work when you want

Welcome Backup Sets File System Options History Restore

Search
 ☐ Search All
 ☒ Search by Date

6/11/2010 11:34 PM

A convenient array of tabs

the box that says 'Temporarily suspend automatic and scheduled backups'.

Restore

Mozy is really the most valuable when disaster strikes your hard disk and you lose a lot of

precious data. The easiest way to restore files is to click on the 'Restore Files' tab in the 'Status' window.

You could access this window by right-clicking on the Mozy icon in your computer's system tray and click on Status or Configure. You could also opt for a web-restore function. Just log in to the Mozy web

site, choose My Computers and click on Restore files. Either way you'll need to check and uncheck the boxes to select exactly which files you want to restore. The web-restore facility sends a download link

to your email id and you'll have to click to download the files within seven days. Another way to quickly restore files is to click on the Restore button in the Settings window.

Soundation

There's a lot of music mixing software out there, but here's one that's entirely online and packed with 11 real time effects, 3 synthesizers, a sound shop and a library of more than 400 loops for you to use. At www.soundation.com, all you need to do is sign up with your email id and click on the Create button to get started with making melodies.

Virtual studio

The magic begins when you access the online studio on the Soundation site. On the left of the interface are the controls for individual channels and what you see on the right are loops that are classified into 'Electronica', 'Urban' and 'Xtra Divers'. These are further divided according to their tempo (beats per minute). By default, the BPM is set to 125 so if you're using some from the 130 list (or 90/95 from the urban list), you'll have to change the tempo settings

MozyHome Online Backup - Status

mozyhome

Backup in progress...

Transferring: help.pdf 42%

Files backed up 207

Files awaiting backup 38

Pause Backup

How long will this take?

Restore Files...

Settings...

Why settle for only 2GB?

Protect everything on your computer for only \$4.95/month

Upgrade to Unlimited now!

Pause to resume later

Soundation

Create music on the web.

Whether you are an amateur or a pro you will be able to satisfy all your needs with Soundation Studio — a powerful online sequencer with 11 real time effects, 3 synthesizers, a drum machine and a fully integrated Sound Shop. More info »

The Studio

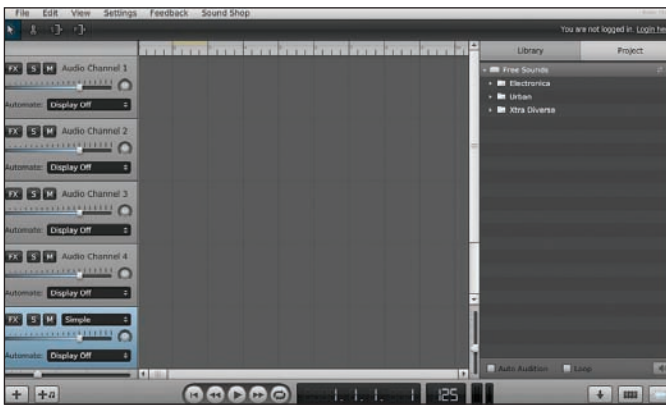
The Sound Shop

The Blog

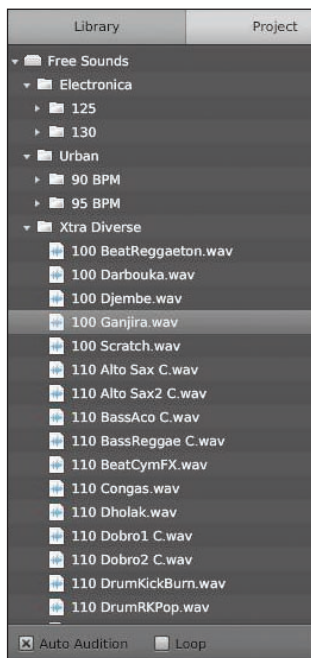
Be an online DJ

(bottom centre) accordingly. Double-click on any of the above options to view the entire list of loops in that category.

You could preview a loop (or Audition it as it's called in Soundation) by clicking on a



Your very own music studio



Loop the loop

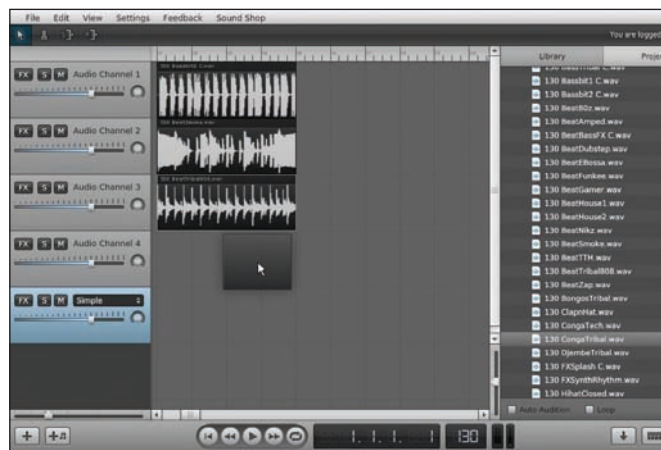
loop and then on the speaker button at the bottom right of the window. If you want to check out the loops faster, check the Auto Audition box to listen as soon as you choose.

Mixing tunes

After you've found a few samples you could use, simply drag and drop each into one of the channels in the arrangement window. Remember that where you drop it determines exactly when it's going to play. Dragging with the mouse also allows you to juggle the loops position within the channel. You can drop any number of loops you like. If you need more than the default five, clicking on the +

button on the left will add more channels instantly. You could always use the [Del] button to remove a loop if you change your mind.

To expand your work-

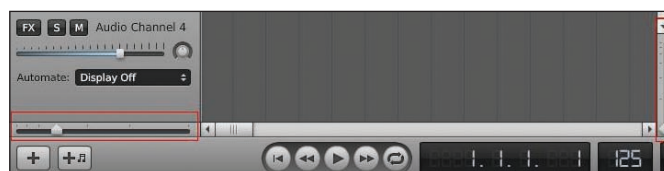


Drag and drop loops to arrange your music

space vertically or horizontally, drag the sliders given on the lower edges of the arranger window. This will allow you to view in one look, a greater number of loops and the much longer ones as well.

Extend loops

Getting to play a particular sample is easy. As you hover the mouse over a loop, you'll see the corners light up. Just



Zoom in or out with the sliders



Set your loops to play longer

left-click on the top right corner of a loop and drag it forward to set the number of repetitions. However, Soundation does not allow you to shorten a pre-set loop.

To get the entire musical piece you've created to play continuously – use the loop button in the transport bar below. Soon as you click on it, you'll notice a red or yellow

program each loop to play at different volumes as the tune progresses by using the track automation feature. Click on the arrow in the Automate tab on the left of each track and choose Volume. Clicking on your loop will reveal a bright horizontal line in the middle of it. Clicking on the line enables you to lift or lower it to create a volume curve and so ensure variations in volume within a single loop. To disable the feature you've added, just right-click on the loop and click on Clear automation.

Additionally, you could get a particular track to play alone by clicking on the 'S' button (for 'Solo'), silence a track with the 'M' button (Mute) or add effects with the Fx button.

There are nine Fx options to choose from and you can get factor in an echo, delay or distort a track or even use the equaliser to alter base and treble settings.

Save Your project

To save your mix, click on 'File' in the bar above and 'Save'. To save it as a WAV file, click on the button with a down-arrow on the lower right of the window. This opens the Export dialog window.

You can now either save it to your computer or export it to the world wide web to share it with your friends. If you click on Publish to the web, Soundation instantly saves your piece online and provides a unique link which you can use to publicise your work. **d**

Sonos iPad app

Sonos, the wireless speaker system, has announced an iPad app which will allow one to control the system from their iPad

WWE on YouTube

YouTube has announced that it will offer full length current episodes from the wrestling suite of shows including WWE NXT and ECW

Q&A

Time to put an end to all the crashes...

...game crashes, drive crashes and more!

How do you access BIOS?

I wanted to know how to access the BIOS setup. I use a Dell Alienware Aurora ALX desktop. Could you please help me with that?

Laxman Soni

Press the [F2], [F10] or [Delete] key to enter the BIOS during bootup. It could be one of the keys. It depends on the board used.

Slow internet connection

My problem is with my slow internet connection speeds. I use an Airtel Rs. 98 plan. Airtel gives me a 2 GB surfing and download limit. The connection is always very slow and opens sites very slowly. My configuration is an Intel Pentium Dual Core 2.7 GHz, 1 GB RAM, 500 GB HDD, 22-inch TFT. This is an assembled system. Please suggest software to speed up this slow internet connection.

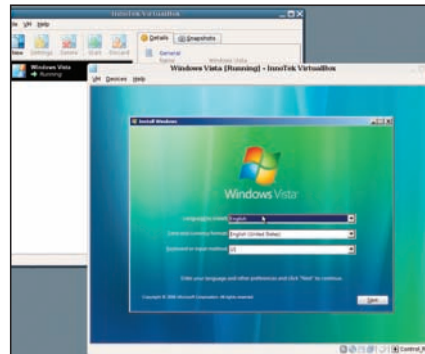
Harsh Chaudhary

GPRS connections powered through phones have really slow speeds of around 10 - 12kB/s. This speed can drop even more depending on your locality and signal strength. There's no way speed it up such that sites open faster. Go in for a USB data card connectivity option which offers better speeds.

Game crashing in Virtualbox

Firstly, congratulations on being India's No. 1 tech magazine. I have a Sony VAIO VGN-NW240F laptop with 4 GB RAM and an Intel Core 2 Duo 2.2GHz processor running Windows 7 64-bit. Recently, I installed Windows XP SP2 using Virtualbox and installed Tom Clancy's Splinter Cell Chaos Theory on it. But when I open the game, the screen pauses, a blue screen with an error message shows and the OS restarts. I am not able to get a screenshot of the blue error message screen because it is too fast. What could be the problem, and how can I fix it?

Praveen



Virtualbox allows users to run multiple operating systems in a virtual environment

Virtualbox isn't designed to run heavy intensive applications like the games you've been trying.

Virtualization is fine as long as you run desktop applications on it. Install the game on the host operating systems and it should run without any problems.

Running slower memory with faster memory

I am a continuous reader of Digit from past 2 years and it rocks. My PC configuration is as follows:

- Pentium 4 1.7GHz
- 40 GB Samsung HDD
- 1.25 GB DDR RAM
- Intel 845 motherboard

My problem is that my PC was running 1 GB RAM DDR1 (Strontium 400 MHz) and I have recently installed another RAM 256 MB DDR1 (Alpha 266 MHz). I want to ask whether running this memory at this speed will affect the system or not. My PC was running normally but only the boot up process is slow.

Rishab Garg

Running slower RAM with a faster stick of memory will automatically slow down the faster RAM module to the same speed as the lower one. Ideally, both the sticks should be of the same configuration for optimum performance. You will notice a drop in performance.

Phone earphone not working

I bought a SE W580i phone on 21 July last year. Since the last week, the earphones have not been working well. Sound can only be heard only from the right channel. I showed the phone at the service centre but they told me that there is a problem with the board and it will have to be replaced. They said that would send it to Chennai for 15 - 20 days.

Although the phone is under warranty period, I don't think the board needs to be replaced for such problems.

Kuldeep Badoniya

Try using some other earphones or small speakers on your phone. If the audio can be heard from both channels, then the board is fine. You'll only need to change your earphones.

If there's audio heard from only one channel, then there's something wrong with the phone. You'll need to let the service centre fix it for you. With almost all phones, the entire unit is just one big circuit board, so even a simple problem might mean the entire board has to be replaced or checked, then repaired.

PC shutting down randomly

I have a problem starting my machine. As I power on my UPS, my machine automatically powers up and after a beep, the power cuts off and doesn't start again. During the process, nothing is displayed on the screen. I tried removing all cards including the RAM and I even replaced the SMPS, but the problem persists. However, the machine can be started after 8 - 10 hours but only occasionally, when I am lucky. Is there some problem with my motherboard? My configuration is an Intel Pentium Dual Core 2.8 GHz, Asus P5GC-MX/1333 motherboard 2 x 1 GB RAM, 200 GB HDD, Zebronics 450W Economy Series.

Yatilo Semy

First, try powering the PC without the UPS connected to see if it works.

Wikinvest tracking \$1b portfolio

Wikinvest, a realtime portfolio tracker is tracking over \$1 billion worth of investments with three weeks of its launch

Popularity of Doom & Quake

Developers licensed core portions of the software used in making Doom & Quake games and added other game content such as own graphics, characters, weapons and levels

If the UPS has some problem and isn't supplying power properly, it might be causing the shutdown and startup problems. There's also a chance that the motherboard has some problem but it's difficult to diagnose that.

HDD crashing too often

I have a Compaq Presario V2565US. Whenever I start it, it show SMART failure predicted errors on the hard disk. It tells to immediately backup the data and replace the hard disk drive. Recently, I had replace my hard drive and now it is an 160 GB drive and I want to upgrade it further. Please solve my problem and suggest the hardware upgrades. I also want it to upgrade other components such as the RAM.

Gaganjot

It's difficult to judge what might be wrong. If the drive error problem keeps coming back, it might be to do with the drive controller and possibly not the drive. Still, it's difficult to conclude what the problem might be. You should take it to the HP-Compaq service centre. Make sure that they check the drive on a different system to check if the drive is the culprit. You already have 2 GB of RAM. Adding more isn't going to make your laptop a lot faster than that it is. You can go in for a hard drive upgrade if you are in need of more space. Look for a 250/320GB SATA drive from WD such as the WD Scorpio Blue.

FLV files won't play anymore

I have a problem with playing FLV files. My computer doesn't play the FLV files ever since I formatted it in the month of March 2010. Earlier, I didn't face any problems playing them. I am currently using the latest versions of KM player and VLC player. Please help sort out the problems.

Sandeep

It's a very strange problem. Install the latest drivers for your graphics card, and then try installing Media Player Classic - Home Cinema (<http://mpc-hc.sourceforge.net/>).



Media Player Classic - Home Cinema can handle a variety of formats without 3rd party plugins

DVDs don't read properly

My system configuration is as follows: Intel Dual Core processor, 128 Mb graphics card, LG DVD writer, 1 GB RAM. My PC problem is that my LG DVD writer isn't working properly. For instance, my PC recognises the writer as a CD-ROM but it plays DVD discs but not all. Earlier, it could play all DVD discs. Whenever I burn CDs, it burns successfully but when I insert the same disc, the writer shows it as a blank disc, the same thing happens to DVD disc. Help! I don't want to change my writer.

Muddas Ahmed

DVD drives get spoilt really quickly and that's what has happened to your drive most likely. The only solution is to get a replacement if it's under warranty period. If not, you need to buy one.

Do upgrades = slowdown?

I own an Acer Aspire 4930 laptop. The specifications are: Intel Core 2 Duo 2.00 GHz T5800 processor, 160 GB HDD, 2 GB RAM. I use multiple operating systems and now, I'm running out memory. I wanted to know if it is possible to expand internal hard drive from 160 GB to 320 GB or 500 GB. Will there be any performance drop by doing so? I was told by a retailer that it is possible to expand internal drive, but I wanted expert's advice.

Kushal S. Pandya

Yes, it should be possible to upgrade your hard drive. There won't be a performance drop, but doing it yourself might void your warranty. Look for a WD or Seagate drive.

Repairing damaged board

My D935GNT motherboard is damaged few days ago. Some parts on the board are damaged. It is happened when computer was running for about four hours and suddenly, it turned itself off. After that, it wouldn't turn back on. My motherboard is out of warranty. Is it possible to repair my motherboard? Intel said that they have no paid repair solution. My purchase date is 23 Aug 2006. Is there any motherboard for my Pentium D 820 processor?

Dhiman Chakrabarti

It's difficult for us to say if it's possible to repair your motherboard. You should take it to some local computer repair guy to see if they can fix it. The Pentium D is a really old processor. It might difficult to find boards for it. Either way, look around for boards based on the Intel 945, 955, 965 and 975 chipsets.

Upgrading laptop components

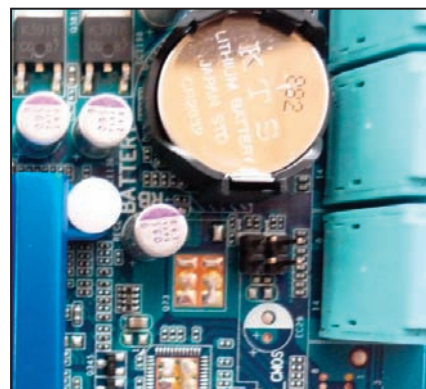
I'm using a 1.47GHz Intel Pentium powered laptop. I want to upgrade the processor and graphics card on the laptop to improve its speed. I have a total of 2 GB RAM.

Rocky Deswal

Upgrading your processor and graphics card on your laptop is not possible. There isn't enough space or even provision to do so. Looking at the configuration, it seems to be a very old laptop.

BIOS losing settings

I have an Intel DG31PR motherboard. The BIOS is troubling me. I need to change the boot order but no settings can be saved. When I save the settings, the system



The CMOS battery can be found on every board and is really simple to replace

3D universal glasses

Monster Vision Max 3D glasses are touted as the world's first and only universal wireless 3D eyewear shutter system and its Active 3D eyewear system will work with all brands of 3D HDTVs

restarts and the settings I saved are forgotten and default settings are set.

Rahul

! Check your CMOS battery. It might have drained or got spoilt. Try replacing it with a new one. You can also try clearing your CMOS settings first to see if it helps.

Audio drivers crashing

? My computer specifications are: Dell Studio 1555, Intel Core2 Duo T6600, Windows Vista Home Premium, 3 GB RAM, IDT audio driver. Sometimes, when I play music in Winamp or VLC player, the audio driver suddenly crashes and an error message occurs displaying that host process has stopped working. Can you help me rectify this problem?

Bhaskar J. Saikia

! The problem is either with Windows or with the drivers for the audio component. Try reinstalling the drivers and see if the problem is verified. If not, you might have to do a Windows repair through the installation disc.

Overclocked i7

? My i7 920 is constantly running at 2.79GHz from 5th day of purchase even if there are no process running and the CPU utilization is 1 per cent is this some thing to do with windows or what.


Ashish Nehete

! The Core i7 processors have Turbo boost which allows the processor faster. It's available on most Core i7 and Core i5 processors. Turning it off should force it to run at stock speeds. Go to the BIOS and set it up to do so. You can also manually force the processor to use the 20x multiplier and 133MHz FSB to make sure it runs at its stock 2.66GHz speed.

Games won't run

? I'm from Satara, Maharashtra. I bought a game - *Fallout 3* and installed it. The installation was taking half an hour to complete and one hour for some others. After the installation was completed, the game icon appeared on the desktop. But when I started the game, an error message appears - "The application has failed to start because xinput1_3.dll was not found. Re-installing may fix the problem." I tried reinstalling the game, but the same error shows up. I thought it needed DirectX, so I installed DirectX 10. Still nothing. I have an NVIDIA GeForce FX5200 graphics card. My system configuration is an Intel Pentium 4 2.66 GHz processor, 1GB RAM and Windows XP SP3.

Ameya Dhavale

! Your computer isn't very fast and *Fallout 3* is a huge game, which is why it might be taking ages to install. It could also be a slow DVD drive. The game will not perform well either. The Xinput error is because of an older version of DirectX. Download the latest version of DirectX 9 - <http://www.softpedia.com/get/System/OS-Enhancements/DirectX-9.0c-Redistributable.shtml> 

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www.verbatim.com

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Plantronics Voyager Pro and Explorer 240

For the talkatively stylish

The Voyager Pro is a large Bluetooth headset, a bane considering sleek and tiny is in. The armature that sits behind the ear is bulky but the weight belies the bulk. The mouthpiece is mounted on a long, but sleek armature. The black of the unit is relieved by a silver strip on the mouthpiece

armature and on the rear of the earpiece. The call accept/reject button is cleverly integrated into the mouthpiece armature and we missed it at first glance, but it's easy to use. The earpiece is soft silicone and pretty comfortable, for it takes the shape of your ear. Once worn the device feels comfortable, and its size doesn't



Explorer 240



Voyager Pro

Specifications

Weight: 17.6 grams.; Talk Time: 6 hours; BT version: 2.1 with EDR; dual microphones

Contact

Plantronics India Pvt. Ltd.

Phone: +91-124-4545703

Email: serviceindia@plantronics.com

Web site:

www.plantronics.com

Price: Rs 4,199 (Voyager Pro) / 2,199 (Explorer 240)

7/6
10

Voyager Pro/Explorer 240

Build Quality..... 7 / 7
Features..... 7.5 / 6.5
Performance..... 7.5 / 6
Value for Money..... 7 / 7.5

get in the way of usability. The volume buttons are intuitively placed, as is the power button. Pairing with Symbian and WM phones was a snap. The only minor problem we had was with the mouthpiece unit – the microphone has a honeycomb grille and if you haven't shaved, this keeps getting (sometimes) painfully caught in the stubble! Tapping the call button rapidly twice will dial the last called number.

In call clarity is great, voices sound clear, with no distortion but there is a slight mechanical sound to the voice – not 100 per cent natural sounding. The range is a good 15 feet or so, but a reasonably clear line of sight is a must. The moment a wall or door comes in your way, signal quality deteriorates badly. To be honest, this

happens with all headsets and is not a grouse, merely a fact. The dual microphone setup is advertised as a plus, and it is, it cuts wind noise both sides when the unit is being used outdoors, your voice is clearer, and you can hear someone speaking from a windy area. It also cuts out other to some extent, vehicle honks and machinery sounds. A boon is the support for pairing with two Bluetooth devices. Priced at Rs. 4,199, the Voyager Pro is for those wanting a comfortable, upmarket device with good performance to boot.

The Explorer 240 is a much smaller unit, with a thin plastic armature going around the ear. The earpad is rubber with a slight protrusion that is meant to stick into your ear. The device looks nice, but the barrel itself houses the electronics which is why it isn't as thin as the Voyager Pro, but then the armature of the Voyager Pro is several times bulkier. The earpiece on the Explorer 240

is not unanimously comfortable, some found it easy and rather comfortable on their ears, and some of us hated it, it hurt the outer ear and we just couldn't bear to wear it. For some, the fit wasn't snug too. Therefore, at the outset, it's one of those devices you'll need to try, whether your ears can bear it or not.

The Explorer 240 is also a decent performer, and call clarity is good. It has the same range as the Voyager Pro, although the when outdoors the Voyager Pro controls external noises better. The Explorer 240 will not isolate ambient sounds, like a car honking in the vicinity – it does reduce the sharpness and intrusion quotient of such noises, but the Voyager Pro comes closer to muting them. Priced at Rs. 2,199, it's a good deal, but we'd rather spend more and get the much better Voyager Pro.



NE6

Build quality of these in-ears is good, although the cable isn't very thick. The rugged clip provided is a life-saver for joggers, since you can secure the wire on your collar or T-shirt neck. The driver enclosure is pretty substantial although the cable protruding from it doesn't have much protection – those that pull their earphones out of their ears will be pulling on the cable, experience tells us this causes damage to the solder connect that grad-

Nuforce NE6 / NE7

A forceful duo

ually separates. The eartips we used were rubber, and slightly thicker than the ones on Creative's EP630. Therefore they're not as flexible and don't seal as well as the Creative's.

Sound quality is good for this price point. For in-ears, the bass is slightly deficient, although it's pretty controlled. The mid-range has good presence and instruments have a nice emotive feel. The treble is slightly recessed. Although this may seem like a lot of nitpicking, it's not – in fact most casual users will actually like the sound, and it

sounds more neutral than the bass-heavy, boomy EP630's. The microphone provides decent clarity and good volume.

At Rs.1,950 for the earphone, and 2,350 for the microphone version, the Nuforce NE6 and NE7 are slightly expensive, but better than the de facto offerings from Creative.



NE7

Specifications

S/N: 98 dB @ 40mw; driver size: 9mm; Frequency response: 20 Hz - 20 KHz; cable length: 1.2m

Contact

TechnoTronics
Phone: +91-22-4123 5704
Email: support@buygamingstuff.com
Web site: www.nuforce.com
Price: Rs 1,950 (NE6) and Rs. 2,350 (NE7)

6.5/10

Earphone | w/microphone
Build Quality..... 6
Features..... 6 / 6.5
Performance..... 6.5
Value for Money..... 6 / 5.5

Lian-Li BS-08 (Graphic card cooler)

Cool me down!

Specifications

Fans: 2 x 120mm; fan speed: 1,000 rpm; slot: dual slot

Contact

XTREME GRAFIX
Phone: +91-22-27701140
Email: sudhirsmani@gmail.com
Web site: http://www.xtremegx.com
Price: Rs. 2,500

6.5/10

Features..... 6
Performance..... 6.5
Build Quality..... 8
Value for money..... 5

The BS-08 is a dual slot, add-on graphic card cooler designed by Lian-Li to work with Lian-Li cabinets, although the generic design means it can work with other cases as well. The concept is simple – this will sit a couple of PCI slots below your graphic card. There are two 120mm fans that do duty inside the unit. These have nice metal grilles that are removable. The unit is available in black or brushed aluminium (silver). There is venting provided at the rear.

Two modes of operation are possible. Have the fans suck hot air generated by the GPU and this gets thrown out the rear through the venting

in the bracket. Or reverse the fans and have them blow air on to the hot graphic card to cool it down, here the rear venting acts as an intake. Whichever system is more efficient depends on your graphic card and general chassis ventilation. If your GPU has a bulky plastic shroud (for example), then sucking out hot air would be a better idea.

Testing the BS-08 within a Lian-Li A71-F chassis revealed some interesting facets. A GTX 285 graphic card experienced a drop of six degrees on load and three degrees on



idle, a drop of around seven per cent. But with a Radeon HD 5850 on stock cooling, the temperature drop was less, four degrees on idle and three on load; around a five per cent drop. At Rs. 2,500 we feel this accessory is a bit overpriced for the performance it offers. The advantage is, it'll work with nearly every card unlike aftermarket GPU coolers that are designed for a particular PCB.

X-Box 360 Wi-Fi Edition

Microsoft has announced a new X-Box 360 that is slimmer and runs quieter than the previous version and features inbuilt Wi-Fi

iPhone 4 pre orders

AT&T has suspended per ordering after over 6,00,000 orders were placed for Apple's shiny new beauty

ASUS EAH5850

Black (n red) beauty!

The HD5850 is a very interesting proposition because cards on this GPU are generally well priced, and offer good value for money. The performance level is also sufficient to drive most games on a resolution of 1920 x 1200. The smaller size of the card and lower heat dissipation also makes Cross-fire an option worth considering. Temperatures on idle were

around 44 degrees. Load temperatures hovered around the 60-degree mark. As compared to an ASUS ENGTX 285 graphic card (14,739 3D Marks), the card gave 15,868 in 3D Mark Vantage. The GPU score was 14,828 to 11,945 – a sure win for the newcomer. Here's a look at how it did in a few games, for reference we've added the GTX 285 as well.



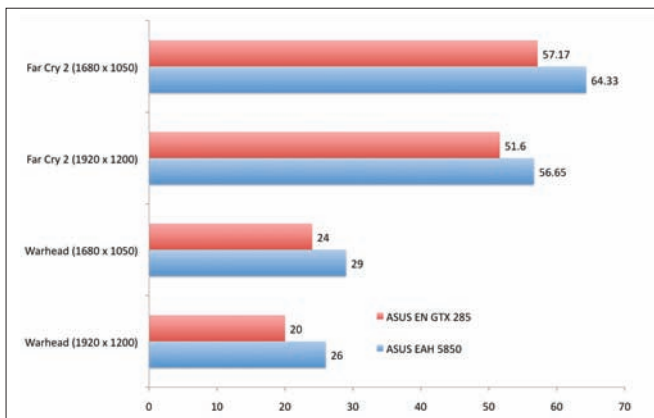
We also got a score of 744 (29.5 fps) in Unigine's DX11 benchmark Heaven 2.0. Tessellation was set to normal. With Extreme Tessellation, the frames dip to 17.8 and the score falls to 448; all the while Anisotropic filtering was kept at 4x. Not a bad showing at all, *Call of Pripayat* managed a respectable average fps of 51.8 at 1920 x 1200, with 4x AA and DX11 enabled – this is pretty good. What isn't good, is the price – at Rs. 29,250, ASUS charges close to what a GTX 480 sells for, and well over Sapphire's HD 5870 – both better cards. Too much to pay for a premium brand tag.

Specifications

No of SPs: 1440; Core Clock: 725 MHz; Memory Interface: 256-bit, GDDR5; Memory Clock: 1 GHz (4 GHz GDDR5); Memory: 1 GB; Shader Model: 5.0 (DX11)

Contact

ASUS India
Phone: 1800-2090-365
Email: info_india@asus.com
Web site: www.asus.in
Price: Rs. 29,250 (excluding tax)



Specifications

Capacity: 4 GB; Outer covering: Hard rubber

Contact

Technology and Gadgets
Phone: +91 22 3874440/1/2
Email: www.technologyandgadgets.com
Web site: kalpesh_tag@hotmail.com
Price: Rs. 525

Patriot Xporter Mini 4 GB

Painfully slow

Patriot Memory's Xporter mini is a 4GB flash drive which is housed in a rubberised casing. Measuring less than two inches in length, this drive is extremely portable and resistant to wear and tear thanks to the rubber casing. We tested the flash drive on an Intel X58 board having Kingston HyperX 2 GB DDR3 RAM and a 300 GB WD Velociraptor hard drive. In the synthetic tests like HD Tach it gave very low read and write scores. For both



the 8 MB as well as 32 MB files, the average read was just 9.3 MB/s and average write around 3.5 MB/s with read burst speeds touching a maximum of 10.2 MB/s. Real life data transfer tests also gave very miniscule scores. We took a 1 GB file for both read and write tests. A single file write took 270 seconds (3.7 MB/s) whereas an

assorted file took 400 seconds (2.5 MB/s). Reading data from the Xporter Mini took 108 seconds (9.25 MB/s) for a single file whereas an assorted file took 123 seconds (8.13 MB/s).

At a price of Rs. 525, this drive is decently priced. Go for it only if you have no other option. Ideally we would not recommend this drive.

4/10

Features5
Performance2
Build Quality7
Value for money3

Sandy Bridge soon

By beginning of 2011, Intel plans to have a huge number of Sandy Bridge (Nehalem's successor) chips – the company claims that by the end of 2010, 3 per cent of all chips will be Sandy Bridge

Intel's new SSD plans

Their new 25nm fabrication not withstanding, Intel has decided to use Enterprise-grade MLC flash cells for their upcoming desktop range of SSDs based on the new fab

Bazaar

Hitachi Simple Tough 500 GB

Rugged demeanour, decent performance

One glance at this portable 500 GB hard drive from Hitachi is enough to impress anyone. Simple-Tough's rugged design includes strong rubber padding on either side of the drive and an intricately designed in-built wrap around USB cord which can be hooked to the chassis on the rear side. The rubber on the side provides a great grip. The hard drive is housed in strong plastic with a white LED located close to where the wrap around USB cord starts.

We tested the drive on an Intel X58 board running an Intel Core i7 965 processor alongwith Kingston

HyperX 2 GB DDR3 RAM. It yielded impressive scores. In the synthetic HD Tach test it gave average read / write scores of 31.4 MB/s and 27.4 MB/s (8 MB) and 32.5 MB/s and 27.4 MB/s (32 MB). Data transfer tests also gave decent transfer speeds. A single 4

GB file write took 155 secs (27 MB/s) whereas a 4 GB assorted file took 195 secs (21 MB/s). Read operations took 141 secs (29 MB/s) and 139 (29.5 MB/s) secs respectively. At Rs.8,500 we feel the price is a bit on the higher side. Around Rs. 7,000 is a decent price.



Specifications

Form Factor: 2.5 inch;
Dimensions (WxDxH in mm):
100x30x150; Weight: 267
grams; Interface: USB 2.0

Contact

Redington India Ltd
Phone: +91 09 381924185
Email: balasubramanian.r@redington.co.in
Web site: www.hitachigst.com
Price: Rs. 8,500

7/10

Build Quality	8
Features	6
Performance	7
Value for money	6

Intel X25-V SATA SSD

Low cost, decent performing SSD

Specifications

Capacity: 40 GB; Form factor:
2.5 inch hard drive; Weight:
68 gms; Interface: SATA II;

Contact

Intel APAC Support
Phone: 91 80 28542105
Email: apacsupport@mailbox.intel.in
Web site: www.intel.com/in
Price: Rs. 5,500

Solid state drives are renowned for their high data transfer speeds, but due to high costs, it's not within everyone's reach. Intel's X25-V is the SSD which is meant for value users. Having a miniscule capacity of 40 GB may seem too little for storage of applications and data, but this SSD is ideal to be used as a boot drive. The fast transfer speeds can really improve the boot up time of your system. Build quality of the SSD is quite strong with a plastic ring located on top of the drive to fit it in any form factor. Intel has bundled in a

3.5 inch adapter with screws for easy installation in your system. You can use the Intel SSD toolbox to optimise the SSD (clearing out deleted data or identifying unused blocks of data for improving performance) and it also supports native command queuing which allows the SSD to queue upto 32 commands.

Synthetic benchmarks like HD Tach and SiSoft Sandra gave scores where read transfer speeds were in excess of 200 MB/s and write speeds around 45 MB/s. Real world tests like 4 GB sequential write and read was completed in 94 secs (43.5 MB/s) and 42 secs (97.5 MB/s) respectively. Whereas a 4 GB assorted write and read was completed in 98 secs (41.7 MB/s) and 44 secs (93 MB/s) respectively. The price of Rs. 5,500 may seem expensive, but it's worth the price as the performance is quite good. Ideal for enthusiasts users who are looking at improving their OS drive speeds.



6/10

Features	6
Performance	6
Build Quality	7
Value for money	6

PS Move soon

Sony announced their move to ship their err Move, the motion controller, navigation controller and Eye camera, these are to be sold individually and as part of a bundle

OCZ's new Deneva

The Deneva range of SSDs has just been announced by OCZ, featuring SandForce's 1500 controller, and claim enterprise-class reliability with throughputs of 285/275 MBps for reads/writes

Samsung ML 1660

Fast and compact laser printer

A printer which is compact and delivers high speed prints is always desirable. Samsung ML 1660 monochrome laser printer fulfills both these criteria effortlessly. The ultra compact form factor for the printer is quite impressive. Strategic glossy and matte

finished plastic makes the printer quite an eye candy. It has just two buttons: power and print, on the left-hand side above which are present two status indicators.

Since it's a monochrome laser printer it comes with a single toner which is easily installed. The paper feeder tray is located at the base and the output collection

tray in on the top of the printer. The tray quality is strictly OK. Since it is a no frills monochrome printer, it does not feature any memory card or USB slots. Neither does it have a network printing option. It has air

vents on both the sides.

Performance is not a disappointment. The user interface of the printer software is very easy to use. It took only 8.2 seconds for a normal text print and the best quality text print took 8.7 secs. Printing a mixed document took 11.9 secs (Best quality) and 11.1 secs (normal quality). Continuous printing is also quite fast, and our 10 page print test took a mere 47 secs. Text print quality was quite good in both the modes, but mixed document tends to be printed lightly in the normal mode. Overall, quality is quite decent.

At Rs. 5,499 we feel this is a good buy for home and small office users who deal with a lot of document printing.

Specifications

Resolution: 1200 x 600 dpi;
Weight: 4.2 kg; Manual
Duplex; Interface: USB 2.0;
Buffer Memory: 8 MB

Contact

Samsung India
Phone: 0124-4881234
Email: m.aditya@samsung.com
Web site: www.samsung.com/in
Price: Rs. 5,499



6/10

Features5
Performance6.5
Build Quality7
Value for money6.5

Intel Core i7 875K

Overclockers rejoice

Specifications

Clock Speed: 2.93 GHz; Max Turbo Frequency (1 Core): 3.6 GHz; Max TDP: 95W; 45 nm manufacturing process

Contact

Intel APAC Support
Phone: +91 80 28542105
Email: apacsupport@mailbox.intel.in
Web site: www.intel.com/in
Price : Rs. 17,000 approx (US\$342)

6/10

Features6
Performance7
Build Quality7
Value for money5.5

Intel has come out with its new processor, the Core i7 875K which is a successor to the Core i7 870. Features-wise, its very similar to the i7 870 with the same core clock speed of 2.93 GHz, support for Turbo boost and four cores with hyper-threading enabled. The only difference being, that the i7 875K is comes with unlocked multiplier which will allow enthusiast users to unleash its overclocking prowess. The test rig comprised of a Gigabyte GA P55A UD7 motherboard running on Corsair Dominator 2x2GB DDR3 RAM at 1333 MHz. Sparkle GeForce GTX 285 was used with an HX 620W power supply.



Performance-wise it delivers the goods. The 3D Mark Vantage gave a score of 14476 marks. Cinebench R10 score of 15283 is marginally higher than the AMD Phenom II X6 1090T that we tested last month. Maya 8.0 rendering

took about 10 seconds with all cores and 34 seconds on single core. Real life tests also gave good scores. *Crysis* gave a frame rate of 71 fps at a resolution of 1024 x 768 at high settings without AA. *Company of Heroes: Tales of Valor* gave 87 fps at 1280 x 1024 at low settings. It is priced at a hefty USD 342 (around Rs. 17,000). This processor is meant for enthusiasts who want an extreme edition performance but at a comparatively lower price as the price difference between the i7 875K and the i7 980X is quite high. Also the fact that it runs on an LGA1156 socket P55/H55 motherboards, cuts down on the cost of the relatively pricier X58 motherboards.

Droid X previewed

Reports show a Droid X, powered by Android 2.1. The specs are pretty impressive – a 4.4-inch capacitive display, 8-megapixel camera with 720p video recording among others

Nintendo 3DS official

It's been unveiled – the 3DS that everyone was talking about – the huge list of features includes 3D stereoscopic effect, Wi-Fi and three cameras!

Bazaar

Dell Studio One 1909

Impressive wide touchscreen all-in-one

Dell's Studio One1909 is a 19-inch wide-screen all-in-one desktop supporting touch functionality. The black and white finish of the body is interrupted by a blue checked cloth which covers the area around the monitor's bezel. Powered by an Intel Core 2 Duo E7500 processor running at 2.93 GHz, the Studio One1909 also houses the NVIDIA GeForce 9400 graphics solution. Keyboard and mouse have a strong build quality. The touch response is quite good, but one has to go slowly when navigating through menus, as the chances of



selecting the wrong menu are high. Scrolling using the two finger touch is quite responsive in some cases but in others it just doesn't seem to work. There is minimal delay in response. The touch enabled games are highly engaging. But the touch

interface is by no means a replacement for the mouse and keyboard. Moreover it is not very convenient to use the touch interface. Performance-wise the scores are satisfactory. PC Mark Vantage gave a score of 4186 marks whereas 3D Mark 06 gave an overall score of 2047. Real life scores gave a data transfer rate of around 35 Mbps (4 GB sequential file) and 27 Mbps (4 GB assorted file). Gaming scores were not that great with *Doom3* giving 41.6 fps (800x600 pixels, medium) and *Company of Heroes* giving 62 fps (1024 x 768, low).

At Rs. 34,000 this system is a decent buy.

Specifications

Monitor : 19 inch touch-screen; Processor : Core 2 Duo E7500; Graphics solution : Nvidia GeForce 9400; Bluetooth keyboard and mouse;

Contact

Dell India Pvt. Ltd.
Phone: +91 80 25068026
Email: suhas_j@dell.com
Web site: www.dell.co.in
Price: Rs. 34,000

6/10

Features.....	7
Performance.....	5.5
Build Quality.....	7
Value for money.....	6

Strontium Swift Series 64GB

Great performance at a competitive price point

Specifications

Interface: SATA II; Form Factor: 2.5 inch drive; Flash type: MLC NAND Flash

Contact

Strontium Technology India Pvt. Ltd
Phone: +91 11 40568675
Email: indiasales@strontium.biz
Website: www.strontium.biz
Price: Rs. 9,500

7/10

Features.....	6
Performance.....	7
Build Quality.....	7.5
Value for money.....	6.5

Strontium Swift Series 64 GB is a 2.5-inch solid state drive using a standard MLC NAND flash for storage purposes. It comes in a strong black metal body but the package does not include a 3.5 inch converter for attaching it in your cabinet, so there's an additional cost for desktop users. The drive does not tend to heat up while data transferring and has minimal noise.

We tested this drive on an Intel X58 motherboard with Kingston HyperX 2GB DDR3 RAM. Synthetic tests as well as real life tests gave impressive scores. We used HD Tach to test the average read/write speeds. The drive gave average



read / write speeds of 240 Mbps and 117 Mbps for an 8 MB file whereas a 32 MB file gave average read / write scores

of 234 Mbps and 125 Mbps respectively. These scores were better than that of the Intel SSD 80, the 80 GB SSD that was our earlier Best Performer. In the real life scores like data transfer tests, the Strontium 64 GB gave a write speed of 97.5 Mbps (single file) and 85.33 Mbps (assorted file) which was higher than Intel SSD80's score of 72.37 Mbps and 68.15 Mbps respectively. In the read tests, the Intel SSD80 turned out to be better than Strontium. On the whole this is a good SSD and at a price point of Rs. 9,500 it is much cheaper than the Intel drive. The drive is ideal for enthusiast users who are looking at boosting their OS and application speeds.

Microsoft Kinect

This is the name given to Project Natal, Microsoft's motion sensor controller for their X-Box 360 console. It is expected to hit markets later this year

MS downs Stereo 3D

Microsoft doesn't believe that Stereo 3D is going to make a huge splash soon, and have announced they have no plans to devote resources to 3D in the X-Box 360



INQ Chat 3G

Mini communicator!

The Chat 3G is a nicely built phone, although quality of materials used isn't outstanding, the phone is put together nicely. It's chic too – the front is glossy black, the QWERTY keypad is identical in design to Nokia's E72/E71/E63, although the menu but-

tons have a different layout. The side features a chrome trim running right around. The volume rocker is on the left, and one press will only move the volume by a single gradation – ergonomic blunder. The single button on the right cycles through the row of widgets on the bottom of the screen. The phone is slow, many times, even switching to the main menu has a two-second lag.

The selling point is the social networking angle, with a pretty usable full keypad and support for Twitter, Facebook and Orkut, the Chat 3G is pretty decent in this regard, although we're yet to see the full deployment of the 3G spectrum here.

One neat addition is the music syncing, the bundled software will sync even from iTunes, and just drag and drop – non compatible formats are converted, although some formats like FLAC are not recognisable. Call clarity is good, although we dropped a call in zone three, voice quality was good, but not as good as some Nokia and Blackberry handsets, loud-speaker volume in-call is poor.

Priced at Rs. 7,599, the INQ Chat 3G is a good device for those looking for something that's easy to chat and network with. People looking for the status associated with bigger brands or drool value will not be interested.

Contact

Inq Mobile
Phone: 9766012345
Email: care.mumbai@aircel.co.in
Web site: www.inq-mobile.com
Price: Rs. 7,599

7/10

Features.....	6.5
Performance.....	7
Build.....	7
Value.....	8

NBOX N32 HD Media Player

Media player par ordinaire

Requirements:

Pentium CPU or higher, 128 MB, 35 MB disk space, Windows 7 / Vista / XP / 2003

Contact

Contact: Trans Innovators
Phone: 9324421353
Email: syngwind@sify.com
Web site: NA
Price: Rs. 2,000

6/10

Features.....	5.5
Performance.....	3.5
Build.....	5.5
Value.....	8

The N32 is a compact media player that boasts high definition out of the box. Build quality is very mediocre – built to a budget with cheap quality plastics and the buttons on the top are a little hard. The display on the front just has a basic power LED embedded in it. A USB port sits on the right, with an SD card slot on the left. Connectivity is via a single Component connect while an RCA connect handles audio. The remote unit is tiny but cute. The menu system is very simple, and the options very basic. Hardly any settings are configurable, not that this is bad, since this player is aimed at those wanting a simple,

uncomplicated device.

There was noticeable graininess and noise in VOB files, along with some tonal noise and pixilation in moving parts of a scene. Colours aren't accurate, and at times appear slightly faded. There is slight lag with the memory system. Support up to 720p but MKV and other uncompressed formats are not supported. There is also a problem with playing non-standard resolution MP4 files. DivX and AVI files play properly, but with the problems listed above – but there is no skipping. However, when playing 720p content, we noticed quite a bit of skipping –



in fact the movie was unwatchable, and the audio also skips at times – overall poor performance. Uncompressed audio formats aren't supported. The price is killer – at Rs. 2,000 the NBOX N32 is cheaper than DVD players, and it will handle everything a DVD player can do and then some, the only issue is the quality that is mediocre at best.

Google Music set to rock

Google Music, releasing later this year is expected to vie with Apple's iTunes that has long held supremacy in this segment

Apple iOS4 hacked

Apple released their latest iPhone / iPod Touch OS version late last month, and just a day later hackers publish a way to jailbreak

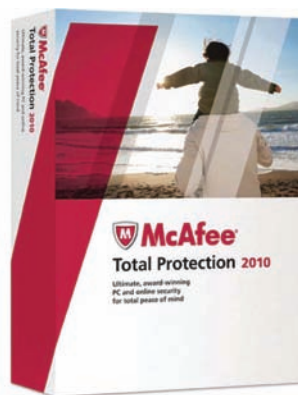
Bazaar

McAfee Total Protection 2010

Enhanced protection

McAfee Total Protection 2010 is a complete security suite designed for all kinds of PCs. There have been such suites in the market but what makes McAfee special?

The interface is somewhat different from the others. One of the most painful things is that the program runs in a small window with no maximise button, so you end up having to scroll whenever you expand a particular section of the program. As for the features and functions, it has the anti-virus, firewall, parental controls along with a spam filter. There are also system cleanup and



permanent file deleting utilities built into it. All of them are easy to use and the suite works well without having to customise and setup each one of the features. Parental controls allow permissions to be set on different Windows accounts.

We saw memory consumption of around 70MB during idle. With scanning and other tasks on, CPU utilisation shot up to 40 per cent but memory consumption did not move a lot. There is a noticeable slowdown especially on older configurations running 1GB of RAM and slow processors. So, it is pretty light on the system as long as you aren't scanning.

The online backup function is useful for syncing data and there is a lot of options for scheduling synchronisation tasks.

It's a good suite with a simple but sometimes irritating interface. The Rs. 2,999 price tag doesn't help decide either.

Requirements:

Windows XP (SP2) and higher, 1GHz processor, 256MB RAM, 200MB disk space

Contact

McAfee
Web site: www.mcafee.com
Price: Rs. 2,999

6.5/10

Features.....	7
Performance.....	6.5
Ease of use.....	7
Value for money.....	6

Stellar Phoenix Windows Data Recovery

Ridiculously expensive

Requirements:

Pentium processor or higher, 128 MB, 35 MB disk space, Windows 7 / Vista / XP / 2003

Contact

Anubha Upadhyay
Phone: 1800-102-3232
E-mail: marketing@stellarinfo.com
Web site: www.stellarinfo.co.in
Price: Rs. 18,000

6.5/10

Features.....	7
Performance.....	7
Ease of use.....	7
Value for money.....	4

Ever have a hard drive crash on you and you wished you had backed up that data. Stellar has been in the data recovery business for a while. Their latest package is Phoenix Windows Data Recovery 4.2.

Everything about the software is simple. The software can recover data from formatted drives, deletes files and even check your drive for errors. There are no complicated menus and options either. Simply, select the drive you want to scan and you get a thorough list of deleted files. Select the ones you want to recover and it does it for you.

One of the other features is the email recovery from Microsoft's Outlook and Outlook Express. Other than checking the hard disk for errors, it can also clone hard drives and disc images can be saved as well. This allows you to recover data using a saved disk image at a later period.

The accuracy of the recovery isn't great. Data is recovered quickly but we found most of the images to be corrupted. With image formats for example, partially recovered data is usable. With executable files and archives, it's unusable. Most of the data we tried to recover were deleted files.



The memory consumption during idle is around 2 MB and around 8MB while data is being recovered. CPU utilisation goes up to 50 per cent and more but that's expected with applications of the kind.

At Rs. 18,000, it's an extremely expensive piece of software. It's good for those running a data recovery business.



MicroConsole by year end

The TV version of cloud gaming site OnLive called MicroConsole will be available by year end

Graphics card test



ASUS EAH 5750

mark except for the underclocked Zotac 9800GT which inspite of being based on the G92 architecture, has only 112 stream processors (16 less than the standard count of 128). However, as will be seen in the graphs later, this does not affect the cards gaming performance which is at par with the Radeon HD 5670s.

The scaling prowess of *Crysis Warhead* comes through wonderfully in this category when compared with the previous categories. All the cards had a superb frame rate of above 70 fps for both the resolutions. We tried tweaking the settings from Low to Medium and still got over 30 fps for most of the cards.

Company of Heroes with its dynamic lighting still gave playable frame rates of over 50 fps at 1280x1024 and over 40 fps at 1680x1050. The NVIDIA GTS 250 proved better than the ATI cards for this game despite underclocked memory.

FarCry 2 gives the Asus EAH 5750 and PowerColor Radeon HD 5750 a slight edge over the GTS 250s.

Resident Evil 5 is another game that results in a close fight between Asus 5750, Zotac GTS 250, PowerColor 5750 and Big GTS 250 with frame rates crossing 70 fps (1680x1050) and touching 90 fps (1280x1024). The HD 5670s and Zotac

9800GT also give very decent playable frame rates of 50 fps (1680x1050).

Heaven v2.0 also gave impressive scores crossing the 930 mark and 37 fps for cards like Asus 5750, Zotac GTS 250, Big GeForce GTS 250 and PowerColor 5750. Biostar GTS250 gave no score in this benchmark surprisingly as the benchmark crashed each time we ran it.

On the whole this was one category where the performances were wonderful and very close at the same time. The only major drop in frame rates was apparent among the HD 5670s and Zotac 9800GT which is understandable as the stream processors, texture processing units and raster operator units are comparatively lower to HD 5750s and GTS 250s respectively. But as standalone graphic cards, each of them gave playable rates at both the benchmarked settings and resolutions.

Another interesting finding from the scores was the identical performance of Zotac GTS 250 and Big GeForce GTS 250, despite a 512 MB VRAM on the former. It just reiterates the fact that more isn't necessarily better, as in the entry level cards, one will not tend to play beyond 1920x1080. Even at that resolution the difference between the two cards is so miniscule that it does not affect the gaming performance. Also the Zotac GTS 250 is Rs. 300 cheaper and comes with a game bundled in. The only reason to go for a 1 GB card in this case is future proofing for more VRAM hungry games.

Finally when it came to deciding the winner, it was a very close call. PowerColor Radeon HD 5750 was awarded the Best Performer, while the Best Buy went to Asus EAH 5750. Although we felt that Sapphire HD 5670 was a tad overpriced at Rs. 7400 considering its configurations are similar to

Brand	Phone	Email	Website
XFX	+ 91 22 6709 0828	response@rptechindia.com	www.rptechindia.com
Palit	NA	mail@tirupati.net	www.tirupati.net
Sapphire	+91 11 4666 5666	sales@adityagroup.com	www.adityagroup.com
Zotac	+91 11 4666 5666	sales@zotac.com	www.zotac.com
Galaxy	+91 22 3823 331/2	NA	www.galaxy.com
Sparkle	4091 4622	enquiry@abacusperipherals.com	www.abacusperipherals.com
Biostar	+91 11 2628 2627	sales@intratech.co.in	www.intratech.co.in
Big	91 93202 04803	bakul@bigbyteindia.com	www.bigbyteindia.com
PowerColor	NA	mail@tirupati.net	www.tirupati.net
Asus	+91 22 6766 8800	info_india@asus.com	www.asus.in

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Bhubaneswar - 0674- 329 7372, **Chandigarh** - 0172- 325 8816, **Cochin** - 0484- 232 4706, **Chennai** - 044- 4214 7432,
Dehradun - 0135- 324 4481, **Guwahati** - 094357 31463,
Goa - 094036 64304, **Hubli** - 0836- 425 7375, **Indore** - 0731- 404 2509, **Jaipur** - 0141- 5134815, **Kolkata** - 033- 3008 5100, **New Delhi** - 093120 86932, **Lucknow** - 0522- 400 5840/ 391 5840, **Nagpur** - 0712-325 3811, **Nashik** - 098605 39199, **Pune** - 020- 2432 1298, **Patna** - 0612- 326 0947, **Raipur** - 0771- 329 3674, **Ranchi** - 0651- 324 4199, **Secunderabad** - 040- 2789 4847.

Facebook gaming

About 90 percent of facebook fans come online to play Zynga Game Network's "FarmVille" & other games on Daily basis according to an survey

3D entertainment

Toshiba launched their first 3D-entertainment with the A665-3DV satellites

Rossi Fernandes,
Sagar Budbadkar
and Vikram Mishra
readersletters@thinkdigit.com

The freedom of being able to use the internet anywhere is great and everyone

needs to experience that. People are being convinced to use it at work, while travelling home, going out of town, everywhere. At home for example, most of us are used to working on our desktops at one usual spot. Even laptop users end up sitting right next to where the

modem sits. Imagine being able to sit in the balcony of your home while video chatting with your relatives, or maybe browsing the net, or watching a streaming cricket match. It's not all just fun either. Wireless is great for offices. There's no need for the clutter of cables and wiring running all over the place.

Just like with any other kind of product category, routers too have a performance component to it. Wi-Fi routers have a standard for different speeds. The most popular ones has been 802.11g which offer speeds of up to 54Mbps. The test back in 2009 had many 802.11g routers but this year, we are seeing that 802.11n more popular. The 802.11n standards supports upto 600Mbps speeds which way faster than the speeds offered by most wired connections.

802.11n opens up a wide range of possibilities as well. For one, with this amount of bandwidth, it's easier to stream HD movies over the network. There's even better range offered. That being said, it's not as simple as just walking to a shop and buying an 802.11n router. A router like

any other product doesn't perform like the box and package says it will, which is why we're doing a test to tell you exactly how they perform in different conditions. Obviously, every home and office is different, but we've tried to simulate the scenarios in our own workplace.

We had to segregate the products into different categories. Most people buying routers don't look for specific features, they just have budgets. We decided to split up all the products into different price brackets.

Under Rs. 3,000

Most of us will never care for the 100 security features and the various data storage features. What matters the most is the performance at home while we browse away. For such needs, even a basic budget of under Rs. 3,000 should suffice and surprisingly, there are plenty of offerings from all the known brands.

Features

SMC is a brand that isn't known as much as Linksys, Netgear or D-Link when it comes to home routers. Their SMCWBRI4S-N4 model might be confusing nomenclature but it's a 802.11n Ethernet router. It has a pretty compact design with a smooth white finish to it. The LED display is dark blue, the firmware easy to use, but more help and information would have been preferred. Device setup, however, is quick, and although a very basic product, the use of WPS with a dedicated button will be well received by many.

The DIR-600 was one of the cheaper D-Link routers in this test. With a price of Rs. 1,900, you get a 802.11g class router for those looking for the cheapest of solutions. The build quality of the product is average. For example,



**There's
something
in the air**

Wireless networking is now faster with 802.11n routers. We test some of the latest Wi-Fi routers to see which ones fare the best

iPhone4 a success?

Apple iPhone4 got an overwhelming response with some 6,00,000 pre-orders in a day

New Samsung touch phone

Samsung has come up a new touch phone - C3300 featuring an 2.4-inch OVGA display, 1.3MP camera for around Rs. 8,000

Wi-Fi test

the base of the device has no rubber pads so the router slides around the table if you happen to tug on any of the cables. There is a stand if you choose to keep the router in the vertical position.



D-Link DIR-600

firmware, it's pretty limited as far as the options for advanced routing and VPN are concerned. Then again, it's only designed to be a home router, and so it shouldn't bother people too much. Basic security features, permissions and scheduling features are available. Heating is minimal which is always good in routers which will often be running all day long.

Performance

The SMC SMCWBRI4S-N4 emerges a clear victor in the performance tests. It falls in one of the lowest priced categories but with its 802.11n capability, it bypasses all the routers by a big margin. It's performance was very clear when we tried streaming from one floor up. We had no issues with caching and buffering - the video was smooth without audio syncing

problems or video slowdown. This is an area where the best of routers often fail. The next best performance was seen on the SMC SMCWBRI4S-N3. This too is another 802.11n router under the Rs. 3,000 bracket. It's costlier than the SMCWBRI4S-N4 by a couple of hundred rupees.

The next best router after the two 802.11n routers from SMC is the D-Link DIR-600. It might only be an 802.11g router, but it's the fastest you can get for that kind of budget. At this point, we would suggest ignoring the DIR-600 altogether and go in for the much faster SMCWBRI4S-N4. If you're looking for the cheapest possible router for an internet connection for one or two PCs, you would have to consider the D-Link. Keep in mind that most of us are using internet connections between the range of 256kbps and 2Mbps. A 802.11g which performs this well is way more than sufficient. The DIR-600 manages to stream 1080p and DVD media just fine but hiccups are apparent when you go up or down one floor up. If you're using a laptop in the same room as the router or in the adjoining room, you



SMC SMCWBRI4S-N4

HOW WE TESTED

The Wi-Fi device test was performed in a couple of rooms keeping in mind scenarios in homes and offices.

Our test laptop was the mighty Alienware M11x laptop with an 802.11n adapter built into it. The adapter and all 802.11n routers were set to use 802.11n connectivity.

There were three identified zones. The first zone test included keeping the laptop in the same room as the router; the second zone was a laptop in the adjoining room with a wall in between. The third zone was upstairs in the floor above.

First, the device was placed on a table in a set direction on the edge of a table right next to the main server which was connected directly using a CAT5 cable. There were a set of tests we ran. We used Passmark to measure throughput between the

server and the laptop in each of the zones. Signal strengths were measured. We also did real world tests where we copied single 50 and 100MB files and then, 50 and 100MB folders with several smaller files from the laptop to the server.

Next, we tried streaming DVD quality and HD 1080p clips over the network to see the Wi-Fi devices fared. We were expecting to see problems when we went over to the adjoining room.

There were other scores given for features, build quality and ease of use. We rated how well these devices were built, and if they heated up after a while of use. Wi-Fi routers are devices which will normally end up running all day and night in most cases. We also rated the features in the firmware, how easy it was to use and to setup the network using the devices.

shouldn't have too many problems.

Those looking for good ADSL routers have the only choice of the SMC 7901WBRA2 which is priced at Rs. 2,200, the former being the faster of the two. It's only a 802.11g router, but it's good enough for browsing. Heavy file transfers in the adjoining room and in floors above or below show huge drops in performance. It'll still let you browse just fine though. If you plan on doing any kind

of video stream, we would suggest skipping this product.

Rs. 3,001 to Rs. 5,000

When you're spending between Rs. 3,000 and Rs. 5,000 on a router, things get more serious. You expect 802.11n capability and that's exactly what we received. All the products in this category except for the Compex NP25G were 802.11n products. There were some with the optional USB slot which means the possibility of hosting data on a network without a dedicated server.

Features

The ASUS RT-N13U is another similarly designed router as the WL-520GU which is an 802.11g product from the last category we talked about. This router stands vertically on a fixed stand, so there's no scope of keeping it sideways. The

Contact Sheet

Brand	Contact	Phone	E-mail	Website
Apple	Apple India	+91-80-4140 9000	indiasales@mac.com	www.apple.co.in
ASUS	Mr. Vinay Shetty	+91-22-6766 8800	media_india@asus.com	www.asus.in
Belkin	Mr. Vibhav Mehta	1800-419-5546	Vibham@belkin.com	www.belkin.com
Buffalo	Buffalo Technology	1800-425-6210	b-milinda@melcoinc.co.jp	www.buffalo-asia.com
Compex	Rashi Peripherals Pvt Ltd	+91-22-6709 0828	response@rptechindia.com	www.compex.com.sg
D-link	D-Link (India) Ltd.	+91-22-2659 5700	divya.shetty@dlink.co.in	www.dlink.co.in
Linksys	CISCO Consumer Products	1800-419 5797	consumersales-india@cisco.com	www.linksysbycisco.com
Netgear	Netgear Technologies	+91-11-2620 7446	sales.india@netgear.com	www.netgear.com
SMC	SMC Networks India	+91-22-6428 6969	sales@smc-india.com	www.smc-india.com
ZyXEL	ZyXEL Technologies	+91-11-4760 8800	sales@zyxel.in	www.zyxel.in

Routers under Rs. 3,000

Brand	D-Link	SMC Networks	BELKIN	SMC Networks	Linksys	ASUS
Model No	DIR-600	SMC 7901WBRA2	N150 Basic	SMCWBR14S-N4	WRT54GH	WL-520GU
Price (Rs.)	1,900	2,200	2,399	2,400	2,499	2,800
Grand Totals (Out of 100)	62.62	47.37	53.24	81.59	52.19	55.89
Features (Out of 20)	13.67	11.07	10.69	14.12	11.44	11.85
Performance (Out of 80)	48.95	36.30	42.55	67.47	40.75	44.04
Features						
Protocols Supported (802.11 a / b / g / Draft n / Draft 2)	N / Y / Y / N / N	N / Y / Y / N / N	N / Y / Y / Y / N	N / Y / Y / Y / N	N / Y / Y / N / N	N / Y / Y / N / N
Type Of WAN Port (Ethernet / ADSL / USB)	Ethernet	ADSL	Ethernet	Ethernet	Ethernet	Ethernet
No Of RJ45 (LAN) Ports	4	1	4	4	4	4
No Of USB Ports	0	1	1	1	0	1
Device Features:						
Power / Connectivity / LAN / Activity Indicators (Y/N)	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / N / N	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y
Security Indicator / Hardware Security button (Y / N)	Y	N / N	N / Y	N / Y	N / N	N / Y
Factory-Defaults Reset Button (Y / N)	Y	Y	Y	Y	Y	Y
Wall Mountable (Y/N)	Y	Y	N	Y	Y	Y
External storage	N	N	N	N	N	N
3G / CDMA / data card feature	N	N	N	N	N	N
Security						
Encryption Types	WPA / WPA2	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WEP / WPA / WPA2
Firewall (Types Supported)	SPI / NAT	NAT / SPI	NAT	SPI / NAT	SPI	NAT / SPI
LAN I/P Based Site Blocking (Y/N)	Y	N	N	N	N	N
Wireless Isolation (Y/N)	Y	N	N	Y	N	N
Port Mapping (Forwarding)	Y	Y	Y	Y	Y	Y
Firmware Interface Features:						
Basic Setup Wizard (CD / Browser) (Y / N)	Y	Y	Y	Y	Y	N
Online / Offline Firmware Upgrade (Y/N)	Y	N / Y	N / Y	Y / Y	N / Y	N / Y
Settings, Backup To HDD / Load From HDD (Y / N)	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y
Ease of Installation/Use (So 10)						
Bundle (Includes Software, except firmware)	6	6	6	6.5	6	6
Firmware Interface	6.5	6	5	6.5	6.5	6
Device Configurable Settings	6.5	6.5	5	6	6	6
Build Quality	6	6	5.5	5	6	5.5
Performance						
Zone 1 (100 MB File transfer)						
Signal Strength in Zone 1 (Wireless Mon 3.0, %)	66	68	66	63	63	62
Sequential (MBps)	2.28	3.17	3.73	5.02	2.47	2.43
Assorted files (MBps)	1.53	4.64	2.39	2.89	1.47	1.78
Zone 2 (50 MB File transfer)						
Signal Strength in Zone 2 (Wireless Mon 3.0, %)	16	43	38	48	46	56
Sequential (MBps)	1.17	2.44	2.31	4.11	2.66	2.47
Assorted files (MBps)	0.95	1.73	2.69	3.00	1.66	1.98
Zone 3 (50 MB File transfer)						
Signal Strength in Zone 3 (Wireless Mon 3.0, %)	20	0	13	26	8	25
Sequential (MBps)	1.12	0	0.26	1.63	0.35	0.37
Assorted files (MBps)	0.89	0	0.25	0.88	0.83	0.17
Passmark Performance (Mbps)						
Zone 1	3.68	2.56	3.35	4.83	2.6	2.65
Zone 2	3.57	2.68	3.89	4.14	2.73	2.71
Zone 3	0.57	0	0.08	0.48	0.85	0.20
Video Streaming (So 10)						
HD 1080p - Zone 1 / 2 / 3	8 / 8 / 5	5 / 6 / 0	8 / 5 / 2	8 / 8 / 8	3 / 4 / 2	8 / 8 / 2
DVD - Zone 1 / 2 / 3	8 / 8 / 6	8 / 8 / 0	6 / 6 / 3	8 / 8 / 8	6 / 6 / 4	8 / 8 / 3

firmware too, is identical to the WL-520GU. The firmware of the router where the ASUS RT-N13U excels the most. There are tons of features and options available to the user. One of the key features of the firmware is the EzQoS Bandwidth Management feature which allows you to switch profiles of the router by the press of a mouse click. There are presets to improvement priority for gaming, internet apps, media streaming and the USB FTP function. The ability to plug in a flash drive and use it as an

external storage is added bonus. Most of the advanced features are accessible from a single page. On most routers, one needs to go from menu to submenus multiple depths in. The interface is very interactive as well unlike most other routers.

The Buffalo WHR-HP-GN has a very compact sleek design. There are no status indicators at the front of the router but they are right next to the connections at the back. The router is lightweight and the bundle comes with an ultra thin Eth-

ernet cable. As a package, it's one of the nicer products. The interface on the firmware isn't as pretty as the hardware itself. The main page is useful and has all the information on the features in the router. All the other menus have huge fonts and somewhat weird colours. This makes you wonder what Buffalo were thinking while designing this product. Belkin's N300 Surf has a simple design. It stands vertically but with only one LED display which isn't the simplest to use.

Performance

Not only is the ASUS RT-N13U great in its appearance, features and firmware, but it's also great at performance. It performed flawlessly through all the video streaming tests. File transfer tests across all the zones were pretty good. The Buffalo WHR-HP-GN isn't far behind either. It might not be the prettiest of routers or have special features as compared to the rest, but it sure performs well. Even in the Zone 3 tests, it managed 2.12 MBps speeds in the Passmark while

All-in-one Mobile Charger

An energy efficient standard charger for mobiles will be launched in the market, said International Telecommunication Union (ITU), as demand for mobiles keep increasing

Indian PC sales improving

Sales of personal computers in India increased by 33 percent in the first quarter this year

Wi-Fi test

Netgear	SMC Networks
JWNR2000	SMCWBR14S-N3
2,900	2,950
47.66	65.30
11.45	14.11
36.21	51.19
N/Y/Y/Y/N	N/Y/Y/Y/N
Ethernet	Ethernet
4	4
0	1
Y/Y/Y/Y	Y/Y/Y/Y
N/Y	Y/Y
Y	Y
N	Y
N	N
N	N
WPA / WPA2 / WEP	WEP / WPA / WPA2
SPI / NAT	NAT / SPI
N	N
N	Y
Y	Y
Y	Y
N/Y	N/Y
Y/Y	Y/Y
6	6
6	6
6	6.5
6.5	6
65	66
2.78	2.38
1.44	1.84
50	51
2.72	2.23
1.36	1.78
18	30
0.12	0.71
0.25	0.55
1.77	2.63
1.27	2.31
0.54	0.78
5 / 3 / 2	8 / 8 / 3
8 / 6 / 2	8 / 8 / 8

the rest struggled to get past the 1Mbps mark. Real world tests weren't as promising.

Belkin has a new strategy and positioning of products to make things simple for the customer. We don't know how well that will work out for customers, but we know that their latest N300 Surf router works flawlessly for media streaming. File transfers in the zone 1 and zone 2 are average but speeds don't deteriorate as much as the rest. Speeds of between 1.5 to 1.9 MB/s can be expected

if you're transferring from a floor above or under the router.

Rs. 5,001 to Rs. 8,000

In this category, we received all 802.11n routers and also a couple of ADSL routers. USB ports become more and more common.

Features

While USB ports were a common feature, the ability to connect a 3G USB datacard was something new and unseen. SMC products such as the SMCWBR11S-3GN and SMCWBR14-3GN had this feature. No longer do you have to depend on a wired



D-Link DIR-615

ADSL or cable connection. This feature is particularly useful for those who travel very often and need to carry your wireless network with you.

While most of the Linksys routers look more or less the same, the Linksys WRT610N comes with an attractive colour set. The product we received came with a sparkling blue border surrounding the black glossy body. The WRT610N has more features when it comes to quality of service options. The interface is not as straight forward as the ASUS routers that we've tested but in the QoS settings, it lets you choose from prominent applications and

games. The traffic going to and from these applications can be granted higher priority for better performance. The USB storage feature allows you run a FTP server using a USB complaint storage device. There is quite some heating noticeable at the base of the router.

The same old Linksys design continues with the Linksys WAG160N. It comes with an ADSL component built into it. Fortunately, there's an option to use one of the other LAN ports as a WAN connection if you choose to move to an ISP that uses Ethernet to distribute connections. Logs can be customised as well. Logs can be generated on DDOS attacks and even mailed to a particular email address. This is a great security feature.

The Netgear WNR3500's front panel has indicators for the different connections and ports. Instead of small lights, there are larger numbers behind which the LEDs are placed. Identifying connections becomes simpler. The router heats up a bit after an hour or two of use. Bundled packages with all the routers were standard although we quite like the excellent quality of bundled cables with the WNR3500. The interface is somewhat bland. There is a pane on the left using frames to separate the two panes. Help is provided on the rightmost pane in somewhat decent detail.

Performance

There is a clear performance improvement with 802.11n routers and that's something that's clear when you access in the router from the same room or from the adjoining room. When you get any further, speeds come plummeting. Of all the routers in the category, close to half the products were left struggling to cross 0.5Mbps speeds. Linksys WAG160N, WRT610N and Net-

gear's WNR3500 were the superior products of the lot. In HD video streaming, the Linksys WRT610N was the only one that was able to stream content without any any loss in performance.

Rs. 8,001 to Rs. 11,000

Routers in this price range are meant for enthusiasts. Performance is key but at the same time, good designs, features for data sharing and security are equally important

Features

The Linksys WRT320N is a dual-Band 802.11n Gigabit router which like most of Linksys' new routers lack a visible antenna. The WPS feature is very prominent - there is a button on the router as well as a clear menu in the router firmware. Unlike the cheaper WRT54GH and also similarly priced models from other makes, WPA2 Enterprise encryption makes an appearance here. The firmware seems more refined, has more features for security are promi-



SMC SMCWBR11S-3GN

nent. Wireless isolation is a clear feature as well which isn't found on all routers. The QoS feature is also detailed. It allows you to prioritize applications for improved upload speeds. The setting allows you to select a kind of application and also, the priority for it. This is obviously a router for more serious users in SoHo

Routers between Rs. 3,001 - Rs. 5,000

Brand	BELKIN	D-Link	D-link	Linksys	COMPEX	SMC Networks	BELKIN	ASUS	Buffalo
Model No	N300 Surf	DIR-615	DSL- 2640U	WRT120N	NP25G	SMC7904WBRA4	N300 Share	RT-N13U	WHR-HP-GN
Price (Rs)	3,099	3,100	3,400	3,499	3,500	3,900	4,299	4,750	5,000
Grand Totals (Out of 100)	71.07	70.66	48.90	66.85	48.13	44.14	66.01	69.25	74.01
Features (Out of 20)	10.19	13.93	10.90	13.14	10.65	11.24	10.99	13.4	13.82
Performance (Out of 80)	60.88	56.73	38.00	53.71	37.48	32.90	55.02	55.85	60.19
Features									
Protocols Supported (802.11 a / b / g / Draft n / Draft 2)	N / Y / Y / Y / N	N / Y / Y / Y / N	N / Y / Y / N / N	N / Y / Y / Y / N	N / Y / Y / N / N	N / Y / Y / N / N	N / Y / Y / Y / N	N / Y / Y / Y / Y	N / Y / Y / Y / N
Type Of WAN Port (Ethernet / ADSL / USB)	Ethernet	Ethernet	ADSL	Ethernet	Ethernet	ADSL	Ethernet	Ethernet	Ethernet
No Of RJ45 (LAN) Ports	4	4	4	4	4	4	4	4	4
No Of USB Ports	0	0	0	0	0	0	1	1	0
Device Features:									
Power / Connectivity / LAN port / Activity Indicators (Y/N)	Y / Y / N / N	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / N / N	Y / Y / Y / Y	Y / Y / Y / Y
Security Indicator / Hardware Security button (Y / N)	N / Y	N / Y	N / N	Y / Y	N / Y	N / N	N / Y	N / Y	Y / Y
Factory-Defaults Reset Button (Y / N)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wall Mountable (Y/N)	N	Y	N	Y	Y	Y	N	N	Y
External storage	N	N	N	N	N	N	N	Y	N
3G / CDMA / data card feature	N	N	N	N	N	N	N	N	N
Security									
Encryption Types	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA2 / WEP	WEP	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA / WPA2 / WEP
Firewall (Types Supported)	NAT	SPI / NAT	NAT	NA	NA	NAT	SPI / NAT	SPI	SPI / NAT
LAN I/P Based Site Blocking (Y/N)	N	Y	N	N	N	N	N	N	Y
Wireless Isolation (Y/N)	N	Y	Y	Y	N	N	N	N	Y
Port Mapping (Forwarding)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Firmware Interface Features:									
Basic Setup Wizard (CD / Browser) (Y / N)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Online / Offline Firmware Upgrade (Y/N)	N/Y	N/Y	N / Y	N / Y	N / Y	N / Y	N / Y	N / Y	N / Y
Settings, Backup To HDD / Load From HDD (Y / N)	Y/Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y
Ease of Installation/Use (So 10)									
Bundle (Includes Software, except firmware)	6	6	6	6	5	6	6	6	6
Firmware Interface	5	6.5	5	6.5	4	6.5	5	6	4.5
Device Configurable Settings	5	6.5	4.5	6	4	6.5	5	6	5
Build Quality	5.5	6	5.5	7	5.5	6.5	5.5	6	6
Performance									
Zone 1 (100 MB File transfer)									
Signal Strength Zone 1 (Wireless Mon 3.0, %)	65	80	51	65	66	61	63	66	68
Sequential (MBps)	4.10	3.75	2.28	4.46	2.28	2.49	7.33	4.34	4.80
Assorted files (MBps)	2.74	2.14	1.53	2.76	1.44	1.26	3.50	2.81	2.97
Zone 2 (50 MB File transfer)									
Signal Strength in Zone 2 (Wireless Mon 3.0, %)	51	52	16	50	55	42	53	62	55
Sequential (MBps)	3.73	7.49	1.17	4.78	2.29	2.39	7.34	4.48	5
Assorted files (MBps)	3.13	3.23	0.95	3.10	1.46	1.39	3.70	3.21	3.56
Zone 3 (50 MB File transfer)									
Signal Strength in Zone 3 (Wireless Mon 3.0, %)	26	21	20	26	25	26	18	25	18
Sequential (MBps)	1.90	0.90	1.12	0.58	0.09	0	0.50	0.88	1.75
Assorted files (MBps)	1.59	0.93	0.89	0.60	0.12	0	0.39	0.57	0.75
Passmark Performance (Mbps)									
Zone 1	4.20	4.02	2.58	4.37	2.51	2.73	6.17	4.51	4.85
Zone 2	3.80	7.01	0.68	4.36	2.62	2.58	5.58	4.57	4.83
Zone 3	1.52	0.56	0.83	1.30	0.08	0	0.32	0.78	2.12
Video Streaming (So 10)									
HD 1080p - Zone 1 / 2 / 3	8 / 8 / 8	8 / 8 / 8	8 / 6 / 8	8 / 8 / 8	8 / 8 / 3	5 / 3 / 3	8 / 8 / 3	8 / 8 / 8	8 / 8 / 8
DVD - Zone 1 / 2 / 3	8 / 8 / 8	8 / 8 / 5	8 / 6 / 4	8 / 8 / 4	8 / 8 / 3	8 / 8 / 7	8 / 8 / 5	8 / 8 / 8	8 / 8 / 6

Routers between Rs. 5001 - Rs. 8000

Brand	SMC Networks	Netgear	Buffalo	SMC Networks	D-Link	Linksys	Netgear	Linksys
Model No	SMCWBR11S-3GN	DGN-2200	WBMR-HP-GN	SMCWBR14-3GN	DIR-655	WRT160NL	WNR3500	WAG160N
Price (Rs)	5,500	5,800	6,500	6,500	6,900	7,499	7,900	7,925
Grand Totals (Out of 100)	58.83	49.10	53.00	66.99	62.92	69.69	77.91	73.91
Features (Out of 20)	14.04	13.98	11.8	12.74	14.91	13.19	11.81	13.33
Performance (Out of 80)	44.79	35.12	41.20	54.25	48.01	56.50	66.10	60.58
Features								
Protocols Supported (802.11 a / b / g / Draft n / Draft 2)	N / Y / Y / Y / N	N / Y / Y / Y / N	N / Y / Y / N / N	N / Y / Y / Y / Y	N / Y / Y / Y / Y	N / Y / Y / Y / N	N / Y / Y / Y / N	N / Y / Y / Y / Y
Type Of WAN Port (Ethernet / ADSL / USB)	Ethernet	ADSL	ADSL	Ethernet	Ethernet	Ethernet	Ethernet	ADSL
No Of RJ45 (LAN) Ports	1	4	4	4	4	4	4	4
No Of USB Ports	1	1	0	1	1	1	0	0
Device Features:								
Power / Connectivity / LAN port / Activity Indicators (Y/N)	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y
Security Indicator / Hardware Security button (Y / N)	N / Y	N / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	N / Y
Factory-Defaults Reset Button (Y / N)	Y	Y	Y	Y	Y	Y	Y	Y
Wall Mountable (Y/N)	Y	Y	N	N	Y	Y	N	Y
External storage	N	Y	N	N	Y	N	N	N
3G / CDMA / data card feature	Y (3G USB card)	N	N	Y (3G USB card)	N	N	N	N
Security								
Encryption Types	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA2	WPA / WPA2	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WEP / WPA / WPA2
Firewall (Types Supported)	SPI / NAT	NAT	SPI / NAT	NAT	SPI / NAT	SPI	SPI / NAT	SPI
LAN I/P Based Site Blocking (Y/N)	N	N	N	Y	Y	N	N	N
Wireless Isolation (Y/N)	Y	N	N	N	N	N	N	Y
Port Mapping (Forwarding)	Y	Y	Y	Y	Y	Y	Y	Y
Firmware Interface Features:								
Basic Setup Wizard (CD / Browser) (Y / N)	Y	Y	Y	Y	Y	Y	Y	Y
Online / Offline Firmware Upgrade (Y/N)	Y/Y	N / Y	N / Y	N / Y	N / Y	N / Y	N / Y	N / Y
Settings, Backup To HDD / Load From HDD (Y / N)	Y/Y	Y / Y	Y / Y	Y / Y	Y	Y / Y	Y / Y	Y / Y
Ease of Installation/Use (So 10)								
Bundle (Includes Software, except firmware)	6	6	6.5	6	6	6	6	6
Firmware Interface	6.5	6.5	6	6.5	6	6.5	6	6.5
Device Configurable Settings	6	6	6	5.5	6.5	6	6.5	6
Build Quality	5	6	6	5.5	6	6.5	6	6.5
Performance								
Zone 1 (100 MB File transfer)								
Signal Strength in Zone 1 (Wireless Mon 3.0, %)	66	68	61	61	62.68	65	65	65
Sequential (Mbps)	4.76	1.60	3.39	2.91	4.61	4.97	8.64	6.81
Assorted files (Mbps)	2.92	1.55	1.95	1.67	1.16	3.17	3.71	3.22
Zone 2 (50 MB File transfer)								
Signal Strength in Zone 2 (Wireless Mon 3.0, %)	40	52	36	43	50	56	55	50
Sequential (Mbps)	2.27	3.52	3.48	4.76	3.57	7.66	7.32	3.49
Assorted files (Mbps)	2.19	1.74	2.43	3.27	2.03	4.23	4.31	2.54
Zone 3 (50 MB File transfer)								
Signal Strength in Zone 3 (Wireless Mon 3.0, %)	15	25	16	25	18	25	20	23
Sequential (Mbps)	0.12	0	0.58	3.02	0.81	0.83	2.04	2.07
Assorted files (Mbps)	0.39	0	0.52	1.52	0.46	0.55	1.54	1.42
Passmark Performance (Mbps)								
Zone 1	4.76	2.28	2.92	6.15	3.67	4.46	2.5	5.18
Zone 2	3.52	2.73	3.31	4.86	3.12	5.50	3.06	5.80
Zone 3	0.38	0.16	0.55	0.81	1.30	1.33	1.88	1.79
Video Streaming (So 10)								
HD 1080p - Zone 1 / 2 / 3	8 / 8 / 5	6 / 5 / 3	8 / 8 / 2	8 / 8 / 4	8 / 8 / 8	8 / 8 / 3	8 / 8 / 8	8 / 8 / 8
DVD - Zone 1 / 2 / 3	8 / 8 / 4	6 / 6 / 4	8 / 8 / 2	6 / 6 / 3	8 / 8 / 5	8 / 8 / 4	8 / 8 / 6	8 / 8 / 3

scenarios. At Rs. 8,999, it's not exactly cheap. Features like USB drive sharing aren't present either.

The Netgear WNDR3700 is a sleeker looking Wi-Fi router. The front panel for example



Buffalo WZR-HP-G300NH

has a layer of transparent plastic with colourful LEDs that blink and reflect on the panel below. The flat design heats up a bit. The interface of the firmware like all other

brands is almost identical to that of the other models.

Performance

The key performers of the category were the Linksys WRT320N, WRT160N and the Netgear WNDR3700.

Their performance was stable in the first two zones. Taking the laptop up to the next floor meant a drastic drop in signal and therefore pathetic transfer speeds from the laptop and the router as well as bad video streaming performance.

Routers between Rs. 8001 - Rs. 11,000

Brand	BELKIN	Linksys	Buffalo	ASUS	Netgear	Linksys
Model No	Play Max N+N300	WRT320N	WZR-HP-G300NH	RT-N16	WNDR3700	WRT610N
Price (Rs)	8,199	8,999	9,000	9,500	9,900	10,999
Grand Totals (Out of 100)	58.56	77.01	65.79	63.97	72.73	70.63
Features (Out of 20)	13.18	13.53	12.8	13.6	13.58	15.98
Performance (Out of 80)	45.38	63.48	52.99	50.37	59.15	54.65
Features						
Protocols Supported (802.11 a / b / g / Draft n / Draft 2)	N / Y / Y / Y / N	Y / Y / Y / Y / N	N / Y / Y / Y / Y	N / Y / Y / N / N	Y / Y / Y / Y / N	Y / Y / Y / Y / N
Type Of WAN Port (Ethernet / ADSL / USB)	Ethernet	Ethernet	Ethernet	Ethernet	Ethernet	Ethernet
No Of RJ45 (LAN) Ports	4	4	4	4	4	4
No Of USB Ports	2	0	1	2	0	1
Device Features:						
Power / Connectivity / LAN port / Activity Indicators (Y/N)	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / Y / Y
Security Indicator / Hardware Security button (Y / N)	N / Y	N / N	Y / Y	N / Y	N / Y	N / Y
Factory-Defaults Reset Button (Y / N)	Y	Y	Y	Y	Y	Y
Wall Mountable (Y/N)	N	Y	N	Y	Y	Y
External storage	Y	N	Y	Y	Y	Y
3G / CDMA / data card feature	N	N	Y	N	N	N
Security						
Encryption Types	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA / WPA2	WPA / WPA2	WPA / WPA2 / WEP
Firewall (Types Supported)	SPI / NAT	SPI / NAT	NA	NAT / SPI	SPI	SPI
LAN I/P Based Site Blocking (Y/N)	N	Y	N	N	N	Y
Wireless Isolation (Y/N)	N	Y	N	N	N	Y
Port Mapping (Forwarding)	Y	Y	Y	Y	Y	Y
Firmware Interface Features:						
Basic Setup Wizard (CD / Browser) (Y / N)	Y	Y	Y	N	Y	
Online / Offline Firmware Upgrade (Y/N)	N / Y	Y / Y	N / Y	N / Y	N / Y	N / Y
Settings, Backup To HDD / Load From HDD (Y / N)	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y
Ease of Installation/Use (So 10)						
Bundle (Includes Software, except firmware)	6	6.5	6.5	6	6	6
Firmware Interface	6.5	6.5	6	6	6.5	6.5
Device Configurable Settings	5	6.5	6	6	6.5	6
Build Quality	5	6	6	6	6.5	7
Performance						
Zone 1 (100 MB File transfer)						
Signal Strength in Zone 1 (Wireless Mon 3.0, %)	68	60	66	66	66	60
Sequential (MBps)	4.89	7.49	8.12	5.48	9.24	7.55
Assorted files (MBps)	2.87	3.51	2.76	2.54	3.89	3.71
Zone 2 (50 MB File transfer)						
Signal Strength in Zone 2 (Wireless Mon 3.0, %)	53	51	52	58	42	40
Sequential (MBps)	4.56	7.49	5.56	7.49	7.60	4
Assorted files (MBps)	3.20	3.59	3.08	4.18	4.68	3.13
Zone 3 (50 MB File transfer)						
Signal Strength in Zone 3 (Wireless Mon 3.0, %)	16	16	15	26	12	16
Sequential (MBps)	0.41	3.11	0.76	0.38	1.72	1.39
Assorted files (MBps)	0.30	2.22	0.90	0.32	0.88	1.25
Passmark Performance (Mbps)						
Zone 1	4.53	6.62	6.36	5.77	7.94	6.52
Zone 2	4.51	6.36	7.00	6.21	8.32	4.79
Zone 3	0.74	2.88	0.76	0	6.53	1.08
Video Streaming (So 10)						
HD 1080p - Zone 1 / 2 / 3	8 / 8 / 5	8 / 8 / 8	8 / 8 / 8	8 / 8 / 4	8 / 8 / 3	8 / 8 / 8
DVD - Zone 1 / 2 / 3	8 / 8 / 2	8 / 8 / 6	8 / 8 / 4	8 / 8 / 3	8 / 8 / 3	8 / 8 / 8

Above Rs. 11,001

In this price range, we're getting into the niche products. Security is key and support for other internet connectivity methods such as 3G come into the picture. Some of the products were received were also lifestyle products.

Features

The Apple Time Capsule is a backup server cum dual-band 802.11n wireless router with

a 1TB drive built into it. It also works as a print server. Apple makes some of the well designed quality products and it's obvious with the Time Capsule as well as the Airport Extreme. Both have external external storage support through USB. The products aren't designed to be economical. The Time Capsule tops the price charts in this test at a whopping Rs.27,500. The Airport Extreme isn't exactly cheap either, at Rs. 11,450. These two products are

configured using the AirPort utility. We had some trouble initially configuring the product with our network configuration. Eventually, we were able to manually access the router and get it running. In comparison to the Apple products, the D-Link DIR-455 is a very simple product. Voice calling functionality and ability to use 3G SIM cards are some of its key features.

The Zyxel NBG-460N is an 802.11n router with a firmware

which is reasonably simple to use even for home users. Its price is Rs. 13,000 which on the other hand isn't very home-user friendly. Security features are straight-forward and users can configure things very easily. Build is average. The scheduling feature to turn off the wireless connection is useful. Build quality could have been better and the device heats up quite a bit. With a price tag of Rs.13,000, users expect more features like dual band, printer

Routers above Rs. 11,000

Brand	ZYXEL	D-Link	Apple	Apple
Model No	NBG 460N	DIR-455	Time Capsule 1 TB	AirPort extreme
Price (Rs)	13,000	13,500	27,200	11,450
Grand Totals (Out of 100)	76.00	40.38	79.64	53.47
Features (Out of 20)	11.51	12.14	12.79	12.47
Performance (Out of 80)	64.49	28.24	66.85	41.00
Features				
Protocols Supported (802.11 a / b / g / Draft n / Draft 2)	N / N / N / Y / N	N / Y / Y / N / N	Y / Y / Y / Y / N	N / Y / Y / Y / N
Type Of WAN Port (Ethernet / ADSL / USB)	Ethernet	Ethernet	Ethernet	Ethernet
No Of RJ45 (LAN) Ports	4	4	3	4
No Of USB Ports	0	0	1	1
Device Features:				
Power / Connectivity / LAN / Activity Indicators (Y/N)	Y / Y / Y / Y	Y / Y / Y / Y	Y / Y / N / Y	Y / Y / N / Y
Security Indicator / Hardware Security button (Y / N)	Y / Y	N / N	N / N	N / N
Factory-Defaults Reset Button (Y / N)	Y	Y	Y	Y
Wall Mountable (Y/N)	N	Y	N	N
External storage	N	N	Y	Y
3G / CDMA / data card feature	N	Y/N/N	N	N
Security:				
Encryption Types	WPA / WPA2	WPA / WPA2 / WEP	WPA / WPA2 / WEP	WPA/WPA2/WEP
Firewall (Types Supported)	SPI	SPI / NAT	NAT	NAT
LAN I/P Based Site Blocking (Y/N)	N	N	Y	N
Wireless Isolation (Y/N)	N	N	Y	Y
Port Mapping (Forwarding)	Y	Y	Y	Y
Firmware Interface Features:				
Basic Setup Wizard (CD / Browser) (Y / N)	Y	Y	Y	Y
Online / Offline Firmware Upgrade (Y/N)	N / Y	N / Y	N / Y	N / Y
Settings, Backup To HDD / Load From HDD (Y / N)	Y / Y	Y / Y	Y / Y	Y / Y
Ease of Installation/Use (So 10)				
Bundle (Includes Software, except firmware)	6	6	5	5
Firmware Interface	6	6.5	5	5
Device Configurable Settings	6.5	5	4.5	4.5
Build Quality	6	6	8	8
Performance				
Zone 1 (100 MB File transfer)				
Signal Strength in Zone 1 (Wireless Mon 3.0, %)	80	61	63	60
Sequential (MBps)	6.27	1.85	7.75	8.20
Assorted files (MBps)	3.53	1.52	4.08	3.76
Zone 2 (50 MB File transfer)				
Signal Strength in Zone 2 (Wireless Mon 3.0, %)	65	43	42	45
Sequential (MBps)	8.29	1.40	7.92	2.14
Assorted files (MBps)	4.73	1.40	4	3.09
Zone 3 (50 MB File transfer)				
Signal Strength in Zone 3 (Wireless Mon 3.0, %)	28	11	15	0
Sequential (MBps)	1.69	0	3.02	0
Assorted files (MBps)	1.64	0	2.38	0
Passmark Performance (Mbps)				
Zone 1	6.65	1.88	7.53	6.23
Zone 2	6.45	1.64	7.07	4.92
Zone 3	1.74	0.01	3.13	1.22
Video Streaming (So 10)				
HD 1080p - Zone 1 / 2 / 3	8 / 8 / 8	8 / 8 / 0	8 / 8 / 8	8 / 8 / 0
DVD - Zone 1 / 2 / 3	8 / 8 / 8	8 / 8 / 0	8 / 8 / 8	8 / 8 / 3

server, external storage etc. Performance is something it ought to do well to justify the cost.

Performance

The Apple Time Capsule and the Zyxel NBG-460N did rather well in the performance tests. Both the products did extremely well while transferring files to and from the laptop, in the same room and the adjoining room. Video streaming is no issue either. The D-Link DIR-455 fails to impress from one floor above.

Conclusion

The SMCWBR14S-N4 is our best performer amongst the cheapest of routers. It happens to be one of those really cheap 802.11n routers at just Rs. 2,400. If you aren't paranoid about security and the file sharing features, you can safely go in for it. The D-Link is your next best option - it's a whole Rs. 500 cheaper. It too is an 802.11n router and offers most of the performance as the SMC.

In sheer Wi-Fi performance, the Belkin N300 Surf leads the Buffalo WHR-HP-GN by a tiny

margin. The Belkin however is cheaper. If you're looking at value-for-money, then the D-Link DIR-615 should be your choice.

The SMC SMCWBR11S-3GN

with its low pricing is the Best Buy winner in the Rs. 5001 to Rs. 8,000 category. For that

price, you get decent performance in the adjoining rooms, a decent feature set that includes the 3G

data card function. If money is no constraint, the Netgear WNR3500 at Rs. 7,900 is the one to go for. It destroys the competition by a decent bit.

This is where products get really expensive. For home users, who want to setup a small network storage device using their router, this is the category to look at - Rs. 8,001 to Rs. 11,000. The WRT320N is the fastest of the lot and it comes bundled with decent features. The Buffalo WZR-HP-G300NH is the more affordable option. It's not as fast as the Linksys WRT320N but it carries the USB port useful for sharing data.

The Apple Time Capsule 1TB has all the features you want including a large disk space. Other than the minor hiccups we faced while setting it up, it performs well in all the file transfer tests. The lone Zyxel router in the test gets the Best Buy for this section. It comes very close to matching the speeds of the Apple Time Capsule.

After running through all the routers, we've come to clear conclusion that 802.11n routers are here to stay. We've seen them increase performance by a lot. To be honest, for just

browsing you would be fine with any 802.11g that works in all rooms and a floor above.

802.11g might just cut it for DVD quality video but streaming but it isn't cut out for HD video streaming. We're glad 802.11n routers are dropping in prices and

if you spend that little bit more, you should and go in for a decent 802.11n router. **d**



Zyxel NBG-460N

Globalfoundries gears up for 28nm

IBM, Globalfoundries, Samsung, and STM plan to collaborate on a new 28nm fabrication process that is superior to current fabrication processes

For those

Critical headshots

If you're any sort of gamer, you know that tools are an important part of the trade and while human skill is tantamount, proper equipment is very important. Gaming mice and surfaces are about razor precision as well as making a statement and sometimes, bling. We try our hands on some of the deadliest rodents to ever set Teflon feet on mat.



photos.com

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An oft-used adage – a bad carpenter blames his tools. You've heard of this, yes? When it comes to gaming, however, the carpenter, gamer, whoever, could very well be justified in blaming his gear. Just the same, it's not the mouse that makes the man, so don't please don't think that buying an expensive gaming mouse is all that separates you from becoming the next *Fatalty*! But if you're a reasonably good gamer, a good mouse and matching surface will definitely lift your game and could possibly make all the difference.

For us, the skill of the gamer accounts for 90 per cent of the equation, a good set of gaming equipment would account for the remaining 10 per cent. Keyboards, mice, controllers and

even mousepads, (or surfaces as we call them), are very personal articles, perhaps as personal as a cell phone. What is good for you might not be good for another. And mice in particular, are designed with the contours of the human hand in mind; no two hands are alike, so no mouse will feel the same to different people. It's also about what you are accustomed to. Take the best gamer used to a particular keyboard, mouse and key mapping, give him a different keyboard and mouse with a radically different layout and he'll be nonplussed. Some gamers, who get used to a particular mouse or keyboard are so paranoid, they buy ten or fifteen pieces of that device, so that even if it is phased out of production, they have sufficient stock to get them through the next ten years.

In this comparison test, we're primarily looking at gaming

mice and surfaces, although we're also looking at keyboards and other gaming peripherals, including headsets online. Please check out www.thinkdigit.com/d/game_accessories for all rest of our gaming gear special. One of the fallacies we'd like to bust at this point is the hype that many brands dealing with gaming mice in particular create about the "DPI" rating. An acronym for "dots per inch", one of the things the gaming peripherals industry has succeeded at is establishing the importance of this specification, perhaps even grossly over-emphasising it. A brief explanation is in order – DPI is a measure of sensitivity. Quite simply, it's a measure of how little you must physically move your mouse to move whatever object you are controlling on screen to a specific point. This could be as cursory an object as a file you want to select, or a running character you are trying

to aim at with your reticule or HUD in a first person shooter like *Crysis*. The DPI number is the number of steps of movement that a mouse sensor will register when the mouse is moved physically by one inch. The higher the DPI rating, the faster the mouse will be perceived to be. But there's a point beyond which mouse movement becomes too fast for the human perception to trace with any accuracy, rendering it useless. For example, a majority of gamers don't use a sensitivity of more than 1,600 dpi, and many continue to use 800 dpi, therefore a mouse rated at 5,700 dpi is largely not doing much more for a gamer than say, a good 1,600 dpi mouse. Just remember – DPI isn't everything.

MICE

Razer Mamba

The Mamba ships in a sexy box – transparent fibre with

Issues with iPhone 4.0

Initial buyers are reporting a yellowish tinge to the display in some of the new iPhones.

No new green machines

NVIDIA announces no more flagship GPUs this year; we're stuck with the GTX 480 for now

Game peripheral test

the mouse mounted on a pedestal. There's a bunch of manuals that come in a cardboard box in individual tray-like compartments, sort of like a chest-of-drawers – premium clothes for the prince of Razer's lineup.

While its serpent-like shape and gracefully smooth contours remind you of its namesake, the Mamba also has just enough sharp angles to keep it interesting. It's designed for right-handed gamers and the grip is very comfortable for all but the largest hands. The surface has a Teflon coated finish, meant to resist sweat and enhance comfort. Both mouse buttons have gentle contours to fit fingers. The mousewheel is large and rubberised, but it's very clicky – not a bad thing. The scroll on the mouse wheel has good feedback. The two buttons on the left are perfect for use with the thumb and they're large enough to be very usable.

Advertised as wired and wireless, the Mamba ships with a Li-ion battery and a microUSB port on the mouse also accepts a neat cable. This is a plus for gamers who fear lag typically associated with wireless mice and the chance of battery losing charge. Incidentally, with the battery inserted, you can charge the mouse on the dock, or use the USB cable that charges the battery on the go. Powering it up, the Razer logo doesn't glow, but the rims of the mouse wheel light up in blue. Without the Li-ion battery the mouse is light, the 800 mAh battery is pretty thick and gives the mouse a substantial, but not over-heavy, feel. The charging dock is cool looking and uses the same detachable mouse cable and the base lights up in a cool blue. When charging the entire set up looks pretty



Razer Mamba

neat – and is worth its weight in drool value. The dpi modifying buttons are located on the top, next to the left click. The battery indicator also doubles as the dpi indicator and has a neat green/red LED colour coding for the same.

Acceleration is slower on the Titan mat owing to more grip that cloth exerts on the softer Teflon feet; on the whole, tracking on both surfaces is very good. The left/right buttons also have the right balance between travel and feedback. The feet give a lot more grip on the Destructor mat than the Logitech G9x, evidently, these were intended to be used together. In wireless mode, there is a very slight lag noticeable when quick movements are in order, and accuracy slips a notch, although if memory serves well, it's on par with the Logitech G7. For gaming though, stick with the bundled USB cable.

Although a selling point is the wireless mode, that will attract gamers on the go, the bulky dock that must be connected to a computer in order to use the mouse on it, is just too big to be carted around. This is not a portable mouse, nor was it intended to be. At Rs. 7,999 (MRP) the Mamba is one helluva gaming tool – it looks amazing, is built well and works near perfectly, but

still, for that much dough you'd go – “hmmm, can I get anything more?” The G9x with its side scroll and ratchet scroll would be better value, although the Mamba is slightly better for gamers, and a lot better looking, which is important to some people.

Logitech G9x

At first glance, without the grips, the G9x looks quite small, and although the uncomfortable-looking, angular design is surprisingly comfortable, the mouse looks suited for those with tiny hands. Two interchangeable grips in the box add handiness. These can be snap-fitted on to the mouse and giving the impression of body armour, adding bulk, (but not much weight), making the G9x a lot more comfortable. Both the grips are different, the black one, called the “Precision” grip has a matte finish that resists sweat and is much more compact with a much shallower scalloping on the left side for the thumb recess. The other grip called the “Wide Load” grip, is grey in colour, and slightly broader, with a deeper thumb recess and also adds a bit of height to the mouse with a higher top. Neither of the grips is ambidextrous (sorry lefties).

Remove the grips and the rear of the mouse has a push-in, and slide-out tray for the customisable weights. Deeper in the environment-unfriendly packaging, we found a sturdy box with weights – there are eight pieces, four each of four and seven grams. The G9x can take

up to four of these, in any combination, which means you can add a maximum of 28 grams of weight to the mouse.

Everything about the mouse breathes quality, although we found the mouse buttons to be more sensitive than the keys on the G5 and the MX518. Sans weights, the G9x feels very light, but not as weightless as the Microsoft Sidewinder. We got good results using the four-gram weights. The sensitivity button is a two-way type and located just below the left mouse key – it's accessible, but not easy to accidentally press. The sensitivity indicator is very visible. The two thumb buttons are located ergonomically and exude very good feedback. The mouse button click is a little hard, but the tilt wheel mechanism works perfectly because of this, and there are no false clicks. On the bottom of the mouse is the “micro gear” button. This toggle button allows switching between free scroll and ratchet scroll mode of the mouse wheel.

Tracking on both mousepads was very good, but on the Titan, with its cloth weave, the G9x tracks very accurately, with the right amount of grip. At a sensitivity of 2,000 dpi or so, on the Destructor, the G9x seems a little too light-handed. It is accurate for the most, but pinpoint precision takes a toss. The Mamba is (slightly) better behaved when used on the Destructor, although on the Titan, things even out between the two mice. We found both grips to be good while gaming, although the precision grip is perhaps the more accurate one for gaming, probably to the marginal reduction in centre of gravity, and the fact that due to its smaller size, you can retain a better grip on the mouse, as



Logitech G9x

Mac not for gamers

Valve reports lower performance of games on Mac machines, awhile back they had launched games for Mac on Steam

Corsair's affordable SSD

Corsair's Nova series are aimed at value users. The cheapest one is only 69 US\$

it fits the palm slightly more securely.

Rs. 6,295 is a lot of dough to shell out for a mouse – the G9x brings a lot of features to the table however, and is a very useful productivity tool courtesy its ratchet scroll and side scrolling. Still, gamers who want bling have a large hunk of plastic that is passable looking at best.

Microsoft Sidewinder X5

At first glance the X5 looks like it was modelled after the batmobile. It's a mixture of curves and sharp angles, and when the twin lights that shine from recesses in the rear looks nice. The mouse feels much larger in hand than other mice, though is not uncomfortable for it. Quite the contrary, it feels substantial in-hand, although the slightly bulging rear can be felt in the centre of the palm, no matter how large your palm – this is something you'll have to adjust to. The sides of the mouse feature sharp recesses, but your fingers won't encounter these. There is a small LCD that displays the current dpi reading and a row of three buttons on the top, just behind the scroll wheel allow selecting between 400, 800 and 2,000 dpi. The visual indicator of the current dpi is a nice touch – kudos

to Microsoft for including it, other mice have a series of LEDs that illuminate in sequence – this isn't as intuitive. On the right side is the weight tray, it can hold up to three weights, and Microsoft provides six, three each of five and ten grams.

Surprisingly, the mouse doesn't handle very differently without/with weights. The extra buttons on the left side look like two round metal protrusions but are actually very comfortable to use. Being vertically stacked, they're actually (arguably) easier to use than the other horizontally stacked buttons. Your thumb is a little more comfortable when using these. Although large, the X5 is comfortable, and your right hand's ring finger will sit comfortably in the groove on the right side of the mouse. The thumb recess is smaller, but comfortable. The feet, that are Teflon, are little more than small discs with pegs that insert into the body of the mouse. You get three sets of feet – white, black and grey.

The X5 is pretty accurate and tracks well on the Destructor, but the slightly harder feet mean that it's better off being used on cloth-based surfaces. The Destructor's sur-



Microsoft Sidewinder X5

face feels a little abrasive for the X5, while on the Titan mat things are butter-smooth. Also on the substantial feeling of the mouse in-hand, gives a strange feeling of satisfaction, despite the slight bulge at the rear. Your fingers are completely stretched out on the mouse buttons and that feels pretty comfortable. At Rs. 3,184, the Sidewinder X5 is reasonably priced for the features it offers, although it's not the last word in terms of pin point accuracy – ultimately it vies with the G5, whichever way you go – you won't regret either.

Logitech G5

The new G5 features two thumb buttons instead of one, and has a matte finish on the body that is sweat and slip resistant. The G5 has a catchy design on the body and the mouse itself is very well contoured to fit right-handed people. In fact, the grip and shape is better than the G9/G9x, and the deep thumb recess is very comfortable. The only problem is that there is no contour for the right-hand ring finger and this finger will languish in the near vicinity of the right click. If you place your ring finger in the recess, your last finger will touch the mousepad surface.

The buttons have a very positive feedback. The thumb buttons are located ergonomically but this isn't as good as the vertical stack on the Microsoft Sidewinder X5. There is a small

backlit indicator for the current dpi setting. The scroll wheel has tilt functionality and this works perfectly, not once did we accidentally click the mouse wheel while side scrolling. The G5 has the DPI change buttons beneath the scroll wheel, the MX518 had them in a one up, one down position. The G5 also misses the document flip button than the MX518 has – we wonder why Logitech digressed here.

Large feet give the G5 a very precise feel on nearly both our mats. The G5 feels right at home on the Destructor – and tracking is very accurate, at 800 dpi (which many gamers use), you will not notice a difference between this and the Logitech G9x or Razer Mamba. Due to the higher acceleration, initially one might feel the G5 to over track slightly, but once you get used to the extra glide, things settle down. On the Titan mat, the G5 feels accurate and precise, but with slightly less acceleration than on the Destructor, obviously the cloth on the Titan providing more purchase. The mouse has a nice weight that feels just right, a weight tray is provided with additional weights – the G5 allows finer tuning than the G9x, as the weights are 1.7 and 4.5 grams. Even fully loaded the G5 doesn't feel very heavy.



Logitech G5

HOW WE TESTED

We used the Razer Destructor and Everglide Titan gaming mats to check all the mice. The PC used to check these mice consisted of a Core 2 Duo Q9650 CPU, ZOTAC GTX 285 graphic card and 4 GB of OCZ RAM. A display with a resolution of 1680 x 1050 pixels was used. Besides features and ergonomics, we tested these mice for comfort and customisability. For the test, we used two

games – *Quake III Arena* and *Warcraft 3: The Frozen Throne*. The first is one of the quickest first person shooters around and the second is one of the most fast paced real time strategy games you will see. We tested the mice for accuracy, speed and glide on different surfaces. Acceleration, response, negative acceleration and over tracking were all considered for accuracy and a final rating was given.

Intel's workstation monster

Intel has readied a 10-core Westmere chip for use on servers

Bulldozer's beans to spill

AMD to unveil Bulldozer architecture soon, but they claim it's a new approach to multithreaded computing

Game peripheral test

With a plethora of features, some of which are useful to office users (like the side scroll), the G5 is a very good mouse and offers better precision and glide than the MX518 that has smaller feet. The price tag of Rs. 3,395 is surely not cheap, although experience tells it can be had for much lower on the street.

Logitech MX518

Is there any correct way to introduce a legend? If this isn't apt, please forgive, but some five years ago, the original MX518 changed the Indian gamers' perception of what a gaming mouse should be like. From a fraternity used to 400 dpi el-cheapo mice with tracking systems reminiscent of tortoises running on ice, we finally got, what was, back then, the holy grail of gaming – a useable, practical, accurate gaming mouse. The MX518 has paved the way for gaming mice in the country, and till today, it remains a competitive piece of gear, albeit overshadowing from some younger, better hardware-bearing competitors.

The surface is shiny, and from experience it wears well. The MX518 has a nice soft scroll wheel with a nice positive click. There's no side scroll, one of it's only glaring omissions. On account of this, the scroll wheel is slightly receded into the body of the mouse, whereas on the G5 it protrudes a bit more. The mouse buttons are comfortable.

The MX518 tracks very well on the Titan – accuracy is spot on. On the Destructor, we were expecting a mixed bag,

since the MX518 has very small feet. However, if anything, the MX518 glides with even less impedance than the G5 on the Destructor's surface. Accuracy goes up a notch too, since there is virtually no resistance to mouse movement, nor is it slippery enough to cause over tracking.

Priced at Rs. 1,795, and with market prices in the range of Rs. 1,300 or so, the MX518 is reasonably affordable for nearly anyone who has a decent computer. We'd call it "the gaming mouse of the masses" but even hardcore gamers will not be disappointed.



Logitech MX518

Steelseries Ikari

At first glance the Ikari is attractive and will grab attention due to its rather unique shape. The sides are muscular, the right side even more so, reminiscent of the wide wheel arches of the Bugatti Veyron. The sides are finished in matte, sweat resistant black and the top is a glossy steel grey. The mouse has a low profile, a welcome relief from Logitech's higher designs, although neither feels better or worse, and one can get accustomed to either.

In-hand feel is very good, the Ikari is comfortable, although for larger handed folk the body might seem a little small, owing to the lower profile, and parts of your palm and fingertips might trail on the mat

surface. The thumb recess is decent, not excessive. The brilliance however, lies on the other side. The huge bulge on the right is actually tailor-made for the ring finger and provides a comfortable expanse to rest it. Unlike the Logitech mice, where sometimes, the last finger touches the mousepad, there's smooth sailing here. The DPI toggle button is on the top and well located, and there is a backlit indicator to the two dpi toggles. Mousewheel click is positive, but feedback is absent. The mouse buttons have a positive click, but button travel is minimal – this isn't good or bad, just different – you just feel the click more on Logitech mice.

The Ikari tracks well on the Titan mat and is pretty accurate, but on the Destructor, we see a barely perceptible slower tracking, this causes a bit of under tracking, especially when fast tracking is desired, for example changing direction in a first person shooter game. At such times, one prefers the hairline greater accuracy of the G5 and other laser mice, we feel the surface of the destructor isn't very conducive to the infrared sensor on the Ikari, though strangely the MX518 had no such issues. If you're not into playing twitch-action games like *Quake III Arena*, you will hardly notice this issue. We didn't perceive a problem when playing *Warcraft 3*, that is a lot slower, but also has a lot of mouse movements and accuracy is important for moving



Steelseries Ikari

and selecting troops.

With an MRP of Rs. 2,999 the Ikari is clearly costlier than the MX518. It also feels better in-hand, and is more comfortable, and this coming from people used to Logitech mice is high praise indeed. If the thumb recess were a bit deeper, it'd be perfect, but for the price, you can get better hardware, for just a bit more.

Steelseries Kinzu

At first glance the Kinzu looks like what it is – a cheaper variant of the Ikari, aimed at the not-so-serious fragger. Although the shape isn't very ergonomic it's not uncomfortable, although we miss the finger caressing contours of the more upmarket mice. It's also terribly small, and only slightly larger than a medium sized notebook mouse – not something many gamers will like, although we wonder if female gamers find regular mice too large; in such cases this might be right up their alley. The entire top has a nice anti-slip grip. The mouse feels very solid, but this is also in part, due to its smaller size.

The DPI switch button is on the top, and looks identical to the Ikari, but there's no indicator. The mouse wheel is a simple, plastic affair, but its action is solid and the click is pretty positive. The left and right click on the mouse is better than the Ikari – more feedback and travel. The cable on the Kinzu is a lot thinner than the Ikari – as expected.

Contact list

Brand	Phone	Email	Website
Roccat	+91-731-307 6869	saurabh@mihiretech.com	www.roccat.org
Razer	-	-	www.razerzone.com
Logitech	+91-22-2657 1160	kavita_nath@logitech.com	-
Microsoft	+91-124-415 8000	-	-
Steelseries	+91-22-2611 3055 / 5524	mumsales@faxtelindia.com	www.faxtelindia.com

iPad sales reach 3 million

Apple sells its three millionth iPad, after just 80 days of its inception into the market

AMD recognises Stereo 3D

AMD/ATI has acknowledged Stereo 3D which was first hyped by their competitor NVIDIA and they claim it is here to stay

Gaming Mice

Model	Logitech MX518	Steelseries Kinzu	Razer Deathadder	Steelseries Ikari	Microsoft Sidewinder X5	Logitech G5	
Price (Rs.)	1,795	2,299	2,801	2,999	3,184	3,395	
Plus (+)	Good performance, cheap	Compact, good performer	Great shape	Very comfortable, accurate	Unique shape, buttons	Great features & performance	
Minus (-)	Less features	Shape, features	Slightly expensive for features	Slightly pricey	Pricey for features	Harder feet	
Features (Out of 50)	25.60	22.79	30.38	32.16	29.00	34.70	
Performance (Out of 50)	36.25	33.13	36.56	36.25	33.75	37.50	
Grand Totals (Out of 100)	61.85	55.91	66.94	68.41	62.75	72.20	
Features							
Sensor dpi	1800	3200	3500	1600	2000	2000	
Type of Sensor	Infrared	Infrared	Infrared	Infrared	Laser	Laser	
Wired, wireless, both	Wired	Wired	Wired	Wired	Wired	Wired	
Number of Extra / programmable buttons	3	1	3	3	4	3	
Mouse wheel click (Y/N)	Y	Y	Y	Y	Y	Y	
Mouse wheel tilt (Y/N)	N	N	N	N	N	Y	
Mouse wheel free spin/ratchet mode (Y/N)	N	N	N	N	N	N	
On the fly DPI changing	Y	Y	Y	Y	Y	Y	
dpi indicator	N	N	N	Y	Y	Y	
Polling rate switching without driver	N	N	N	N	N	N	
Lighting	N	N	Body, mousewheel	N	N	N	
Onboard memory (for profiles) (Y/N)	-	Y	Y	Y	N	Y	
Cable quality / sheathing	Elastomer	Cloth mesh	Fibre	Cloth mesh	Elastomer	Cloth mesh	
Usability (So 10)							
Fit and feel in hand	7.5	4.75	7.5	8	7	7.5	
In-hand comfort	7.5	5	8.5	8.75	7	7.5	
Grip	7.25	6.5	8	7	7	7.5	
Ergonomics of additional thumb buttons	6.75	-	7.25	7	7.5	6.75	
Build quality (So 10)	8	7.5	7.25	7	7	8	
Wireless Mice							
Battery indicator (Y/N)	-	-	-	-	-	-	
Li-ion / pencil cells	-	-	-	-	-	-	
Spare battery provided (Y/N)	-	-	-	-	-	-	
Charging dock (Y/N)	-	-	-	-	-	-	
Charging during use (Y/N)	-	-	-	-	-	-	
Performance (So 10)							
Tracking accuracy (on Destructor)	7.25	6.75	8	7	7.25	7.5	
Tracing accuracy (on Titan)	6.75	7	7.75	7	7	7.25	
Grip/slip (on Destructor)	8.25	6	6	7.25	5.75	8	
Grip/slip (on Titan)	6.75	6.75	7.5	7.75	7	7.25	
Accessories	-	-	-	-	Weights	Weights	

The Kinzu is very accurate, and in the day and age of 5,600 DPI sensors that, for some, are more about marketing hype and numbers rather than the actual experience, the Kinzu showed us that despite its light on-paper specifications, it had the guts to hang with the best... err costliest. On the Destructor, tracking is accurate, although mouse acceleration isn't as good, and you'll constantly feel in need of more speed when quickly panning. The feet also make a slight grating sound, although this isn't as bad as the Sidewinder X5. But the Kinzu

on the Titan, is even more accurate, although we found the Titan to be somewhat sticky at first. You need to use a marginally more muscle power to move the mouse. The feet on the Ikari offer much better glide.

Priced at Rs. 2,299, the Kinzu is expensive, more than



Steelseries Kinzu

what we'd be willing to shell out, especially when the Logitech MX518 is available for a lot less. It's not something we'd recommend, the Ikari makes a better buy for Steelseries fans.

Razer Emperor

The emperor is a sexy customer. At first feel the Emperor seems to fit ones hand better than the Mamba, this is because the Mamba has more generous bulge near the thumb portion of your palm. In-hand, both feel equally comfortable, but with radically different shapes

and thus, a different feel. The Emperor is a wired mouse, and well built. It has the more traditional Razer logo glowing on the palm rest, unlike the Mamba, where the bling was omitted to, no doubt, save battery life. Although it looks a lot smaller to the eye, the Emperor is a hairsbreadth smaller than the Mamba in-hand. But the difference is minimal. The thumb buttons are adjustable in that you can choose to physically shift them forward or backward using a switch on the bottom, this is to adjust their location to coincide with

NVIDIA GF104 is odd

NVIDIAs GF104, of which initial pictures have leaked on to some websites, has a very odd shape

Apple sues HTC again

Apple has piled on the hurt on HTC with four more infringement suits to add to the twenty already filed

Game peripheral test

Razer Emperor	Roccat Kova	Razer Orochi	Logitech G9x	Razer Mamba
3,999	4,250	4,999	6,295	7,999
Beautiful, supern performance	Great looks, performance	Wireless, compact	Configurable	Wireless, superb performer
Pricey	Expensive	Expensive	Expensive	Expensive
29.51	31.03	20.25	36.46	29.23
39.69	38.44	35.00	38.75	39.69
69.20	69.46	55.25	75.21	68.91
5600	3200	4000 / 2000	5700	5600
Laser	Infrared	Laser	Laser	Laser
Wired	Wired	Both	Wired	Both
3	5	5	3	3
Y	Y	Y	Y	Y
N	N	N	Y	N
N	N	N	Y	N
Y	Y	N	Y	Y
N	Y	N	Y	Y
N	N	N	N	N
Wheel	Sides	-	N	Wheel
Y	N	Y	Y	Y
Cloth mesh	Fibre	Cloth mesh	Cloth mesh	Cloth mesh
7.75	6.75	6	7	7.5
8	6.25	6	6.75	8.5
7.75	6.5	5.5	7.5	8
6.75	7.5	5.25	6.5	7.25
6.75	8.5	6.5	7.5	7.25
-	-	N	-	Y
-	-	Pencil cells	-	Li-ion
-	-	N	-	-
-	-	N	-	Y
-	-	N	-	Y
8.25	7.75	7.25	8	8.25
7.5	8	6.5	7.5	7.5
8.25	7.5	7.25	8	8.25
7.75	7.5	7	7.5	7.75
-	-	Detachable cable	Li-ion battery, weights, two add-on bodies	Li-ion battery, dock, detachable cable, battery bay cover



Razer Emperor

Sunday afternoon siesta, and sharp enough for the baddest frag-fest around. Yours for Rs. 3,999, a fair chunk of dough, for a fair hunk of a mouse...

Razer Deathadder

We received the left-handed version of the Deathadder, but we figure its performance would be indicative of the right-handed version too. The body shape is similar to the Mamba, and the shiny black sides match the matte black top well. The top has the same sweat-resistant finish that has become popular among gamers. The Teflon feet are grey coloured, unlike the other Razer mice that have black feet. They're also slightly harder to feel. The mouse wheel is made of a translucent material and is lit probably with an embedded LED. While the cool blue colour looks

good and matches the backlit, pulsing Razer logo on the top, we feel that this borders on being loud, and preferred the Mamba and Emperor – these only have two narrow strips of light on the edges of the mouse wheel.

Tracking with the Deathadder can be a handful. This is because there is no dpi adjusting except through software; the typical hardware on-the-fly buttons are missing. This is a



Razer Deathadder

minus to be sure, since the default speed is pretty high. The thumb buttons are large and ergonomically shaped but the location of the rear button is such that you'll have to

bend your thumb quite a bit to reach it; this is not comfortable. The body of the mouse is, however, very comfortable and has a good in-hand fit. Tracking on the Destructor mat isn't smooth, this is because the Deathadder has the older type of harder Teflon feet that do not match with the Destructor's harder surface. The Deathadder does much better on the softer, cloth-based surface of the Titan, it's very accurate, and the Titan grips the feet well, allowing the mouse to exhibit a lot of control.

Roccat Kova

This is a mouse with radically different space-age looks. It's angular, and the body silhouette looks more like a sports car than a mouse, but it's not uncomfortable to hold. The Kova is built extremely well with solid plastics. Twin lights at the back pulse and change colour in sync with two narrow strips of light down the side of each mouse button. The Kova is a smaller mouse than most, and will be a tad uncomfortable for gamers with larger hands.

There is a slight recess for your thumb but this isn't a big deal and will not really help you rest your thumb or take some weight off your wrist. There's an upside to this – the Kova is ambidextrous. The low design also takes a lot of strain off the wrist.

the pad of your thumb. These thumb buttons are clicky and harder than the butter-smooth buttons on the Mamba. They're also smaller, although usability doesn't suffer.

There is a scallop for your thumb, unlike the Mamba, and this feels a lot more comfortable and is essential, for the Emperor is a mouse that will need to integrate with your thumb to make up for the natural flare that the Mamba has at the rear to fit a larger palm. Overall, the Emperor is very comfortable, and our only qualm is the missing side scroll. Dare we

dream for a ratchet mechanism to the scrolling, like Logitech has?

Tracking on the Destructor is perfect. The Emperor tracks smoothly and accurately with nary a hint of lag or over tracking. Acceleration is brutal, but controlled, and with no loss in accuracy if you suddenly decelerate. The Mamba in wired mode performs similarly. For some reason, the Mamba felt a little smoother gliding on the Destructor mat.

The Emperor is everything you wanted in a gaming mouse – it's comfortable enough for a

New 128 GB flash from Toshiba

Toshiba has unveiled a 128 GB NAND flash memory module

Intel for more cache

Intel is looking to increase the amount of cache on their processors once again; cache levels haven't changed much since Core 2 Duo

The thumb buttons add to the beauty of the design, and they're large, therefore easier to use. The mouse buttons exude good feedback. The sides of the mouse have a surface that grips the hand well and resists sweat – a boon. The feet on the Kova feature the same soft-feel Teflon that the Razer mice have. Thanks to this, the Kova has a good balance of grip and slip, although its smaller size can occasionally cause it to behave less than optimally, however, this is something your hands need to adjust to, after using mice like the Mamba. Accu-



Roccat Kova

racy on Roccat's own Sense mat was very good – great acceleration and a near-perfect mix of grip and slide. The Kova also tracks well on the Destructor, although it tends to slide just a bit more than we'd like it. We feel this is due to the initial resistance when moving the mouse that causes one to put a bit extra effort, once the mouse gets moving, it glides smoothly, almost too smoothly.

The Titan proved stickier, and we found that overtracking was less of a problem as the mouse glide was more controlled and acceleration was also reigned in. Priced at Rs. 4,250, we found the Kova a bit costly, we're told that Roccat is a European company so the costs involved are higher. Regardless, the Kova is a very good mouse, but we feel Razer's and Logitech's designs are designed with a little more comfort in mind.

Razer Orochi

The Orochi has been designed to straddle an interesting divide – notebook users and gamers. After using it as both a gaming mouse and a notebook mouse we feel it's equally suited to both roles, although the fact that it doesn't go all the way in either direction is ultimately its biggest hurdle. The mouse is reasonably well built and suitably compact for notebook purposes. It does get heavy when populated by two AA batteries, but most will not mind, because this gives some much-needed stability. The body of the mouse slopes forward and from a raised rear. This is good because the raised portion fits your palm giving a slightly more substantial in-hand feeling. The mouse can be used wirelessly or with a USB cable that is also bundled. When powered by two AA batteries, the Orochi becomes heavy, but not uncomfortably so, actually the in-hand feel is nice.

Even though its small the mouse fits even medium-large hands well owing to its width and the raised rear. Being a Bluetooth mouse, you save a USB port. The wheel has a nice positive click, as do the buttons, a pity Razer didn't add a tilt feature for the wheel that is invaluable for most users. Scrolling is very accurate gamers will not complain. The feet provide the right balance between slip and traction on good surfaces. On the Destructor the Orochi is very behaved, and mouse acceleration is good. The feet are larger than those on the Mamba and Emperor but made of the same soft-feel Teflon. There are four additional buttons on



Razer Orochi

the mouse – two on the left, two on the right. The ones on the left are useful although not the most ergonomically located; the ones on the right are absolutely useless – and little more than decoration – using them is pretty difficult, especially if you're gaming. Actually, the only reason the buttons are present on the left is that, the Orochi is intended to be ambidextrous – this will be of significance to left-handed gamers.

Overall hardcore gamers will look at bigger mice for better control, while notebook users might want something with more features, making the Orochi an expensive option, (Rs. 4,999), straddling two usage patterns.

MOUSEPADS

Some might question the sanity of buying a discrete gaming mat,

although any gamer worth his DX11 graphic card will scoff at the very notion of using cheap mousepads. Gaming mousepads are usually designed ground up for use with a particular series of mice. The surface is typically larger, since while gaming there's a lot more mouse movement. The surface is also made of special materials that offer the perfect balance between slide and grip, of course this is optimised for a particular type of mouse, as different mice have different feet. If you are wondering whether a gaming mat is for you or not, the answer is simple – if you're serious about gaming and comfort, you'll consider one. It also ensures your pricey mouse gets comfortable shoes for its feet, for poorly designed mats can damage or change the characteristics of the Teflon feet used on mice.

Razer Destructor

Razer is known for making gamers happy, and the Destructor seems like a worthy attempt. It's a deviation from the soft, cloth-based, foam-backed surfaces we're used to seeing. Instead the Destructor has a hard surface that has just enough texture to be termed as "unsmooth". In fact the texture is similar to very fine sandpaper – although it's not abrasive to your fingertips. There is a thin layer of soft rubber on the rear side of the hard surface, and this provides excellent grip – the mat will not slide on the table, no matter how hard you try. The mat ships in a fancy, rigid zipper case that should easily protect it from most wear and tear.

While testing we couldn't help but notice how wide this mat is – great for gaming, where mouse movements are erratic and sudden and the travel distance is a lot. Tracking is very, very accurate, and this is not something limited to Razer mice. We found even Logitech's MX 518 and G500 gaming mice tracked wonderfully on this surface, although coming from a cloth-weave-based gaming mat you'll need to adjust to the relatively higher acceleration and slightly lower initial resistance that the surface provides. However, accuracy is not sacrificed over speed making the Destructor a truly killer prospect for the competition. We also tried Razer's own Mamba and Emperor mice on the Destructor, and are pleased to report very good results. The slightly harder Teflon feet on the Deathadder are not as conducive to the slide on the Destructor, but the Mamba and the Emperor glide effortlessly, and despite the slickness there's accuracy when you want it.

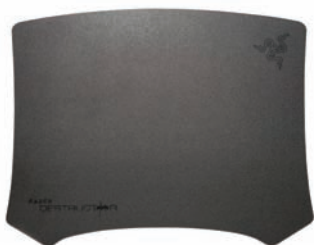
Phenom X6 shortage?

AMD is reportedly running short of 6-core silicon – chip shortages spells doom for motherboard makers too!

Sony – autostereoscopic sucks

Sony claims autostereoscopic vision has limitations and they believe the Nintendo 3DS is a weaker device for this feature

Game peripheral test



Razer Destructor

The surface is easier to clean than cloth weaves – a nice plus. Additionally it seems to wear well, although we've hardly used it long enough to comment on longevity. Just make sure it's cleaned well, because any dust causes it to lose grip, and causes erratic mouse movement. Cloth mice have gaps between the weave that fill with dust, there's nothing of the sort here, a wipe with a smooth cloth and you're done. Its well suited to FPS games and RPGs fans alike; the price of Rs. 2,599 is expensive for some, but it's an excellent product. We haven't used this long enough to comment.

Razer Vespula

Razer's Vespula has roughly the same contours as the Destructor, though it is a lot smaller. Build quality seems top notch and the Vespula is a rigid mat. The actual body seems to be made of hard, yet slightly flexible fibre, to which are attached, two mouse surfaces – one on each side. This mousepad is two sided, (as you

may have guessed), and both sides have rubber feet on all four corners to keep it from moving around. This is no cloth surface. Rather the material as described by Razer is an abrasion-resistant hard coat. One of the surfaces on the Vespula is a smooth finish, while the other side has a noticeably more abrasive surface. The smooth surface is called "glide" by Razer, while the other, rougher one is known as "control".

While Razer advertises that these surfaces wear well, and we have no doubt that they do, such surfaces usually wreak havoc on the Teflon feet of the mice. We tried a variety of mice on the Vespula and needless to say it's a pretty decent performer. The surface of the Destructor is actually slap bang in between these two surfaces – it's smoother than the control, but rougher than the glide. The Mamba performs well on the Vespula, a very smooth experience – effortless gliding on the smooth surface. The mouse acceleration is also good, but not erratic. The Destructor might be a little more precise, but there's a hairsbreadth separating the two. Interestingly, the Logitech mice, particularly those with the older, harder Teflon feet make a noticeable sound when moving on both surfaces, whereas the Mamba and Emperor do so silently.



Razer Vespula

The Logitech is also quite accurate on both surfaces, but with the scratching sound. Mouse acceleration is not as good as the Razer mice. The Deathadder feels even rougher than the Logitech G5, since it too, features the same old mouse feet.

Priced at Rs. 1,999, the Vespula is a good buy considering you essentially get two micepads for the price of one. However, both surfaces are quite different, and it's only gamers that would appreciate and utilise the differences fully. Beware though, for the rougher of the two surfaces could well affect longevity of your mice's feet.

Roccat Sense (Glacier Blue)

Roccat's Glacier is a huge mat, measuring 480mm x 280mm. It features a more traditional cloth surface. Roccat claims to use a microcrystalline coating on the surface that increases smoothness by reducing friction between the Teflon feet of the mouse and the surface of the pad. The

rear is rubber that offers superior grip on any surface, meaning your mat will not slide around despite frantic mouse movements.

Initially, the Mamba seemed to track freely on the Sense. After the first minute of use, we found the cloth surface, although smooth to offer marginally more initial resistance, especially when movements are slow and deliberate.

Twitch movements are fast, and response is immediate. In fact, with fast movements slight overtracking happens. We tested this with the Mamba at 2,000 dpi and found the mouse pointer tends to overshoot the target; it's almost like once the initial friction is over, the mouse glides like butter. The Logitech G5 also worked nicely on the Sense – good accuracy, and there's marginally less of a problem with initial resistance. Once you get used to the characteristics of the Sense, there are virtually no problems, however, like all cloth mice, you need to ensure the surface stays clean and doesn't pick up dust. One plus is, the surface seems to be more tightly woven than the surface of the Everglide Titan. It's also a thinner mousepad, this is important, since you wrist is marginally lower, decreasing strain and also affecting human performance favourably.

Priced at Rs. 1,399, the Sense is rather affordable, though anyone but gamers will gawk



Roccat Sense (Glacier Blue)

at this statement. Those wanting unerring accuracy and tracking might prefer the Destructor, since that seems to favour the Razer mice, endowing them with a good mix of speed, accuracy and seamless movement. For many, the slight initial resistance will not be felt, but the discerning few might want to check the Sense out, before buying it. **d**

Gaming surfaces			
	Roccat Sense	Razer Destructor	Razer Vespula
Price (Rs.)	1,399	2,599	1,999
Plus (+)	huge size, very thin	Accurate, large	Dual sided
Minus (-)	tougher to clean	Expensive	Abrasive to mice feet
Features / Specifications			
Dimensions (mm)	480 x 280	350 x 280	300 x 240
Thickness (mm)	1.35	2.3	4
Surface material	Micro-fibre weave	Fractal (hard fibre)	Hard fibre surface
Bundled packaging	Barrel container	Hard carry case	—
Performance (So 10)			
Tracking	8.5	8.5	8.25
Accuracy	8.5	8.75	8.5
Acceleration	6.75	8	8
Glide	7.25	8.5	8.25

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Yes the cynic in you must be dying to say "who watches DVDs anyway".

But believe it or not - and the connoisseurs would agree with this one - there is no other way to really enjoy a good film other than on a DVD player connected to a large screen LCD. Though many of us do watch movies on a largish computer screen, the kind of immersive experience a player and home theatre combo can give remains unmatched. You can sit back, relax and take

in the experience with friends and family. Besides, you can't put a price tag on the value of touch and feel and the ownership of a sizeable DVD collection.

The product landscape has changed a lot since the last time we did this comparison test. When USB support was an exception, now it has become the norm. Additional features such as CD ripping, subtitle support and copying from disk have increased the functionality of these players. Furthermore, Blu-ray players have under-cut the 10k price point, which makes them an

amazingly viable option for upping your taste for HD entertainment. For this comparison we got our hands on five Blu-ray players and eight DVD players

DVD Players

We received players from four popular brands that represented a cross section of everything available in the market - from basic functionality to the whole bells and whistles. Every brand had a couple of low end offerings and one high end model with a slightly enhanced price tag and some more features thrown in - such as maybe an HDMI connect.

Performance

When you look at a buying decision quality is and should be your topmost concern. The lower end products although cheap were not at all good when it came to rendering video, which is what a DVD player should do in the first place. Soyer, a relatively lesser known brand sent us three models. They come with a warranty and figure in the same league as Moserbaer i.e. a little better off than unbranded Chinese stuff. The Soyer 3203C and D2601 were very little apart from each other in terms of performance. They did however look dis-

Sit back, relax!

Connected to a decent TV, DVD players can be more fun than you'd imagine. Besides, isn't it time you took a serious look at Blu-rays as a viable option?



Interface pictures

Want to check out what the interfaces of these players look like? We've put them up for you on www.thinkdigit.com/d/playerinterface



Toshiba's Libretto W100

Toshiba is releasing a limited edition dual screen concept PC called Libretto W100 to commemorate its twenty-five innings in the notebook sector

DVD player test



Onida HDR-5522 Atom

tinctively different. All three players from Soyer were below Rs. 2000, which is considerably cheaper than any of the other players including the sole offering from Moserbaer - MBI K666AMU. Speaking of Moserbaer the video performance and user interface was dismal. The colours were washed out and when dealing with fast motion, you could see horizontal lines forming every now and then. Which is to say that the performance was exactly at par with the Soyers mentioned earlier.

A surprising performer however was the Soyer 338MC. It had an improved remote, a slightly more visually appealing UI and great performance for a player depending on component output. We found the colours rendered by this player to be vivid. Our yardstick for this was the initial part of our test scene from the movie *Crash* - very few players were able to reproduce the reflections on the car window and the motion, but this one did a decent job of it. Looks wise the player was nothing to write home about but a nice little discovery was the covered USB port. A thoughtful feature for most households here where dust is a constant menace. We looked at video quality from USB too. Apart from the Philips players,

this little guy was next best at upscaling those standard 700MB movie files. The price to performance ratio was good enough for it to emerge as our best buy for this test.

The Philips players were priced rather high and scored considerably higher on performance parameters. The Philips DVP 3588 not only looked stunning with its brushed metal body, it exhibited exceptional video performance too. The front of the player



Philips DVP3588

was crafted in such a way that the LCD display lit up from behind a brushed metal finish translucent panel.

This way the information displayed on the eight-segment style LCD looked like it was etched on the body itself and when it was off it looked showed off a singular finish. It was one of two DVD players to have an HDMI out. The other one being the Onida Atom. The Philips DVP 3588 clearly was the better performer. Speaking of Onida players the pricing and quality difference between the two players was unusual. The one with HDMI out was priced only Rs. 100 above the one without the HDMI out

(DFX-5979) while the performance divide was much greater - over 15 per cent. Who'd buy the DFX-5979? We would certainly not recommend it.

The Atom on the other hand is a decent looking player with good DVD performance for Rs. 3,590. It's got a piano black finish, touch sensitive buttons and a curvy form factor. The only place it falls short compared to the Philips players was USB playback which was below par.

Features

Features really helped players stand out from each other especially in the lower range where performance was pretty much the same - equally good or equally bad - whichever way you looked at it. Players this time around, upped the ante to include a host of features such as CD ripping, copying from disk, greater file sup-

port and hindi language support. We also considered the User Interface as part of the

feature comparison because after all if you're actually going to use the enhancements such as picture slideshows, or music playback, the interface needs to be user friendly. The Philips players were distinctly ahead of the rest in terms of features. For instance, their on screen display showed a lot of detail such as bit rate of the file being played, the time left for movie,

for chapter etc. However we'd have liked a progress bar but somehow no DVD player was able to incorporate it. Many of the lower end players came with memory card support, Philips players however lost points for not including the same on their offerings. The UI of most players looked like it came from the same mould. For browsing content on flash drives the players recurred every item be it songs, movies or pictures into a single folder making finding a particular item a total nightmare. On the other hand the Philips players and surprisingly the Soyer 338MC had a combination of tree/folder structure browsing and browsing by item type.

The DVP 3568 was the budget offering from Philips. It had great upscaling on DivX video and all the features of its elder sibling such as media copy, CD ripping, and hindi interface. The only things where it fell a little short were the HDMI out and .wmv support. For a component based player the pure DVD playback quality was excellent. If you like the like the aesthetic appeal of this Philips player and the usability of a great UI we'd recommend it as a good buy for a price of Rs. 4,299.

Our best buy again was a surprising performer in the features department. Without mincing words we can safely say that the Soyer 338MC is a cheap player. And yet it comes with nice features such as CD rip-



Soyer 3388MC

BEST PERFORMER
digit
JULY 2010

BEST BUY
digit
JULY 2010

Contact sheet

Want to get these players? We've put up the contacts for these companies at www.thinkdigit.com/d/dvdcontacts



Record and preview in 3D

Hammacher Schlemmer have started selling a 3D camcorder, capable of recording 3D video at 640 x 480 pixel resolutions following which users can see the 3D content without wearing 3D glasses

ping at 320kbps and a UI that allows tweaking of parameters such as hue, contrast, sharpness etc. A worthy buy for a throw away price of Rs. 1,699.

Blu-ray Players

Blu-ray players are a different league of HD entertainment. The kind of crystal clear pixel for pixel reproduction that this format offers has to be truly experienced to be believed. Blu-ray players have a native output resolution of 1080p. Besides stunning visual performance, BD players come with BD Live - a content service that allows your player to download value added features based on the title you're playing. Now, although we have been featuring BD players in Bazaar from time to time, this is the first time they've been pitted against each other in an all out comparison test.

Performance

When it comes to strictly Video performance or playback quality there is really a very minute discernible difference between the players. In fact to an untrained eye viewing on a low end LCD screen the difference will not be noticeable at all. Having said that, we used one of the better displays we had for this one and used a variety of scenes to be exactly sure of quality with respect to colour depth, motion blurring, film grain, and other parameters. The performance of BD as well as DVD was considered. Not surprisingly, Blu-ray players were not backward compat-

HOW WE TESTED

For this test a focused attempt was made to completely rid the process from subjectivity and reviewer's bias. Apart from quality, each and every feature, however small, was tested for efficiency and given a score. Manufacturers often push the envelope of technology to come out with features that end up becoming points on the specs sheet and in reality don't work as intended. Weights were given to quality of video both on the player and via USB. Similarly codec/format support was an important consideration. We hooked up players to the Samsung 32 inch LED, a TV that scored pretty high on our LCD TV test last month. The various motion smoothing options such as motion plus and sharpness enhancement were turned off.

DVD Quality: Obviously, this component was given the maximum weightage on our value calculator for DVD players. We used an average score from three of our favourite movies this time - *Good Will Hunting*, *Crash* and *Reservoir Dogs*. In *Good Will Hunting* we observed the colour depth of city life in general while playing the "Crusin for a bruising" scene. For *Crash* the

climactic scene titled "A Really Good Cloak" was used to get an idea of the sharpness and motion sensitivity. The Title Walk scene in *Reservoir Dogs* gives an idea of how players handle film grain.

Blu-ray Quality: This test was the most fun, because we really couldn't get tired of the movies we chose - *Iron Man* and *Dark Knight*. An average score of three scenes was calculated.

USB quality and format support: Players do promise DivX playback via USB but do they do a good job of upscaling? That's what we rated the players on. Besides DivX, if a player supported a greater range of file formats it got a higher score.

Product Design and Appearance: Design is not just about looks. Players which had buttons that are hard to reach or USB ports that are on the side or worse, exclusively at the back were given a lower score. A certain percentage was given to looks in terms of how it would look as part of a typical home set up. You wouldn't want something that's too jarring in this respect.

Connectivity: Being able to

connect your TV to your player and sound system easily is what we were looking for. Composite, Component, 5.1 channel audio ports and HDMI ports were the most looked for. Having HDMI connectivity is a great as it eliminates the use of RCA and composite cables or component connectivity as both audio and video are passed through one cable. All the DVD players we tested came with USB ports and most of them also came with memory card support. This is a big advantage as you can watch movie straight off your pen drive or browse pictures off a memory card.

Miscellaneous parameters: The thumb rule is "The more features the better", but with a caveat - they should work as promised. We also placed a good amount of weightage on ease of use. The ease of use comprised of the menu system interface, the ease of use of the remote, and the UI used to browse content from USB. We found that UIs that had a mixture of folder structure and sorting by content type were the easiest to use. We tested audio playback using 320 kbps MP3 tracks to evaluate how the players handled highs, mids and lows.

ible with VCD - clearly a dying format, which for obvious reasons we did not include in the test criteria even for pure DVD players.

When we were testing the players we actually found that there are two distinct



Philips BDP 7500

Buying Reckoner

You want	Go for
The best value for money DVD player that has a decent performance + features mix, and doesn't burn a hole in your pocket.	Soyer 338MC
A DVD player that gives the best performance and feature set in this category	Philips DVP 3588
A DVD player which is affordable and offers great video performance thanks to an HDMI out	Onida HDR-5522 (Atom)
The best value for money Blu-ray player that offers excellent video performance and an unusually large amount of features such as internet content.	Sony S-370
The best performing Blu-ray player that money can buy.	Philips BDP 7500



Phone or Camera?

Altek Leo smartphone offers a 14 MP camera with 3x optical zoom and runs on Android 2.1



YouTube Video Editor

YouTube announced a bare bones cloud based video editor for basic editing options for users uploading videos on the site

DVD player test

DVD players

Brand	Onida	Onida	Soyer	Soyer	Soyer	Philips	Philips	Moserbaer
Model	DFX-5979	HDR-5522 (Atom)	D2601	3203C	338MC	DVP 3588	DVP 3556	MBI K666AMU
Price (Rs.)	3,490	3,590	1,699	1,499	1,699	5,999	4,299	3,790
Grand Total (Out of 100)	63.44	74.19	69.55	60.91	69.88	85.49	80.23	63.31
Features (Out of 30)	17.7	20.1	19.35	14.25	18.6	22.95	19.65	18.45
Performance (Out of 70)	45.74	54.09	50.2	46.66	51.28	62.54	60.58	44.86
Performance								
Time taken for DVD to load (sec)	12.55	13.81	10.34	14.29	11.48	13.69	10.98	14.44
Video Performance (So 10)								
USB Video Quality (Avg)	5.75	5	4.5	3.5	4.5	7.5	7	5
DVD quality (Avg Score)	5.5	6.27	5.83	5.5	6.17	6.83	6.35	5.5
Audio & Photo Quality (So 10)								
MP3 (320 kbps)	6.5	7	4	4	6.5	8	8	6
Photo Quality (JPEG)	4	6.5	5.5	4	5.5	6.5	6.5	4
Misc. performance								
Forward / Rewind speed	32x	32x	20x	32x	20x	32x	32x	1x- 4x Jump
Slideshow quality	2	4.5	3.5	4	3.5	5	5	2
Design	3	7	6	5.5	5.8	8	7	4.5
Build quality								
- Buttons (remote + player)	3	6.5	5	4.5	5	7	7	3
- Tray	6	6	5	5	6	7	7	6
- Body	4	6	5.5	5.5	5.5	7	7	5
Ease of use								
-System UI	4	5	5	4	5	7	7	4
-Remote	3	5.5	5.5	5.5	5.5	6	6	5
-Ease of browsing USB content	2	2	5	2	5	8	8	2
Features (Y/N)								
-Progress bar	N	N	N	N	N	N	N	N
-Playback speed options	1/16x	1/16x	1/7x	N	1/7x	1/16x	1/16x	N
-AV Sync	N	N	N	N	N	200ms	N	N
-Copy from disk	N	N	N	N	N	Y	Y	N
-Internet content (Y/N)	N	N	N	N	N	N	N	N
Audio CD Ripping	N	N	Y	N	N	Y	Y	Y
Parental Lock	Y	Y	N	Y	Y	Y	Y	N
Formats Supported								
Audio	mp3	mp3	wma, mp3	wma, mp3	wma, mp3	wma, mp3	mp3, wma	wma, mp3
Video	DivX	DivX	DivX	DivX	DivX	wmv, DivX	DivX	DivX
Still Image	Jpeg	Jpeg	Jpeg	Jpeg	Jpeg	Jpeg	Jpeg	Jpeg
Connectivity								
Audio Connects (Y/N)								
Separate RCA (Stereo)	Y	Y	Y	Y	Y	Y	Y	Y
5.1 channel	Y	Y	Y	N	Y	Y	Y	Y
Coaxial (SP/DIF)	Y	Y	Y	Y	Y	Y	Y	Y
Optical	N	Y	Y	Y	Y	N	N	Y
Video Connects (Y/N)								
S-Video Out	Y	Y	Y	Y	Y	N	N	Y
Composite Out	Y	Y	Y	Y	Y	Y	Y	Y
Component Out	Y	Y	Y	Y	Y	Y	Y	Y
HDMI Out	N	Y	N	N	N	Y	N	N
Miscellaneous Connects (Y/N)								
USB	Y	Y	Y	Y	Y	Y	Y	Y
SD/MMC/MS reader	Y	Y	Y	N	Y	N	N	Y
Bundled Cables	AV Cable	AV Cable	AV Cable	AV Cable	AV Cable	HDMI, AV Cable	AV Cable	AV Cable

The undeniable king of performance was the Philips BDP 7500. It outperformed every other player in almost all criteria. It features 7.1 channel outputs which is rarely seen. It handles upsampling very well and DVDs too look fantastic. Priced at Rs. 24,990, this beauty features a thick brushed-aluminium chassis and appears solid enough to be used as a weapon should the need arise.

Unlike other players this player had the tray in the center. Switch on the player and its visual appeal goes up a notch (if that's possible) thanks to the soft blue glow it emanates underneath. It's performance score goes up even further thanks to the ease of use of the menu system and playback quality of video via USB. The Sony player (S370) was a very unique machine. It performed better than its younger sibling S360 which we'd tested back in December 09. Each of the Philips players (BDP 3000 and BDP 7500) as well as the Sony S370 are winners deserving winners of the awards they received. The LG and Onida players were mediocre in the least and disappointing in some cases too. Take the case of the Onida player (BDX 1110) - while the Blu-ray performance was only slightly lower than the other players, the DVD performance was abysmal. There was distinct framing coupled with horizontal lines appearing during fast motion scenes, making the performance lesser than half the

playback styles. One can be called the Sony philosophy and the other would be the Philips way of rendering video. Sony video playback is vivid with high contrast and overemphasis on film grain. This makes the images abso-

lutely sharp, in fact one might say a little too sharp at times. The Philips way of rendering video laid more emphasis on more natural colour tones for instance skin tone was near perfect. The image is sharp but not grainy.



Sony S370



Logitech Revue

Google TV box will officially be called Logitech Revue and it combines web access, cable/satellite content, apps and video calling on the TV itself

Blue-ray players

Brand	LG	Philips	Philips	Sony	Onida Blu-ray
Model	BD370	BDP 7500	BDP 3000	S-370	BDX 1110
Price (Rs.)	20,890	25,990	8,990	9,990	13,990
Grand Total (Out of 100)	70.9	78.7	73.1	80.3	71.2
Features (Out of 30)	18.3	16.65	14.25	21.75	16.05
Performance (Out of 70)	52.6	62.0	58.8	58.6	55.1
Performance					
Load Time					
Time taken for DVD to load (sec)	10.63	8.19	8.29	9.9	10.41
Time taken for Blu-ray to load	17.96	19.03	17.8	16.51	24.1
Video Performance (So 10)					
USB Video Quality (Avg)	6.5	7.8	7	7.5	8.3
DVD quality (Avg Score)	6	7.5	7.5	7.333333333	5.666666667
Blu-ray Quality (Avg Score)	6.67	7.83	7.83	7.50	6.77
Audio & Photo Quality (So 10)					
MP3 (320 kbps)	7.5	7.5	7.5	7.5	7
Photo Quality (JPEG)	7	7	7	7	7
Misc. performance					
Forward / Rewind speed	16x	32x	32x	3x	128x
Slideshow quality	6	8	8	8	7
Design	6	8.25	6.75	7.5	6
Build quality					
- Buttons (remote + player)	6	7.5	7	7.5	6.5
- Tray	7	7.5	7	7.5	6.5
- Body	7	8.5	8	8	7
Ease of use					
-System UI	7	8	8	8	7
-Remote	6	7	7	5	6.5
-Ease of browsing USB content	7	8.5	8.5	8	7
Features (Y/N)					
Progress bar	Y	Y	Y	Y	Y
Playback speed options	N	1/16x	N	N	N
AV Sync	N	N	N	120 ms	N
Copy from disk	N	N	N	N	N
Internet content (Y/N)	Y	N	N	Y	N
Audio CD Ripping	N	N	N	N	N
Parental Lock	Y	Y	Y	Y	Y
Formats Supported					
Audio	wma, mp3	wma, mp3	wma, mp3	mp3, m4a, wma, wav	mp3
Video	AVCHD, mp4, mkv,	H.264, DivX Ultra, AVCHD, wmv, XviD	DivX	mkv, mp4, m4v, m2ts, mts, wmv, asf, DivX, AVCHD	mp4, mkv, divx
Still Image	Jpeg	Jpeg	Jpeg	Jpeg	Jpeg
Connectivity					
Audio Connects (Y/N)					
Separate RCA (Stereo)	Y	Y	Y	Y	Y
5.1 channel	N	Y (7.1)	N	Y	Y
Coaxial (SP/DIF)	Y	Y	Y	Y	Y
Optical	Y	Y	N	Y	Y
S-Video Out	N	N	N	N	N
Composite Out	Y	Y	Y	Y	Y
Component Out	Y	Y	Y	Y	Y
HDMI Out	Y	Y	Y	Y	Y
Miscellaneous Connects (Y/N)					
USB	Y	Y	Y	Y	Y
SD/MMC/MS reader	N	N	N	N	N
Bundled Cables	HDMI, AV Cable	HDMI, AV Cable	HDMI, AV Cable	HDMI, AV Cable	HDMI, AV Cable

pure DVD players tested. The load time was also the highest recorded across all BD players. The LG player was a little better at video but had a price tag of Rs. 20,890 that was unusually discordant. One credible fact about the Onida was that it presented perhaps the best USB playback in the test and superb file format support, playing even played mkv and mp4 files flawlessly.

Features

Again features was the absolute differentiator here. The Sony S370 for example was packed to the brim with additional features. Heck even the box came with two BD titles thrown in. The interface as expected was the one found on all Sony devices these days, called the XrossMediaBar interface. The feature right punch which this player packs makes it a cross between a standalone media player and one in which you can pop in disks whenever you want to. Now, having an ethernet port on a player is not a major event anymore since BD Live is incorporated on most Blu-ray players, but the unique thing about this player was that it was able to pull content from a hoard of different web sources such as YouTube, blip.tv, Daily Motion, eHow and many more. The only other player to feature web content was the LG BD370 but strangely with a singular source - YouTube.

The Sony would also look up additional info on DVD titles via Gracenote. The player is Wi-Fi ready (using a dongle) and can be controlled via an iPod. All of these and a good price of Rs. 9,990 earn it the Editor's Pick award in this category. It lost the Best Buy award by a whisker (an index score of just 0.95) to the Philips BDP 3000 which gained a few points for a slightly superior video performance and a cheaper price of Rs. 1,000. **d**

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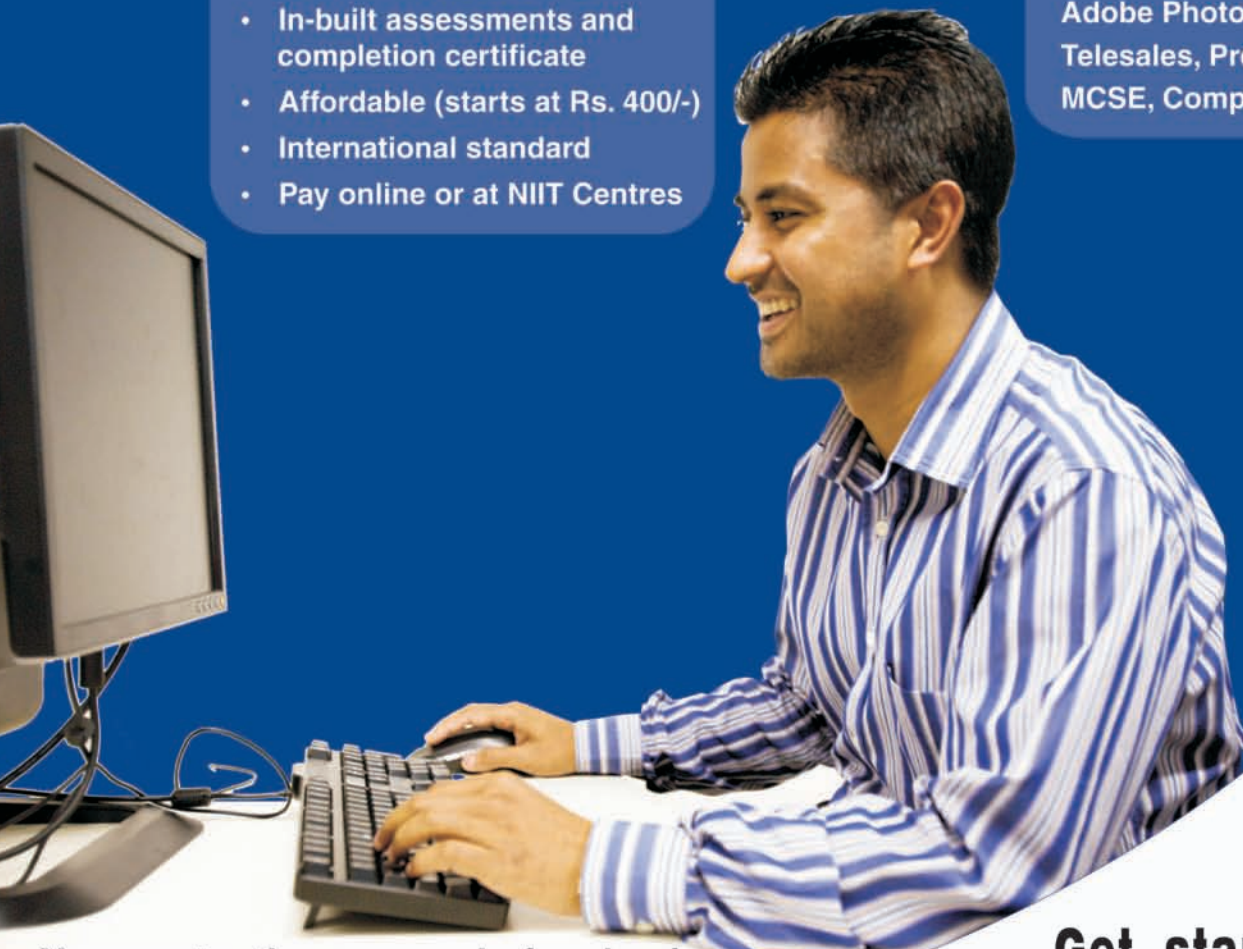
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Hard drives

Agent 001

agent001@thinkdigit.com

Hard drives have gone through yet another refresh with capacities doubling and prices plummeting. With Blu-ray writers and media still out of reach, hard drives are still the solution a lot of us go with when it comes to taking backups. My friends have been bugging me to find some good quotes on drives as well. So I decided it was time to go hunting for some drives.

Street shopping's the way

Now hard drives aren't something you expect to find neatly stacked in shelves when you walk into a large mall. The faithful Lamington road or your local computer hardware street is where you should land up first. I made my way to a few local shops to start my investigations. I was clear about what I wanted - I was looking for internal hard drives for my desktop and also my laptop.

Most of my friends wanted large capacity drives for storing movies and games installations. They are non-believers in DVDs and drives are the way to go according to them. I started asking around at shops for 1.5 and 2 TB drives. The drive market in India is dominated by Seagate and Western Digital. Its been done to make things simpler for the customer but brands have tried to categorise drives into performance and reliability. WD's Green drives seemed like the ideal line of drives for those who want a secondary drive on their drive to dump data on. Some of my friends even had plans to dump the data on the drive and keeping it aside. When I asked for prices, I was surprised to see 2 TB prices down to Rs. 6,400. When drives in excess of 1 TB started becoming a common sight in the market, 1.5 TB and 2 TB drives were still beyond the reach of many.

Now, 1 TB is a bare minimum anyone should go for. It also happens to be the

best value-for-money capacity. The price of a one terabyte 7200.12 series drive from Seagate for example is just Rs. 3,400. For most of us, this should suffice for games and other media such as movies, music and photos. A WD Caviar Green drive of the 1.5 TB capacity costs Rs. 5,000. Prices are competitive. There was only a difference of Rs. 100 - Rs. 150 between the WD Green series 1.5 TB and Seagate 7200.12 1.5 TB, with the Seagate being the cheaper of the two.

When budget is important

There were a few requests for the cheapest SATA drives available. The Seagate 250GB drives were well under Rs. 1,750. These are good for those setting up many cheap systems for offices and cybercafes. There are even some IDE drives available in the market. Don't consider them, but those using even older systems buy these. I could only find drives starting from 80 GB to 250 GB from Seagate and Samsung. Prices are a lot higher though. If a SATA WD 250 GB costs Rs. 1,750, then an IDE drive would be Rs. 3,000 or so. Maxtor, (for those who don't know), isn't available anymore and Hitachi isn't pushed by vendors.

I had to ask for the price of the the WD Velociraptor. It was a little more difficult to find than the other drives. It's a performance drive but the price is a little difficult to digest. After much difficulty, I found the drive for Rs. 13,000 for the older 300 GB version.

SSDs are slowly entering the market but they're still not mainstream. They're cooler than standard hard drives but they are way more expensive. For the price of two, 2-terabyte drives, you could buy one 64 GB SSD. For most people, it's hard to justify the cost. Kingston and Intel SSDs are the ones I saw. Intel's old 80GB SSD



This month, Agent 001 hunts down colossal drives and gives you his trusted advice

was priced at Rs. 15,400. When I asked the shopkeepers, they didn't really seem very interested in selling these products. Only some shops had

these drives and these were normally the shops enthusiasts and gamers would go to buy hardware. Some of the shops imported a few models from some brands. We found SSDs from brands like Corsair and G.Skill. Prices were more or less similar. There were also some brands called Solidata. They had a 64GB model priced at just Rs. 9,900 which was a lot less than the other brands. Most of the SSDs were of the 2.5-inch format and there are converters available to make the 2.5-inch drive fit into a 3.5-inch bay. Price for this attachment is Rs. 800.

Laptop hard drives are also getting popular. Replacing laptop hard drives isn't complicated anymore. People with laptops running on small 80GB drives can now upgrade to 320, 500 GB and these days even 750 GB drives. We see quite of these drives from Seagate and WD in the test centre. I looked around for the largest laptop 2.5-inch SATA drive. The shopkeeper told me that a Seagate one would cost Rs. 3,200 - not too bad for a large capacity drive. IDE drives of the same capacity will be around twice the price of SATA drives. 750 GB drives were not to be found but we should see them in the next month or so.

I decided to pick up a Caviar 1.5 TB for the HTPC and compiled a list to mail my friends from my cell phone while I left Lamington Road. It was pleasing to see drives at such low prices and the possibility of setting up a RAID array using fast drives was exciting.

One thing's for sure, if you're looking to buy drives, there couldn't be a better time. If you were thinking SSDs instead of hard drives, you'll have to wait for now. **d**

Safari 5.0

Safari 5.0 has been released, boasting of greater speed, a new JavaScript engine called Nitro, among other changes

Speak/write no evil

The judiciary body in the Netherlands has ruled that even speaking or writing about piracy is illegal

Agent 001

Q Suggest a good configuration for a desktop PC around Rs. 32,000, not more. I have the following configuration in mind:

- CPU – i3 core Intel
- Intel DH33 Motherboard
- 2x2 GB DDR3 RAM Kingston
- 500 GB HDD SATA
- MM Keyboard & Mouse iBall / Logitech
- B2030 LCD Samsung
- 22x DVD Writer Samsung / LG
- Cabinet SMPS iBall
- GeForce 9600 / 9800 NVIDIA

Deepak

A That's a decent configuration, but since you're not into gaming, or haven't mentioned thus, you can do better. I recommend this:

AMD Athlon II X4 630 (Rs. 5,050), Gigabyte MA78GM-US2H motherboard (Rs. 4,200), 2 x 2 GB DDR2 800 MHz RAM (Rs. 4,500), Seagate 7200.11 500 GB (Rs. 2,800), Monitor AOC 2236Vw (Rs. 8,400), Zebronic Antibiotic cabinet (Rs. 2,100), VIP Gold 400W PSU (Rs. 850). It's a much better system for general purpose computing. Just plonk in a GeForce 9600GT later and you'll have a decent gaming setup, but the board has integrated graphics as well.

Q I have the following configuration

- CPU – Core 2 Duo E6750 Extreme
- Motherboard – Asus P5N-D SLI (NVIDIA 750 SLI)
- RAM – Corsair XMS2 running at 800 MHz DDR2
- Graphic card – MSI NX8800GT
- SMPS – Coolermaster 650W
- LCD – Samsung 19-inch

I plan to buy a new graphic card based on NVIDIA with DX11 in mind. I have a budget of Rs. 10,000 – 12,000. Is it worth buying a DX11 card, will there be many DX11 games coming this year? Should I get a GTX 260? Should I get a Core 2 Quad as my motherboard supports it? Will it be worth it, as I come from a very middle class family and don't want to spend 10,000 on a processor for a mere 3-4 fps gain?

A This totally depends on you, personally I would look at my monitor first. At 19-inches, and a resolution of 1440 x 900

pixels, I don't think a high-end GPU is needed. Ditch the idea of the new CPU – it's a waste in your case. I'd go with a Radeon HD 5770, or a Radeon HD 4850 and save some cash. These cards should be priced at Rs. 9,000 and 7,000 respectively.

Q My present system configuration:

- AMD Phenom II X4 955 BE
- Gigabyte 785GMT-USB3
- 2 GB DDR3 Corsair RAM
- WD Blue 500GB
- Corsair VX450W

Can you please suggest a graphic card considering my above configuration? Maximum budget is 18k. Will I need to change my power supply?

Rohit Bedekar

A For 18K, I recommend a Sapphire Radeon HD 5850. Although invest in at least a 22-inch monitor to make it really worthwhile, else your card will not break a sweat. It should be priced at the 18K mark, and the Corsair VX 450 should be able to run it. I also suggest upgrading your memory to 4 GB, as and when your cash reserves permit.

Q I want to buy two LCD monitors. One is 15" monitor for office use. One is 22"/24" monitor for home use. Budget for 15" monitor is Rs. 5,000. Budget for 22"/24" is Rs. 15,000.

So please suggest two monitors 15, 22, and 24-inch. Also suggest which monitor will be better for movie watching 22" or 24". Thank you.

Rohit Bedekar

A For a 15-inch monitor you can go with the Acer X163w, it's 15-inches and a widescreen, available for Rs. 4,500. For a budget of Rs. 15,000, you can pick up a 24-inch monitor. I recommend the Dell S2409W for Rs. 13,200 – well within your budget.

Q I'm interested in buying a mobile for around 20 –25K and am a bit more confused as to which mobile I should buy that basically serves all my needs. As I need to install as many 3rd party application into it. I have been using Symbian S60 v3 for past 3 years now and that is the best software considering the non touch phones

as its ability to install 3rd party apps and multitasking, but I'm not fascinated by the touch UI that the Symbian is providing in its touch phones. My problem is that should one wait for Symbian^3 (Nokia N8) as the videos look promising or should I opt for Motorola Milestone (Android 2.1/2.2)?

Yesterday, I read the news that Samsung is also introducing its new s/w BADA and 2 new handsets are also coming one with the BADA OS and the other Android 2.1 and up-datable for 2.2.

I'm really a big Nokia fan. So, should I consider the Android OS?

Rohit Taneja

A Nokia's are solid phones, but I feel you might have to move on, if touch functionality is what you're looking at. If you must look at Nokia, I don't recommend a touch screen. Look instead, at the Nokia E72. The Motorola Milestone is a good phone, but the QWERTY is pretty useless. The HTC Desire is good. But I do not think these cellphones are within your budget of Rs. 25,000. If you have a budget of Rs. 35,000 or so, then suddenly you have a lot of choices – including the HTC Touch HD2, that has an incredible screen.

Q I want to buy HP Photosmart Premium C309 which is a type of all-in-one printer scanner copier. It comprises of two models, HP Photosmart Premium C309G and HP Photosmart Premium C309H. I want to know the difference between them and also the best price and the place where I can get it and your reviews. When I goes to dealer in Nehru Place on 23/05/2010 they say the above model is not available and we didn't hear about it but I had seen the reviews of it in your website reviewed on December 22, 2009.

Gaganjot Singh Virk

A I checked, the website still shows both models as active. Since they're belonging to HP's Premium all-in-one series, that is not much promoted here, it's possible these vendors don't have it. Why don't you visit HP's website and check out their toll free number for guidance, as to where you can purchase these models. Please write back and let me know what they say. **d**

Eagle Eye

Department of Homeland Security is developing camera surveillance which uses Image Stitching technology and can be used to monitor 360 degree view

Price watch

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Processors

Model	Brand	Market Price	Socket/Interface	Brief Specs	Tested in
Sempron 140	AMD	Rs. 1,810	AM3	2.7 GHz / single core	September 2009
Athlon II X2 240	AMD	Rs. 3,000	AM3	2.8 GHz / dual core	September 2009
Athlon II X2 245	AMD	Rs. 3,175	AM3	2.9 GHz / dual core	-
Phenom II 550	AMD	Rs. 4,830	AM3	3.1 GHz / dual core	September 2009
Phenom II 555 BE	AMD	Rs. 5,250	AM3	3.2 GHz / dual core	-
Athlon II X3 425	AMD	Rs. 3,700	AM3	2.7 GHz / 3 cores	-
Athlon II X3 440	AMD	Rs. 4,600	AM3	3 GHz / 3 cores	-
Athlon II X4 630	AMD	Rs. 5,250	AM3	2.8 GHz / 4 cores	-
Phenom II X3 720 BE	AMD	Rs. 6,450	AM3	2.8 GHz / 3 cores	September 2009
Phenom II X4 945	AMD	Rs. 7,750	AM3	3 GHz / 4 cores	September 2009
Phenom II X4 955 BE	AMD	Rs. 8,400	AM3	3.2 GHz / 4 cores	September 2009
Phenom II X4 965 BE	AMD	Rs. 9,430	AM3	3.4 GHz / 4 cores	September 2009
Phenom II X6 1090T	AMD	Rs. 15,999	AM3	3.2 GHz / 6 cores	June 2010
Celeron 430	Intel	Rs. 1,890	LGA 775	1.8 GHz / single core	-
Pentium Dual Core E5400	Intel	Rs. 2,900	LGA 775	2.6 GHz / dual core	September 2009
Core 2 Duo E7500	Intel	Rs. 5,150	LGA 775	2.93 GHz / dual core	-
Core 2 Quad Q8400	Intel	Rs. 8,100	LGA 775	2.66 GHz / 4 cores	September 2009
Core i7 920	Intel	Rs. 14,100	LGA 1366	2.66 GHz / 4 cores	September 2009
Core i7 930	Intel	Rs. 14,800	LGA 1366	2.8 GHz / 4 cores	-
Core i7 980 Extreme	Intel	Rs. 58,000	LGA 1366	3.33 GHz / 6 cores	April 2010
Core i3 530	Intel	Rs. 5,850	LGA 1156	2.93 GHz / dual core	-
Core i5 661	Intel	Rs. 13,500	LGA 1156	3.33 GHz / dual core	May 2010
Core i5 750	Intel	Rs. 10,400	LGA 1156	2.66 GHz / 4 cores	-
Core i7 860	Intel	Rs. 14,500	LGA 1156	2.8 GHz / 4 cores	-
Core i7 870	Intel	Rs. 27,400	LGA 1156	2.93 GHz / 4 cores	-



Motherboards

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Model	Market Price	Socket/Interface	Brief Specs	Tested in
ASUS P6T Deluxe	Rs. 20,450	LGA 1366	2x PCIe x16, 8-channel audio, 8 x SATA ports	September 2009
ASUS Rampage 2 Extreme	Rs. 24,500	LGA 1366	2x PCIe x16, 8-channel audio, 8 x SATA ports	September 2009
ASUS Rampage 2 Gene	Rs. 16,400	LGA 1366	2 x PCIe x8, 8 channel audio, 6x SATA ports	-
Gigabyte X58 Extreme	Rs. 21,200	LGA 1366	2 x PCIe x16, 8 channel audio, 6x SATA ports	September 2009
Gigabyte X58 UD5	Rs. 17,100	LGA 1366	2 x PCIe x16, 8 channel audio, 6x SATA ports	September 2009
MSI X58 Pro-E	Rs. 11,300	LGA 1366	2 x PCIe x8, 8 channel audio, 6x SATA ports	September 2009
Gigabyte P55 UD6	Rs. 17,100	LGA 1156	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 8x SATA ports	October 2009
ASUS P5P55-D	Rs. 9,750	LGA 1156	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	October 2009
Gigabyte P55 UD7	Rs. 19,400	LGA 1156	1x PCIe x16, 3x PCIe x8, 8 channel audio, 8x SATA ports	June 2010
MSI P55 GD65	Rs. 9,100	LGA 1156	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	October 2009
ECS P55-HA Black	Rs. 8,900	LGA 1156	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	April 2010
MSI P45 Platinum	Rs. 9,100	LGA 775	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	September 2009
ASUS P5Q	Rs. 8,500	LGA 775	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	-
ASUS P5Q3 Deluxe	Rs. 13,500	LGA 775	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	September 2009
ECS AB 890GXM-A	Rs. 7,100	AM3	2 x PCIe x16, 8-channel audio, 6x SATA ports	April 2010
Gigabyte 890GPA-UD3H	Rs. 7,900	AM3	2 x PCIe x16, 8-channel audio, 8x SATA ports	April 2010
ASUS M4A78STD-V-EVO	Rs. 6,500	AM3	1 x PCIe x16, 8-channel audio, 6x SATA ports	-
ASUS M4A78T-E	Rs. 8,800	AM3	2 x PCIe x16, 8-channel audio, 6x SATA ports	-
ASUS M4A79T-DELUX	Rs. 13,100	AM3	2 x PCIe x16, 8-channel audio, 8x SATA ports	September 2009
Gigabyte MA78GMT-USB3	Rs. 5,950	AM3	1 x PCIe x16, 8-channel audio, 6x SATA ports	-

Ebay acquires RedLaser

Bar code scanning app RedLaser for the iPhone developed by Occipital will be acquired by Ebay

Price watch



Power supplies

Model	Price	Tested in	Capacity	Modular
Cooler Master Real Power Pro 460W	Rs. 3,705	-	460W	N
Cooler Master eXtreme Power 650W	Rs. 4,200	-	650W	N
Cooler Master GX 550W	Rs. 4,500	March 2010	550W	N
Cooler Master GX 650W	Rs. 5,500	-	650W	N
Cooler Master GX 750W	Rs. 6,500	-	750W	N
Corsair HX 750	Rs. 8,800	-	750W	Y
Corsair HX 850	Rs. 10,100	January 2010	850W	Y
Corsair HX 1000	Rs. 13,500	-	1000W	Y
Corsair CX400W	Rs. 3,200	September 2009	400W	N
Cooler Master UCP 1100W	Rs. 15,650	-	1100W	N
Corsair HX620W	Rs. 7,650	-	620W	Y
Corsair TX650W	Rs. 6,700	-	650W	N
Corsair VX450W	Rs. 3,950	-	450W	N
Corsair VX550W	Rs. 5,700	-	550W	N
FSP Blue Storm Pro 500	Rs. 3,650	-	500W	N
Seasonic PS S12II-430	Rs. 3,850	-	430W	N
Silverstone 400W	Rs. 3,100	-	400W	N
VIP 600W	Rs. 2,900	-	600W	N
Zebronics Pro 600W	Rs. 4,000	-	600W	N



Cabinets

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Model	Price	Tested in	5.25-inch bays	3.5-inch bays	Bundled fans	Expansion slots
Antec Nine Hundred	Rs. 7,100	-	6	3	4	7
Antec NSK4400	Rs. 1,700	May 2008	3	5	1	7
Antec Three Hundred	Rs. 3,900	October 2008	3	6	2	7
Cooler Master 690 (with sidepanel)	Rs. 5,000	-	5	5	3	7
Cooler Master ATCS 840	Rs. 16,100	November 2009	6	7	4	7
Cooler Master Cosmos	Rs. 15,000	-	5	6	1	7
Cooler Master Elite 100	Rs. 3,100	-	1	1	0	0
Cooler Master Elite 310	Rs. 1,600	-	4	7	1	7
Cooler Master HAF 932	Rs. 10,000	-	6	6	4	7
iBall Baby 306	Rs. 2,000	-	1	3	2	0
Thermaltake Armor+	Rs. 13,700	-	7	7	3	10
Thermaltake Armor+MX	Rs. 7,800	-	5	5	3	7
Thermaltake M9	Rs. 4,800	-	6	3	2	7



Cell Phones

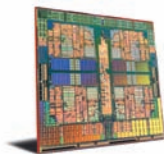
Model	Price	Tested in	Screen size	Camera resolution	Platform
HTC Hero	Rs. 26,500	February 2010	3.2-inch	5 MP	Android 1.5
HTC Touch HD 2	Rs. 35,000	-	4.3-inch	5 MP	Windows Mobile 6.5
LG KP500	Rs. 7,300	June 2009	3.0-inch	3.15 MP	-
Nokia E55	Rs. 17,000	-	2.4-inch	3.2 MP	Symbian S60
Nokia E63	Rs. 9,700	November 2009	2.36-inch	2 MP	Symbian S60
Apple iPhone 3G 16 GB	Rs. 35,500	June 2009	3.5-inch	2.0 MP	iPhone OS
Nokia E72	Rs. 19,500	-	2.36-inch	5 MP	Symbian S60
Nokia N97	Rs. 31,000	August 2009	3.5-inch	5 MP	Symbian S60
Nokia XpressMusic 5330	Rs. 9,000	-	2.4-inch	3.15 MP	-
Nokia XpressMusic 5800	Rs. 13,500	-	3.2-inch	3.15 MP	-
Samsung Omnia HD i8910	Rs. 29,500	December 2009	3.7-inch	8 MP	Symbian S60
Sony Ericsson Satio	Rs. 30,000	March 2010	3.5-inch	12 MP	Symbian S60
Sony Ericsson Yari	Rs. 12,800	February 2010	2.4-inch	5 MP	-
BlackBerry Bold 9000	Rs. 26,500	June 2009	2.4-inch	2 MP	BlackBerry OS

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PRIMARY COMPONENTS



PROCESSOR

- AMD Athlon II X2 240 / Rs. 2,900
- AMD Athlon II X4 630 / Rs. 5,050
- Phenom X4 945 / Rs. 7,600
- Intel Core i5 750 / Rs. 10,000
- Intel Core i7 960 / Rs. 31,100



MOTHERBOARD

- ASUS NVIDIA 7025 M2N68-AM / Rs. 2,250
- Gigabyte MA78GM-US2H / Rs. 4,200
- ASUS M4A78-PRO / Rs. 5,850
- Biostar Tpower P55 / Rs. 8,500
- ASUS P6T Deluxe V2 / Rs. 20,100



RAM

- 2 x 1 GB DDR2 800 MHz (Kingston) / Rs. 2,000
- 2 x 1 GB DDR2 800 MHz (Kingston) / Rs. 2,000
- 2 x 2 GB DDR2 800 MHz (Corsair) / Rs. 4,000
- 2 x 2 GB DDR3 1333 MHz (Kingston) / Rs. 5,100
- 3 x 2 GB Kingston HyperX T1 2,000 MHz / Rs. 17,600

GRAPHICS CARD

- None
- ZOTAC GeForce 9600GT / Rs. 4,750
- Sapphire Radeon HD 4850 / Rs. 6,900
- Sapphire Radeon HD 5850 / Rs. 17,500
- ZOTAC GeForce GTX 470 x 2 (SLI) / Rs. 46,000



HARD DRIVE

- Seagate 500 GB 7200.11 / Rs. 2,800
- Seagate 500 GB 7200.11 / Rs. 2,800
- Seagate 1 TB 7200.12 / Rs. 3,950
- Seagate 1 TB 7200.12 / Rs. 3,950
- WD Black Edition 1 TB x2 / Rs. 11,500



MONITOR

- ViewSonic VA1928wm / Rs. 7,900
- AOC 2236Vw / Rs. 8,400
- AOC 2236Vw / Rs. 8,400
- AOC 2236Vw / Rs. 8,400
- BenQ G2420HD / Rs. 12,500

CABINET



- Zebtronics Antibiotic / Rs. 2,100
- Zebtronics Antibiotic / Rs. 2,100
- CoolerMaster 690 / Rs. 4,400
- CoolerMaster 690 / Rs. 4,400
- Antec 900 / Rs. 6,500

SOUND CARD

- None
- None
- None
- None
- ASUS Xonar DX / Rs. 3,700



SECONDARY COMPONENTS

POWER SUPPLY



- VIP 350 Watts / Rs. 850
- VIP 400W Gold / Rs. 850
- Corsair VX450 / Rs. 3,800
- Corsair VX450 / Rs. 3,800
- Corsair HX850W / Rs. 10,100



SPEAKER

- None
- None
- Altec Lansing VS2421 / Rs. 2,200
- Altec Lansing VS2421 / Rs. 2,200
- Altec Lansing MX 5021 / Rs. 6,500



MOUSE



- Logitech 3 button scroll / Rs. 300
- Logitech 3 button scroll / Rs. 300
- Logitech MX518 / Rs. 1,300
- Logitech MX518 / Rs. 1,300
- Logitech G500 / Rs. 3,700



OPTICAL DRIVE

- LG H55N / Rs. 1,100
- LG H55N / Rs. 1,100
- LG H55N / Rs. 1,100
- LG H55N / Rs. 1,100
- ASUS BC-1205PT / Rs. 11,010

KEYBOARD

- Logitech Multimedia / Rs. 400
- Logitech Multimedia / Rs. 400
- Logitech Multimedia / Rs. 500
- Logitech G15 / Rs. 4,400

MISCELLANEOUS

TABLET



- None
- iBall Design Tablet PF1209 / Rs. 8,900
- Wacom Intuos4 Medium (PTK-640) / Rs. 21,280



MOUSEPAD

- None
- Razer Goliathus Speed (Oversized) / Rs. 1,400
- Everglide Titan / Rs. 1,650
- Steel Series QCK Heavy / Rs. 2,000



HEADPHONES

- None
- Sennheiser HD 201 / Rs. 1,500
- Sennheiser HD 280 Pro / Rs. 5,500



GAMING CONTROLLERS

- MS Xbox 360 Controller / Rs. 1,450
- Logitech Momo / Rs. 5,500
- Logitech G25 / Rs. 17,500



PRINTING SOLUTIONS

- Canon PIXMA iP1980 / Rs. 2,695
- Canon iP3680 / Rs. 5,595
- Epson B-500DN / Rs. 22,999



POWER PROTECTION

- None
- APC 550W / Rs. 2,400
- Numeric 1 KVA / Rs. 4,200

iPad fever

Apple has sold more than 3 million iPads in the first 80 days since it hit the market

BUYERS BE -AWARE

Shashank, a physically disabled person suffering from muscular dystrophy with great difficulty purchased an LG monitor from a reputed shop in Bangalore. Just two weeks thereafter when it was not switching on, he took it to the LG service centre and they said it's an imported monitor so they wouldn't be able to service it. Unable to understand that response, and despite the fact that the product was under warranty with a bill, he took it back to the shop from where he purchased it. The shop owner told him to leave the product with him for 10 days to find out as to what the warranty was all about. Later, all the seller had to say was that there was no warranty. The bill issued to him mentioned a box warranty, but on the box there was nothing mentioned about warranty at all. Finally, he was told by the service centre that the product is an imported one, therefore, he should speak to the company for a solution. The rest of the story is similar to what many of us face or might have faced after purchasing goods from reputed companies. The real question that we want to emphasise is not what should be done in such a situation, or what legal course we should adopt, but what we need to know to not let companies push us consumers around.

The role of a seller is more important than the manufacturer, as he enjoys profits from your purchase at his outlet. He has a legitimate duty to provide the best product with information beyond the advertisement and promotion of the product. A product purchased should be on the basis of description made by the seller and on the package or a display sign.

Anything contravening the promise made would amount to deficiency in service, which is a basic right. It is up to the seller to deal with complaints about defective goods or other failures to comply with your statutory rights under the Consumer Protection Act, 1986. So, do not accept the excuse "it's the manufacturer's fault". Your statutory

rights under the consumer protection Act, 1986 are additional to your rights under the manufacturer warranty.

If there is something wrong with what you buy, tell the seller as soon as possible preferably through a written mode via email or speed post or registered post. If you're unable to return to the shop or showroom within a few days of making the purchase, it's a good idea to call the shopkeeper and let him know about your complaint. Make a note of the conversation and to whom you spoke to.

The products you purchase should be of acceptable quality. They must meet the standard that a levelheaded person would consider as acceptable bearing in mind the way they were described, (especially by the seller), what they cost and any other relevant circumstances. This covers, for instance, the appearance and finish of the goods, their safety, and their durability, warranty and guarantee. Goods purchased must be free from defects, even minor ones.

You may be able to claim compensation if you suffer loss because of faulty goods. For example, if a faulty iron ruins your clothes. Likewise, Shashank can always claim compensation from the seller and the manufacturer for the loss incurred due to loss of business and time due to the faulty monitor.

Remember, rights under a warranty are in addition to your other statutory consumer rights granted under Consumer Protection Act, 1986. A warranty doesn't affect your legal right to reject a product that was faulty when you bought it and get your money back. But to avail this, don't delay your complaint for too long. **d**

Expert buying advice

Visit Consumermate.com for expert buying advice and comprehensive information on Laptops, Mobiles, TVs, Cameras and Camcorders

COMPLAINTS RECEIVED

Laptops

Case File #125

Facing problems with my Compaq laptop

My cousin bought a Compaq Presario v3225au two years back. He used it occasionally. I'm a student and used it more. Now I'm facing a problem of an irregular display. I came to know this series of notebooks have problems with the motherboard (phoenix). Can a company this big manufacture defective products? I'm also facing a severe heating problem. Kindly help me

Naresh Reddy

Answer by Consumermate

Dear Naresh,
You haven't mentioned about the warranty standing of your product. Legally speaking, there's no point in complaining about heating and other problems a few years after the warranty has expired. Once the warranty is over, the consumer is really helpless over product deficiencies. We suggest you get in touch with like-minded consumers facing the same problems. Thereafter you can pursue the matter collectively with the company to make an impact.

Case File #145

Dealer did not provide Dell Laptop carrying case

Recently I purchased a new Dell laptop from a dealer in Aurangabad, Maharashtra. The laptop costs around Rs. 37,000, but Dell has not even bothered to provide a good leather carrying case. I want a detailed and thorough investigation into the matter. Dell has not even provided their email ID to customers.

Prasad Deshpande

Answer by Consumermate

Mr. Prasad,
It entirely depends upon the scheme of the company and the final offer made by the dealer to you. You can write to the company asking for the current scheme. Once you get positive information from the company, thereafter you can file the complaint in the consumer forum asking for damages for the omission.

How I did it

The story of Manish Sabharwal, founder of hiring firm TeamLease

Adobe corner

We show you how to create an image gallery in ten simple steps using Adobe Flex 4

Nash David

nasb.david@thinkdigit.com

We'd heard a lot about directory services available over the phone. As the not-so-old legend has it, JustDial is just a phone call away. 8888888 got prefixed with the 2 we're all so familiar with in India. As business grew, they got

a new number 69999999. In case you're unable to remember the number, you're probably amnesiac! The next time you read this, you can find a doctor by calling JustDial rightaway or simply log on to www.justdial.com.

We met VSS Mani, Managing Director of JustDial. He's been asked about his remarkable journey through the years several times over, that he candidly confessed

he'd rather not talk about it. The reason, he says is that "it slows you down." "Continuously pondering over the past can be dampening. So I'll just tell you in brief about our journey and focus more on what we plan to do in the future," he adds. Keeping the long story short, he was born in a middle-class Tamil family based in Kolkata, completed his higher education in Delhi, before coming to Mumbai. He began his journey in 1989, by founding a company called Ask Me, which was also a directory service.

Fate had him on the wrong side of the tracks and he found himself slightly ahead of his time. After running the show for close to three years, Mani gifted his share of the business to his partner and shut shop.

Determined to start again and more importantly to succeed this time around, he returned to the *City of Dreams* in 1994. He recalls how people who heard of his service Ask Me, were unable to recall its

phone number. This was the first lesson Mani learnt. In his comeback, he told himself he wasn't going to bother about the name, but rather on the number. A couple of years later in 1996, Mani heard of a new telephone series in Kandivli, Mumbai. The exchange code was 888. That was it. He immediately met the MTNL General Manager and explained his business plan. As Mani puts it, "probably the guy was a good person who saw the honesty in me". Without any further questions, the General Manager allotted him the number. Not entirely convinced that it was just that simple, Mani asked him if he could give it in writing!

After taking his word at face value, Mani applied for the number and was assigned 888 8888. JustDial was born. The service was launched after setting up an office with borrowed furniture and computers.

Mani hasn't looked back ever since. On an average, JustDial.com has grown on an average of 55 to 60 per cent per year. In fact, despite investments by some prominent venture firms such as Sequoia Capital, JustDial hasn't utilised the invested capital yet. It has been a self-driven journey so far.

Sandipan Chattopadhyay, CTO, JustDial was equally enthusiastic of the way things connect at JustDial. He shared confidently that although he is the CTO of the company, he believes if their technology (read interface) is too complicated, then they have failed as a company.

An alumni of the Indian Institute of Statistics, Sandipan is *not* the typical nerdy professor you would encounter – he's absolutely enthusiastic and passionate about the data he handles. His passion for the numbers behind JustDial was quite evident in his eyes as he spoke. Incidentally, he's the brain behind financial portal moneycontrol.com.

Several professionals had written them off saying their model wouldn't work and that they'd need Oracle's database platform to handle the complex nature of their data. It was interesting to note how they were proven wrong by Mani when analysing data. For those of you who might be wondering, they run their enterprise on open source software. Their database with millions of records runs on MySQL and their terminals run on a customised



You no longer have to run around hunting for directory services. With Just Dial you're never out of reach of your answer

Adobe quizzed

Greg Rewis answers some uncomfortable questions about HTML5 and Apple

IE 9

The new edition of Explorer will feature audio and video tags and Canvas graphics technology under the still developing HTML 5 standard



Mani with his team of associates that take lakhs of calls each day

flavour of Ubuntu! JustDial has proven the capability of open source software. Red Hat Enterprise Linux powers more than 200 servers in Just Dial for its various intranet and extranet applications. "Three years back, our executives used to attend close to a total of 80,000 calls per day. That figure has crossed 250,000 as of today," said Sandipan. "Red Hat Enterprise Linux has helped us tremendously in serving our customers effectively, thereby achieving our business objectives quite rationally," he adds.

In addition to the current growth, Just Dial has ambitious plans to expand outside India and is banking on the underlying

technology to attain such dream. "We are soon launching our services in the U.S. and in a span of two to three years we will be opening our franchisees in 40 to 45 countries," said Sandipan. Red Hat, along with other open source solutions, has helped Just Dial to maintain such a high growth by providing a robust technology backbone. "Our business has always been continuously expanding and without open source in general, and Red Hat in particular, we could not have scaled with that growth," he says. At the time of going to print, JustDial was awarded the Prestigious Red Hat Innovation Award in the 'Carved out Costs' Cat-



Prof. Sandipan Chattopadhyay with the team that handles the newly launched US services

egory. This award recognises Just Dial for innovative use and technical achievements, with Red Hat's open source solutions.

All the growth has not only created wealth for its founders, but also for its employees. According to Mani, "By way of competitive salaries and stock option plans, people have earned well at this place."

At the time of going to print, JustDial was awarded the Prestigious Red Hat Innovation Award in the 'Carved out Costs' Category. This award recognises Just Dial for innovative use and technical achievements, with Red Hat's open source solutions. **d**

**3M India
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SEBI
HSBC
NSE
Barclays
Stumpp Scheule
GE Money
Religare Realty
ITC Maurya
Hyatt Regency
Taj Lands End
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Partial List

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Women criticised more

A study conducted by TeamLease shows that 66 per cent of the urban office work force feel that women are criticised more than men for their dress sense

Tech cos hiring

Get your resumes ready this June and July, because all the major Tech companies are in hiring mode



Photograph by Gireesh GV

To the business born Manish Sabharwal wanted to build a company that was profitable, fun and good for India—and he's done that with TeamLease.

Putting Indians to work

As told to Pooja Kothari
readersletters@thinkdigit.com

I was born and brought up in Kashmir. My dad was in the police force and worked for the Jammu and Kashmir cadre. We barely moved out of Srinagar, except when he served at the Indian embassy in the US for a few

years. I guess I get my interest in public policy making from my dad's vocation.

I was schooled at Mayo College in Ajmer. That's where I met Mohit, my co-founder and director at TeamLease. From there, I moved to Shriram College of Commerce in Delhi, where I met my roomie Ashok Reddy, also co-founder of Teamlease, and now its

He started out to build a business, only to wade into a raging public policy debate. He has locked horns with the government on labour laws and has defied everyone who predicted that his company, TeamLease, would be put out of business. That's Manish Sabharwal, the 39-year-old chairman of India's largest temporary-employment company, in a nutshell. The man fancies himself more as a crusader for labour reforms than as a business owner. And there are reasons to believe that. The company he has built has hired one person every five minutes for the past five years. His recent acquisition of the Indian Institute of Job-Oriented Training, a vocational training provider, is aimed at making India employable. Sabharwal won't stop till he becomes India's largest private employer with a million people on his rolls

Indian Cos retain better

Indian companies are very good at retaining employees for long periods of time, according to a new study. Employees in the IT sector can expect hefty increments this year

Feature

managing director. I joined the Nagarjuna Group in Hyderabad in 1990, and moved on with Nrupender Rao a year later, when he left to start the Pennar Group. I was his executive assistant and that proved to be the turning point in my life. I got a close view of what an entrepreneur was capable of doing, the change he was capable of triggering.

Rao made me come to an important realisation—entrepreneurs are not born. They are made. I think role-model entrepreneurs do much more to spark off entrepreneurship than any education. People like NR Narayana Murthy and Nandan Nilekani can change the limits of your thoughts and show what's possible.

I knew then that I was going to be an entrepreneur. Soon after, I incorporated my company, India Life, and went off to Wharton to study management. I got professors from there involved in my business. Most people want to make it to a business school to get a lucrative job. They have the math all wrong. A business school is like intellectual wine-tasting. These places are the best incubators in the world; the alumni, the professors and the resources for developing a business plan are just amazing. I think people should go to a business school, write their business plan, find an investor and come out ready to execute. That's what I did. I found the View Group at Wharton, and got USD\$2 million to start a health insurance company. That morphed to pension fund management, and then, finally to pension fund administration, before becoming an outsourcing company that was bought out by Hewitt in 2002.

As the clauses with Hewitt would have it, I spent the next two years in Singapore managing their Asia outsourcing business. Every Monday, we would be locked in a conference where everybody could say no and nobody could say yes. As soon as the lock-in period ended, I called it quits and relocated to Bangalore. After all, the king of a small kingdom is still a king.

We had built and sold a company. That gave us enough credibility to start the next one. We knew what we wanted our next company to be—profitable, fun and good for India. Thus, was born Team-

Lease, India's first temporary-employment company. We have hired someone every five minutes for the past five years. So we consider ourselves good for India. We are profitable. And we have had fun.

As a company, we bring rigour and process to the employment business. I believe in the adage—don't do charity; give people a chance. We do that—by finding jobs for short durations, where youngsters get an opportunity to work hard and get noticed. Many of our temporary placements become permanent employees of the companies within a year.

In India, our primary and vocational education systems are messed up. People in the Northeast can speak English and are, therefore, hired at a higher salary compared to the migrants from UP and Bihar, who have been taught in Hindi. The children in these areas didn't do anything different. These are implications of policy decisions, which allowed English to be taught in one state, but not in another.

"If the public policy angle of TeamLease wasn't there, I wouldn't have been able to sustain myself."

What drives me crazy is that out of the one lakh kids who call us up every month, we manage to hire only three per cent. There's nothing wrong with the other 97,000. They are willing, but not able. We had a job mela in Jaipur with the Rajasthan government, where 35,000 people turned up in one day. If 800 of them had been born in a metro, they would have had a job. It's the ovarian lottery. Where you are born in India can have such an overwhelming impact on where you land up in life.

I probably didn't realise I had won this lottery till I started TeamLease. Given my background, I find no contradiction between doing well and doing good. That's why I am enjoying my second venture much more than my first, India Life. For me, it's more than a company. It's a cause.


As we become older, we look for blended returns. And TeamLease offers more returns than HR out-

sourcing. If the public policy angle of TeamLease wasn't there, I wouldn't have been able to sustain myself.

In many ways, TeamLease was a child of India Life. In hindsight, we probably sold our first venture a few years earlier than we should have. But then, with external money, the meter was always ticking on us. That's why we did things a bit differently the second time. For TeamLease, we didn't take any external money till the last month. We wanted the runway and space to craft this venture differently. We got senior people in much earlier. We decided to focus on public policy, which has been great for the company. People recognise us as someone who has the backbone to stand up. We also scaled up much faster since we were working with a good team of people. Most of them, we knew from the India Life days.

The difference between a cult and a religion is that one outlives its founder. Even if a truck were to hit me, TeamLease would run for itself. We are very proud of that. At every point in a company's life, if you aren't moving forward, you are moving backward. We could have waited for the labour laws to change. But it's better to at least try and influence the outcome like we have been able to in case of the labour laws. Yes, we haven't managed to change them, but no one's shut us down.

As a company, we have to shift from quantity to quality. So far, hiring in India was about getting on board a pair of hands. No one cared if a brain came attached with it. The economic downturn has turned that upside down. Suddenly, people are realising they can achieve more with less.

I have no doubt that we will fix India's people supply chain, as well as problems of matching and matchmaking. We'll either succeed, or we'll die trying. TeamLease will have a million employees and become India's largest private sector employer. Till then, we will continue our efforts to sabotage the ovarian lottery. 

Content courtesy:

India

Create an image gallery in 10 steps

We show you how, with Adobe Flash Builder 4

Introduction

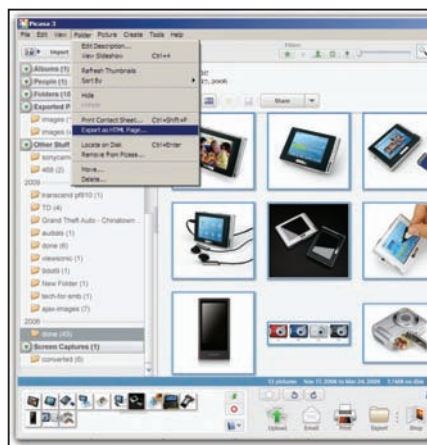
Last time we created an widget which allowed you to search on Twitter, which introduced you to Flash Catalyst, and showed how it could be used to create a rich UI for you application. In this tutorial we will create an application which loads an XML gallery exported from Picasa, and displays the files in a gallery.

Picasa 3 allows one to export their images as a HTML galleries, and also supports an option to export the image gallery as an XML. If you choose to export as XML, Picasa will create an XML file with information about the images you selected to export.

Our application will read in this data, and manipulate it using E4X (ECMAScript for XML) which is a simple and powerful way of manipulating XML documents. ActionScript 3 treats XML as a native type like any integer or string. We will only use a very small subset of these features.

Exporting the XML from Picasa

The feature we are looking for here is "Export as HTML Page..." which is found in the "Folder" menu item in Picasa. You can select the images you want in



Exporting the selected photos as an HTML page with Picasa 3

your gallery, and use this feature to generate an HTML gallery of the selected images. We will however use this to output an XML index for our gallery instead and develop our own front-end.

This option will show a dialog which will allow you to select the options for you export. You can choose the resolution at which the images will be resized. We will select 800 pixels so that all images have a similar size. Choose where to save it, and in the list of templates, select "XML Code". Select to export the photos as "XML Code"

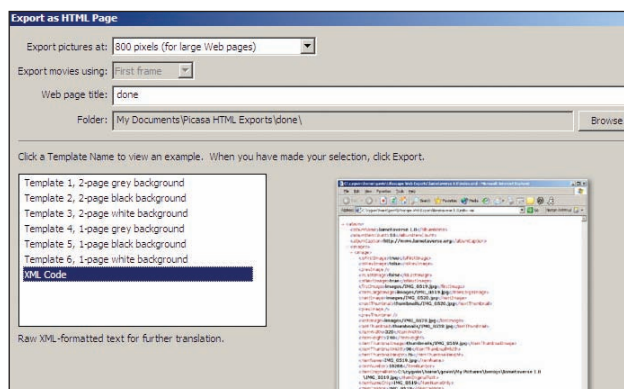
This will launch the XML file in your default editor. Before using this in the application, let us take a look at the XML format of the file:

```
<?xml version="1.0"
encoding="utf-8" ?>
<album>
  <albumName>Recently Updated</albumName>
  <albumItemCount>24</albumItemCount>
  <albumCaption></albumCaption>
  <images>
    <image>...
```

We have a root tag of <album> with an <albumName>, a count of the images in the album <albumItemCount>, a caption for the album <albumCaption> and an <images> tag which contains information about each image in an <image> tag.

Here is what the image tag looks like:

```
<image>
  <isFirstImage>false</isFirstImage>
  <isPrevImage>true</isPrevImage>
  <isLastImage>false</isLastImage>
  <isNextImage>true</isNextImage>
```



Select to export the photos as "XML Code"

```
extImage>
  <firstImage>images/theresbenjamingualon.jpg</firstImage>
  <itemLargeImage> images/reuse.jpg</itemLargeImage>
  <nextImage>ewasteopening.jpg</nextImage>

<nextThumbnail>ewasteopening.jpg</nextThumbnail>

<prevImage>theresbenjamingualon.jpg </prevImage>
  <prevThumbnail>theresbenjamingualon.jpg</prevThumbnail>
  <lastImage>images/hp_laserjet_pro_m1213nf_aio__lr.jpg</lastImage>
  <lastThumbnail>thumbnails/hp_laserjet_pro_m1213nf_aio__lr.jpg</lastThumbnail>
  <itemWidth>468</itemWidth>
  <itemHeight>313</itemHeight>

<itemThumbnailImage>thumbnails/someimagefile.jpg</itemThumbnailImage>
  <itemThumbnailWidth>90</itemThumbnailWidth>
  <itemThumbnailHeight> 64</itemThumbnailHeight>
  <itemName>someimagefile.jpg</itemName>
  <itemNumber>513</item-
```

Number>

```
<itemOriginalPath>c:\some-  
folder\someimagefile.jpg</itemO-  
riginalPath>
```

```
<itemNameOnly> itemName-  
Only UNDEFINED (9)</itemNameOnly>
```

```
<itemCaption>someimagefile.jpg</  
itemCaption>
```

```
<itemSize>itemSize UNDE-  
FINED (9)</itemSize>
```

```
</image>
```

In all of this we only need

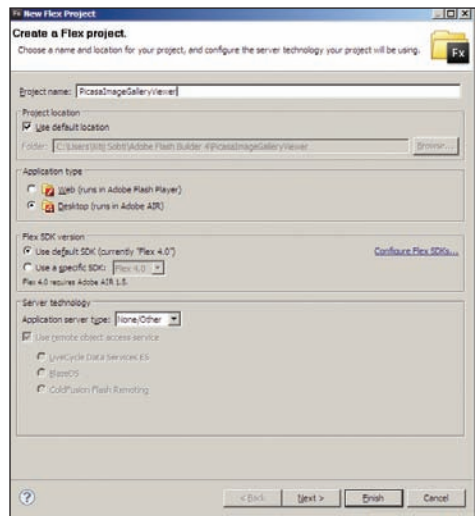
```
<itemThumbnailImage>, <itemLarge-  
Image>, and <itemName>. We can use  
the caption as well, but for our simple  
example we will avoid it.
```

Our Flex application needs only to load this XML file and use the list of images from it to populate the gallery. Simple! The execution is even simpler. For the most part this can be done entirely in declarative code. What this means is that we can do most of the coding in MXML – which is similar to XML / HTML. Declarative programming means that we simply declare all the user interface elements, and define some relations and the application works as expected instead of actually coding everything. You can read up on our previous article at www.thinkdigit.com/d/adobefc for a better idea.

In fact, a functional gallery – which simply displays thumbnails – can be created entirely in declarative MXML code, the only ActionScript code we will require is for popping up the image when we click on its thumbnail in the gallery, and even that is minimal.

STEP 1: First, you'll need to create a new Flash Builder project (you can either create either a web project, or you can create a Desktop project that will run in Adobe AIR. Although we're creating a Desktop project, since we aren't using any desktop specific features, you can use the same code for a web project.

STEP 2: From the folder where you have exported the gallery to Flex, copy all the files and folders – there should be an index.xml file, and an images and thumbnails folder – to the "src" folder in



Starting a new Flex project

your Flex project. Your Flex project will probably be in C:\Users\<username>\Adobe Flash Builder 4\<project name>\ (or C:\Users\<username>\Adobe Flash Builder 4 Plug-in\<project name>\ if you have the Flash Builder Eclipse plugin installed). You can also drag and drop these files into the Package Explorer view in Flash Builder.

STEP 3: First of all we need to load the XML index into our application. We do this using the XML tag in MXML. Add the following inside the <fx:Declarations> tag:

```
<fx:XML id="indexXML"  
source="index.xml" />
```

Here we are declaring an XML object called indexXML, and using the file "index.xml" as a source. For our list image gallery though we will need a list of all images from this.

STEP 4: We will now extract a list of all images from this XML file. With support for E4X in ActionScript and Flex, this is very simple. We have our XML object indexXML, we can directly access the "images" tag inside this as: indexXML.images. If we access indexXML.images, image it will return a list of all image elements inside the images tag. We can directly pull this into an XMLListCollection, which can be directly used in the list we will add in the next step.

STEP 5: Inside the <s:Application>

– if you created a web project – or the <s:WindowedApplication> – if you created a Desktop application – add the List element.

```
<s:List id="imagesList"  
dataProvider="{index}"  
width="100%"  
height="100%">  
  <s:layout>  
    <s:TileLayout />  
  </s:layout>  
</s:List>
```

This creates a list inside our application which has an id / name imagesList, and fills up to take 100 per cent of the width and 100 per cent of the height of the application. The <s:TileLayout /> tag inside the <s:layout> tag specifies that the list will display content in a tiled layout, as rows and columns of images.

The dataProvider="{index}" bit is telling the list to use the index object we defined earlier as the source for populating this list. The list will automatically create one list item for each image in the index. It will automatically handle displaying and scrolling in the list. Right now however the list is not geared to handle images, it will simply display information about each image as a text.

STEP 6: What we need to add to this list, is an item renderer. As the name suggests, an item renderer defines how each item in the list is to be rendered / displayed. We will add the following inside the list declaration:

```
<s:itemRenderer>  
  <fx:Component>  
    <mx:Image  
source="{data.itemThumb-  
nailImage}" />  
  </fx:Component>  
</s:itemRenderer>
```

We're defining the image component as the item renderer for the list.

The list passes the data associated with each list item, i.e. the contents of the <image> tag to the each item in the list as the data object. The image to be used for each list item is then accessible through data.itemThumbnailImage. This property as you can see from the XML format of the index file, has the relative path to the thumbnail of the image. After adding

Speed of Light

Scientists at The Argonne Leadership Computing Facility (ALCF) have been running calculations at a mind numbing speed of 557 trillion calculations per second for over two billion processor hours now. This brings down the research to a few weeks or months rather than years

this, you will notice that you can already see a gallery by running the project!

STEP 7: A gallery isn't as useful if you can't view the full-sized version of the image. To do functionality, we'll create a small MXML component which just displays an Image inside a panel. Right-click on your project in Flash Builder, and under the New menu, select MXML component.

In the New MXML Component dialog, enter a name for your component: `ImageViewer`. For `Based on` delete the default value, and replace it with `spark.components.TitleWindow` – it should appear as an option if you start typing `TitleWindow`. The “`TitleWindow`” component will display a window panel with shadow, a close button, and will automatically support being dragged using the title-bar. Delete the width and height values.

Inside this `TitleWindow` we will need to place our image. Add an image component as `<mx:Image id="image" />`

STEP 8: Now we will add some functionality to this component. We will define an action for closing the window, and an action to ensure that the image appears centered on the screen.

In the `<s:TitleWindow>` tag, start typing `close` as an attribute, Flash Builder will offer to auto-complete this. When you choose to auto-complete, you will get the option `Generate Close Handler` select this option and press [Enter]. It will automatically create a function which will run when the `TitleWindow`'s close action is called – the close button is pressed. The function will be called something like `titlewindow1_closeHandler`.

Inside this function, type `PopUpMan-`



A running gallery already! Right now though, you cannot view any images in their full-sized versions, which seriously hampers the usability of the gallery

ager and press [Ctrl]+Space, and press [Enter]. This will automatically include the required classes for the `PopUpManager` functionality. The `PopUpManager` handles popup windows in your application.

The code we will add to this function is:
`PopUpManager.
removePopUp(this);`

This function will tell the popup manager to remove this popup window when the close button is clicked.

STEP 9: Now for centering the popup on screen. We need to center the popup on the screen when it is displayed, however it takes some time for the image to load, and that will offset the popup on the screen. So we need to center the popup when the image resizes. Just as we added the function in the previous example, add a function for the resize event for the image. After this the image tag should look like: `<mx:Image id="image" resize="image_resizeHandler(event)" />`

And we should have a function called `image_resizeHandler` for the code. In this function we will add `PopUpManager.
centerPopUp(this);`

What this does is to center the popup on screen. Our image viewer code is now done.

STEP 10: Finally, we need to actually open this popup when someone clicks on an image in the list. To do this, add a function for the click event for the list. You should be left with a function called `imagesList_clickHandler`, into which we will add the following code:

```
var popupimage:ImageViewer
    = PopUpManager.  

createPopUp(this.root, Image-  

viewer, true) as ImageViewer;  

popupimage.image.source =  

imagesList.selectedItem.itemLargeImage;  

popupimage.title = imagesList.  

selectedItem.itemName;
```

If you simply typed in this code, you will need to add the code to import the required classes, in this case, “`mx.managers.PopUpManager`”. Simply add “`import mx.managers.PopUpManager;`” above the `image_resizeHandler` function.

The first line of this code is using the `PopUpManager` to create a popup

window from our `ImageViewer` component. The first parameter: `this.root` tells the popup manager which display object is popping up the windows, i.e. the parent of the pop up window. The second parameter specifies what kind of window needs to be popped up, we have created our own `ImageViewer`. The third option specifies that the window is modal, i.e. it will block access to the main application while it is open. `popupimage` is the variable which is being associated with this window. With the “as `ImageViewer`” bit we are casting the windows being returned by the `PopUpManager`'s `createPopUp` function as `ImageViewer` so that we can reference it as such.

In the second line we are setting the source of the image component we added to the `ImageViewer` to the path of the large image specified by the selected item. In the third line we are setting the title of the `TitleWindow` component of our `ImageViewer` to the name of the image.

Now you'll be able to click on an image to see it in its own window. This window will appear at the center of the screen, and you will be able to drag it around. The title-bar of the window will display the name of the image, and you will be able to close this window by clicking on the close button in the title-bar.

In ten simple steps we have created a simple image gallery using Flex and Flash Builder, and we can use it quite easily with the XML galleries generated with Picasa. With Flex you can



Our gallery complete

quite easily swap out the `TileLayout` for a 3D layout or something exotic, or add functionality to select the source for the Picasa gallery XML file and load the gallery from there. [d](#)

3D Blu-ray

A recent firmware update for the Sony PS3 enabled high-definition stereoscopic 3D gaming. A later update will likely extend this to Blu-ray

Speed demon

Samsung's 12x SH-B123 is supposed to be the world's fastest BD-ROM/DVD writer

Industry connect

Catalyst to growth

What would you like to tell us about CS5 and particularly Dreamweaver?

Adobe Creative Suite 5 is a series of 14 industry-leading design and development software that assist and complete virtually every creative workflow. A brand new component, Adobe Flash Catalyst, is also included that helps design interactive content without writing the code. In the latest version, focus has been on improving interactivity, performance, and maximising the impact of digital content and creative products. With more than 250 intuitive new features, it is the single most powerful tool available for virtually every creative process.

What is Adobe Catalyst and how does it aim to revolutionise the creative industry altogether?

Flash Catalyst CS5 is the latest addition to the Creative Suite. It is an intuitive new tool that lets users create web application interfaces without writing code. It allows users to transform Adobe Photoshop, Illustrator, and Fireworks artwork into expressive, fully interactive projects and leverage the reach and consistency of the Adobe Flash Platform. Flash Catalyst's main focus is on making the interface designer-friendly with features that look familiar to users of other Adobe software. Together with Flash Professional CS5 and Flash Builder 4, Flash Catalyst considerably enhances collaboration between designers and developers.

Going forward what is Adobe's stance on HTML5? If HTML5 is capable of doing everything Flash does, what happens to Flash a year or two from now?

We believe the resurrection of development around the HTML standard is good. It will invigorate competition and keep innovation moving forward – which ultimately will result in the best possible solutions for consumers and content distributors. We've supported HTML for years and will continue to as it advances to HTML5 and beyond. We have tools,

such as industry-leading Dreamweaver CS, which enables developers to use HTML. Support for HTML capabilities in our tools is sure to grow as the specification matures. Even if standardization takes another five to ten years it's great that HTML 5 is on its way and Adobe is committed to support it in our tools.

That said, the challenge for HTML as a web content delivery mechanism will be providing a consistent display standard across a growing number of different browsers. The productivity and expressiveness of the Flash Platform remain huge advantages for the Web community even as HTML advances. The Flash Platform team will drive innovation over the coming years as they have over the past decade to enable experiences that aren't otherwise possible. With the ability to update the majority of Web clients in less than a year, Flash Player can make this innovation available to our customers much more quickly than HTML can across a variety of browsers.

What is your take on Apple's updated SDK terms for the AppStore. Section 3.3.1 particularly, which disallows applications compiled using the iPhone compiler from CS 5?

We are committed to bringing great experiences to all screens through our Open Screen Project which has many, many partners, representing leading handset manufacturers, computer manufacturers, software companies and entertainment companies, among others. Our customers are embracing CS5 and are already excitedly creating amazing work across the creative spectrum. Apple's decision is their own, and we feel that they are doing a disservice to their customers, and the creative industry as a whole, through their actions. Beyond that, there's nothing really to say.

The Flash plugin now comes pre-installed within Chrome beta. How does it work? Will the integrated plugin update from Adobe or from Google's site? Does this dilute Adobe's



Mr. Greg Rewis, Principal Worldwide Evangelist for Creative Suite Web Premium at Adobe Systems, Inc.

control over Flash. If Opera or Mozilla were to approach Adobe, would they be allowed their own custom builds?

With the Flash plug-in pre-installed in the latest version of Chrome, users would not have to worry about separately installing Flash which is required to view most of the hosted videos on internet. Adobe is always open to working with our industry partners. We admire the work that both Opera and Mozilla have done over the years and would, of course, be interested in working with them on more tightly integrating the Flash Player, should they decide that they would like to do this.

How do you view piracy in India? In emerging markets, how important is piracy an issue for you?

Piracy is a serious issue for us. Globally, the economic loss associated with software piracy is estimated in tens of billions of dollars. According to the recently released BSA IDC Report 2009, the piracy rate in India is 65 per cent, representing \$2 billion in value. According to the report by IDC, emerging economies in Asia-Pacific region are among countries with highest piracy rates.

Adobe takes a four-pronged approach to eliminate unauthorised use of its popular software products. These include: working with governments, educating consumers about piracy, implementing piracy prevention technologies in our products, and supporting the enforcement efforts. **d**

Genre: (Arcade) Racing
 Studio: Blackrock Studio
 Publishers: Disney Interactive
 Distributors: Excel Interactive
 * Platforms: PlayStation 3, PC (MS
 Windows), Xbox 360
 Price: Rs. 999/-

RACING AND WRECKING

In Split/Second, the player takes on the role of a race car driver in a reality show on TV

SPLIT/SECOND

In keeping with the game's setting, the levels in the single-player campaign are divided into episodes and each episode has multiple races. The game rewards the player with credits and the amount is dependent on the player's finishing position. A central element of the game design is a move called Power Play, that lets you control the outcome of the race by wrecking opponent's cars, opening up shortcuts or drastically changing the race track. Performing stunts like jumps, scarcely avoiding obstacles, drafting behind opponents or by drifting through turns are ways in which the meter can be filled. A partially filled meter lets the player execute level one Power Play moves like blowing up parked cars and

building structures or opening up short-cuts. A completely filled Power Play meter allows execution of level two moves that change the course of the race track and also has the potential to take out multiple opponents in one fell swoop. Timing these moves correctly is absolutely essential, since mistiming a trigger may actually take your own car out instead of the opponents.

Money, cars and glory

At the end of each race, the game rewards the player with credits. Earning a certain amount of credit unlocks events and new vehicles. The prime objective of each episode is to unlock and win the last race that features elite racers.

There is a fairly decent amount of variety in terms of cars, tracks and event types. There are mainly three classes of cars — sports, GT and SUV. Tracks are designed around a certain theme like an intercity free way, airplane scrap-yard, nuclear power plant and a few more. Event types include the tradition time trials, circuit races and elimination.

Along with credits and new rides, the game features another little reward that gives the player bragging rights. Achieving a certain milestone—like wrecking a set number of opponents or winning by a fraction of a second—earns the player with decals that are automatically applied to all the vehicles that the player has unlocked. There is a great deal of decals that can be unlocked and while some are quite easy to earn, others require serious skills. While the decals serve solely aesthetic purpose in

Single Player mode, it is also a way of flaunting skills during multiplayer races.

After the glory

There is quite a bit a player can do after winning the Split/Second season. There are new rides and decals that can be unlocked. The player can also attempt any of the events again to earn gold ranking in all of them. Aside from single-player modes, the game also features multiplayer over internet, LAN or offline split-screen. I personally did not have good luck with online multiplayer—each time staring at an empty game lobby.

Split/Second is worthy of a try if you like games like Fatal Racing or even Rock 'n' Roll racing. There are couple of areas where the developers could have done better. For instance, while the game is supposed to be a TV show, actual game-play does not give that impression. Something like commentary would have certainly helped to achieve that effect. Also, it would have helped if there was some form of a speed meter in the game, because without one it is hard to judge the loss of speed and subsequently device if it's better to break at a turn or drift through it. Split/Second is a fun and fairly robust game in its own rights; however serious racers might want to steer clear of this one. **d**

Green

Electronics Mammoth GE plans to spend \$10 billion in R&D for its green tech-initiative between now and 2015

Eagle Eye

Department of Homeland Security is developing camera surveillance which uses Image Stitching technology and can be used to monitor 360 degree view

SKOAR special



Obsidian Entertainment has created a fairly believable world of espionage with Alpha Protocol and in spite of some glaring flaws the game is an enjoyable experience

Ever since Obsidian Entertainment was formed out of the remnants of Black Isle Studio, the developers had to contend with working on sequels for games originally developed by Bioware. Alpha Protocol is the first opportunity these independent developers had with working on an entirely new game setting. The game gets its name from a fictional American covert programme that is typically tasked with undertaking operations for which the government does not want to be held accountable. The story is told through the exploits

THE SKOAR

8

Genre: Action, RPG, Stealth

Studio: Obsidian Entertainment

Publishers: Sega

Platforms: PlayStation 3, PC (MS Windows), Xbox 360

Price: PlayStation 3, Xbox 360: Rs. 2,499/-, PC: 699/-

of a new recruit of the Alpha Protocol program, an agent named Michael Thorton.

Character creation

The choice of character type offers a fair bit of variety to encompass most typical playing styles. There is the stealth specialist who specializes in quite infiltration techniques coupled with a preference for pistols and unarmed combat.

After the player reaches a certain level, the game once again gives the option of choosing one of the three specialisations. At this point, one can reset the character development to pick an entirely different approach to the

game or continue on the initially selected class to max-out on certain skills.

Black-ops

Working for black-ops means that you are not always going to like what you have to do. Agent Thorton is assigned to track down a bunch of missiles that were allegedly stolen from American arms manufacturing company named Halbech and were used to destroy a passenger airliner. Just like every worthy story about the world of espionage, this story too has its fair share of twist and turns—it's about unexpected allies and betrayal when one least expects. Delving even slightly into the story would be entering spoiler territory, so all I will say here is that the game's plot is good enough to satisfy most RPG fans. Alpha Protocol is guilty of sticking to the unwritten law that most role-playing games have been following these days—that the plot has to be about saving the world. In spite of this, the story-telling is non-linear and it has a fair share of unexpected surprises. **d**



Most of the core issues from FIFA 10 remain unaddressed in this edition and it does not offer anything compelling to shell out the dough

The advent of the next FIFA World Cup inevitably brings a video game from FIFA license holders, Electronic Arts. The core game-play system—barring the penalty system—is pretty much unchanged from FIFA 10. The developers appear to have their hearts in the right place and ever since FIFA 08 there have been some commendable changes to a series that once appeared to be lost in doldrums. With each new

THE SKOAR

6.5

Genre: Sports

Studio: EA Canada

Publishers: Electronic Arts

Platforms: PlayStation 3, PlayStation Portable, Xbox 360, PC, Nintendo Wii

Price: PlayStation 3, Xbox 360: Rs. 2,499/-, PlayStation Portable: Rs. 1,599/-, Nintendo Wii: Rs. 1,999/-

effort however, the final product appears to fall just short of the promise.

Line-up

As expected, FIFA World Cup South Africa features only the national squads and that makes it feel like a much smaller package when compared to the club-football editions. The good news is that this is somewhat compensated by a couple of additional game modes.

The only significant change with game-play is the new penalty system. While taking a penalty kick, the game now has two gauges—one for composure and another for kick power. The sizes of

safe zones on these gauges depend on the player's Penalty attribute. This is a fine attempt at adding psychological factors behind taking penalty kicks.

The new and the inherited

As mentioned earlier, there are several aesthetic improvements in World Cup South Africa over FIFA 10. EA has incorporated the World Cup's official colour scheme, which makes the interface appear a lot warmer as compared to the traditional FIFA interface that is largely black and white. Quick matches can now be started by pushing the two trigger buttons on the main menu and team selection can be made by navigating through a 3D-replica of the globe.

The only thing the World Cup editions of FIFA games have really going for them is the inclusion of national squads, and in our opinion they are kept out of the annual editions just for this reason. While being an official licensed game may seem like a good thing, it actually limits customisation options for the user. **d**

iPhone 4 issues

Already the early adopter community is complaining about issues such as a mysterious yellowish tint and loss of signal

Digit Diary

Find out about the crazy happenings at the Digit office in Digit Diary

July 2010

digit
events

Digit is taking interactivity to a new level, and will be organising events every month. You get to meet and interact with people that you wouldn't in the normal course of your life — industry experts, Team Digit, and other readers with similar interests. Stay updated and stay ahead of the curve by looking for this page in every month's magazine.

1 Webinar

Increase your web presence

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JULY 10
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For details on upcoming webinars and to view past webinars, visit thinkdigit.com/webinars

My Desktop contest winners...

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MyDesktop contest on Facebook got hundreds of responses, with participants unleashing their creativity to turn their desktops into works of art. People used not only wallpapers creatively, but all sorts of applications from Docks to Rainmeter to gadgets and even Bumptop like 3D environments. Be sure to visit fan photos on facebook.com/thinkdigit and maybe these guys will tell you how they did their masterpieces!



1st Place - Abhishek Kumar Dutta



2nd Place -Dheeraj Poojari



3rd Place - Mani Bharti

First place winner gets a three user McAfee Antivirus suite, while second and third place winners get a DVD each (Star Trek / Iron Man / Transformers)

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2

CANON
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30

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15

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Twitter update

Apparently Twitter helped a few Mexicans speak out against the hush-hush yet open drug cartels operating in the country

Prashant Sehgal, Film maker and proud member of Digit Community



What motivates you to make films?

I have always enjoyed telling interesting stories. Films are a great medium for this purpose as they allow me to "show" these stories visually rather than simply telling them, also it greatly enhances the reach of my stories. Film making is a collective

medium - we make these films as a collective effort, and the audience usually enjoys them along with others as well.

Why do you want to give away your work for free?

Market for short films in India is currently at an infant stage. In some other countries, people have started to enjoy short films by themselves, and are ready to pay for them. It would take us a while to reach that level. So, giving out our work for free is the best alternative for filmmakers like myself, in order to get our work in front of a larger audience.



In which film festivals have you showcased your movies?

A great opportunity arrived when "Run Leila Run" was selected for the Indian Film Festival 2010, and was shown in Melbourne and Sydney as part of their Bollywood and Beyond section. It was also shown last month at the International Documentary and Short Film Festival of Kerala 2010.

Is film making just your hobby?

Absolutely not! It is a full-time career option for me now. I am currently working as the Associate Director for a feature film to be shot in Delhi later this year. At the same time, I am continuing work on my own short films and other creative projects - a social drama and a dark comedy.

Since when have you been a Digit reader? Any favourite sections?

Well, almost a decade now (okay, I realize that you guys just came out with your 9th anniversary issue, but it does feel like a full decade!). However, I've been a regular reader only for the last 3 years since I moved back from the US. Before that, I would pick up the latest issues whenever I would be visiting India.

About 3 months ago I was looking to upgrade my system for editing purposes, and the same month (March 2010), Digit came to my rescue with a Fast Trac to Mac OS, and an article on latest LCD monitors. As a result, I now have a Mac mini system with a BenQ 22-inch HD LCD Monitor! But if I have to list one thing, it is the DVD's, which serve as an invaluable resource for months to come.



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Ahead of its time

Despite a host of missing features, experts believe the iPad is ahead of its time

Battle for the tablet

HP's Slate has been touted the best iPad alternative by analysts across the world

Brainwash and Mind Control

A lot has been said and debated about mind control. Some believe that by controlling emotions human species can reach a new level of peace and harmony. Here's a look at the movies which feature such inhuman behavior towards poor subjects.



A Clockwork Orange

This masterpiece by legendary director Stanley Kubrick speaks about a man whose brain is altered to generate a feeling of hate and disgust whenever subjected to violence and anger.

Equilibrium

With Matrix style fight sequences, this story is set in the future where human beings no longer feel any emotion in order to construct a perfect society. Transforming the human race into near perfect robots.



V for Vendetta

In totalitarian England the masses are controlled by the government into believing what the authority says and does is right, with the common man having no rights and liberties of their own



Event Horizon

This Sci-Fi flick tells the story of members of a space crew who find themselves helpless when controlled by an unknown alien force.

Resident Evil

Based on the hit video game, the protagonist is forced to give in to mind control orchestrated by the notorious Umbrella Corporation's project Alice



The Island

Human clones are bred and controlled in virtual world making them believe that the laboratory is their universe

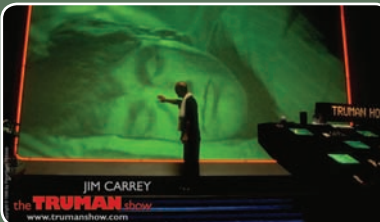


Eternal Sunshine of the Spotless Mind

A heart warming story of how unpleasant memories can be erased from brain, to make the subject believe that those things never happened with him or her

The Truman Show

Throughout his life Jim Carrey is made to live in a world which is constantly monitored for making a hit reality TV show- The Truman Show



Village of the Damned

Directed by John Carpenter, a small town is terrorised by children controlled by some supernatural phenomena

Eclair... Froyo

Android uses a naming convention that follows the names of desserts

bada

A new software platform developed by Samsung Electronics for its mobile phones

Unwind

Final Flight of the STS 133 and 134

In September and November 2010 scientists and astronauts at NASA will be bidding farewell to two of their space shuttle flights the 133rd and the 134th. The mission duration of these flights will last for 11 and 10 days respectively, both the flights will carry major components for the ongoing build of the International Space Station (ISS). The STS 133 will be

carrying the Discovery space shuttle while the STS 134 has the responsibility to load the Endeavour into the Low Earth Orbit where the International Space Station is being assembled piece by piece. A major aerospace engineering endeavour the ISS project was launched in November 1988 and as of Summer 2010, 25 Space Shuttle flights have docked with ISS to add elements.



STS 133



STS 134

Face in Space

If you always wanted to go in space to be part of the International Space Station project or just wanted to view Mother Earth then NASA is giving you a historic opportunity to put your face in one of their space flights well not literally but they do intend to put your picture on one of the two remaining



space shuttle missions the STS 133 and 134. All you have to do is to log onto faceinspace.nasa.gov and upload a picture of your self to give your space exploration fantasy a jump start.

HASP^{SRM}

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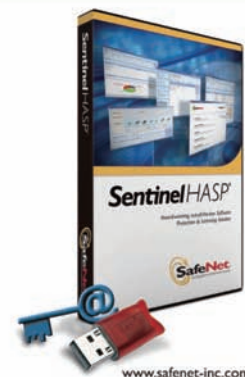
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Different styles in Film making

Film directors try out different styles of film making to capture their imagination on the camera. They visualise a world unknown, a place far far away which becomes a reality on the screen and the audience are left in an awe of amazement when these dreams materialise. Some of these styles become their signature styles and they are known widely for them throughout the world like director James Cameron for his fixation over 3D films. These styles add a whole new feel to the film making the impossible a reality.

High-end graphics or animation are not always used to put an out of this world idea onto the screen. There are several other types as well whose potential have not yet

Rotoscoping

This lesser known style of film making uses a simple, but lengthy technique of first shooting a sequence with actors then tracing over the live sequence of the video frame by



frame. During the earlier stages of rotoscoping the image was projected on a frosted glass and the animators job was to draw along the lines of the image to make it look like an animation, however this technique now has been replaced by computers. Some of the famous titles which used this technique are films by director Richard Linklater. Both his films *Waking Life* and *A Scanner Darkly* used this technique.

been utilised to the fullest.

We would look at some of these styles which have been used in major Hollywood productions but remain unknown to the general public.

Some of them are Rotoscope and Stop Motion which have been used by renowned film directors like Tim Burton and Richard Linklater, but how are these formats of film shooting different from any other computer animated film? Results that can be achieved through these styles are quite different in terms of feel, behavior and acting of the characters on the screen as compared to mainstream animated films which might not be achieved through regular computer graphics. Here's a peek at the 3 most popular film shooting styles

Stop Motion

Stop motion is a simple form of capturing static objects and then move them manually frame by frame and recording it on a camera giving it a feel as if the object is in motion. This technique requires a lot of time and patience as more the number of shots the better the movement of the object or character will appear on the screen. Director Tim Burton and Mike Johnson used stop motion for filming *Corpses Bride* it took him and his team of animators almost four years to complete the project. Clay models and clay animation generally uses stop motion technique. Last year's film *Coraline* is a beautiful example of stop motion imagery it was nominated for Oscars this year under Best Animated Film category.

Make you own Stop Motion film

Putting your wild imaginations on camera is easy with this technique. All you need is a digi cam and some patience. Start by making a simple one minute movie using stop motion, however even for a two minute film one would require to click almost 175-200 pictures of the object that appears to be moving on the screen. Remember more the number of shots or frames the less jittery the movie will come out to be. For starters let's take a coin and follow its path across the table. Just click one picture of the coin on the table and start moving it along the desired path and on its course keep on taking pictures furthering the coin to its destination each time. This can be a 20-30 second video



One of the widely known and immensely popular style is 3D. By using this technique film makers have been trying to give the audience a real world feel to their characters and films. Here the audience becomes the part of the experience. The pioneer of the 3D movement is renowned film director James Cameron who developed the reality camera system. Some of the popular 3D titles are *Avatar*, *Spykids 3D Game-over*, *Ghosts of the Abyss*, *The Polar Express* and the newly released *Shrek Forever After*. The 3D technology is known as Stereoscopy. It basically enhances the illusion of depth majority of the 3D displays use this technique.



but will surely give you an idea as to the amount of pictures that are required to simply shoot a moving coin across the table without much action or adventure. Go ahead try it out.

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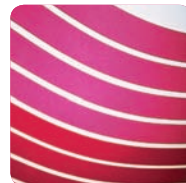
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