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Survival of the geekiest

How things have changed. Just over a decade ago, the term "geek" was used as an insult – it sometimes still is, but usually by someone of no importance and a huge chip on his shoulder. For most of us, the word is now associated with Mark Zuckerberg, Brin and Page or, perhaps Bill Gates.

Most of us reading this magazine would proudly wear a T-shirt that proclaims, "The Geek shall inherit the Earth", and it will be true as well.

So what really is a "Geek"? Merriam-Webster, the Dictionary of our choice, defines a geek as:

A carnival performer often billed as a wild man whose act usually includes biting the head off a live chicken or snake; a person often of an intellectual bent who is disliked; an enthusiast or expert especially in a technological field or activity <computer geek>

The third definition was the last to be added, and if we go by that one, then it's but obvious that the geek will indeed inherit the Earth. Why am I so sure? Because one look at the world around you will tell you that technical skills and computer knowledge is just about essential to get anywhere in the world today. It also assumes that by "inherit" we mean "control", and by control, I mean control the money, of course.

It's simple logic to deduce that the evolution of mankind will take the path of the wealthy; they have better chances of survival, finding a mate and seeing their offspring into adulthood. Thus, even if we geeks don't inherit the Earth, we most certainly will breed everything else out of it, eventually. Is mankind destined to evolve from whatever it is now, into a society of geeks, leaving the non-geeky to fight for the scraps we choose to drop?

Perhaps, and that worries me. Who says geeks are any better than the rest of the world? Yes I know that Bill Gates gives billions of dollars away to charities, and some say Steve Jobs does not, but regardless of those facts or insinuations, the truth is that for every Dollar that Bill or Steve make, many, many more are made by the corporations that they represent...

This isn't a rant about evil corporations, neither is this a repeat of my views about how tech is devolving our skills. There always will be a market for those of us with "hard" skills such as carpenters, plumbers and the like – I should know, I'm paying through my nose for some renovation work right now. For all we know, those with hard skills are probably on their way to becoming Google-enhanced, Microsoft-powered, carpenter geeks!

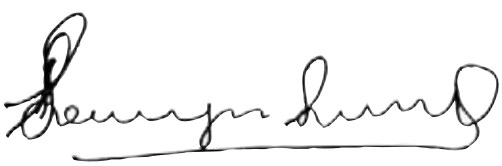
However, when discussing survival and evolution, it's important for all of us to realise that the roads less travelled are viable options. This month's cover story, for example, was conceived to show you how it's not necessary to lock your source code up in Fort Knox to protect it, or make money from it. Neither should you assume that on joining the Open Source movement you will grow your hair and beard long, smoke pot, and listen to the Beatles all day. Of course you might, but it will be of your own doing.

The main reason why I think Open Source is important in this context, is because none of us want a society of individuals who have evolved only from a heady mix of stock brokers, politicians and corporate employees. We just need to throw in a little "traditional geek" in there – the Stallman and Torvalds type – or else life would be incredibly boring... and expensive!

Thankfully, knowingly or unknowingly, India is ensuring that the evolution to geekdom is balanced. More and more people are embracing Open Source here in India, and that means more developers and technology innovators start working with it. A mere five years ago, people complained of not being able to find a PHP coder in India; in contrast, today the complaint is that they're crawling out of the woodwork, but quality needs to improve.

Somewhere along the line, we've become content to modify an OSS product to suit a client's needs, and charge for service, but we're not very keen on opening up our source code to public scrutiny. It's only when we get into the habit of building OSS products from scratch will we start making money as individuals, companies and a country.

I'd very much like for the evolved geek of the future (that master of all things technology, and all-round stud muffin) to be able to acknowledge the influences of the Indian Open Source Software Movement. Wouldn't you?



Robert Sovereign-Smith
Executive Editor
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"Is mankind destined to evolve from whatever it is now, into a society of geeks, leaving the non-geeky to fight for the scraps we choose to drop?"

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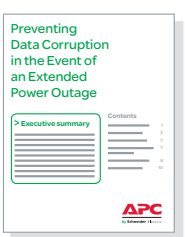

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✉ The seed you provided with last anniversary issue (2010) has grown into a large plant spreading all its beautiful wings. My parents always asking the name of the plant and its demography. I have sent you the photograph. If you please let me know the name of the plant it would be great.

Anirban Chakraborty

It wonderful that you've looked after the sapling and it has grown so much. The biological name of the plant is Cassia Siamea. It's also known as the Kassod tree. It's known to grow to around 30ft in height. It blossoms in mid-summer and gives yellow flowers. As a shrub, it grows to around 3 to 5 ft in height.

Siddharth

✉ I am just back from a Bike Expedition from Delhi- Leh-Kargil-Delhi (15 days@3768km) Enroute the bike expedition we passed across the Khardungla

Pass i.e. the worlds highest motorable road. Since I had taken my Digit July 2011 edition along, to read when I relax in between, I thought of posing along my favorite magazine on the highest motorable road of the world. It was a fantabulous achievement and I was happy that Digit was with me like has always been for so many years now. Keep the wonderful work going and going. Here's wishing your team all the best.

Anupam

Congratulations for your accomplishments, and thank you from the bottom of our hearts for keeping this little rag-tag team of ours in mind while on the road. How about an invite next time? Maybe some of us can join you on your travels :)

Robert

✉ Since last week I have heard much about Google+. I am very much excited about it. I feel it will be the next big step in Social Networking. Can you guys please cover this story in next month's magazine? Keep up the good work!

Hashir Ahmad

Your wish is our command. We have a Fast Track this time dedicated to Google+ and Facebook. This should give you all the information you need right from the basics to a whole lot of tips and tricks. In the magazine you'll find our take on what we like and don't like about the new kid on the block. Enjoy!

Nash

✉ I'm Yash Jetwani an active member of Digit community. I played and thoroughly enjoyed CTC. Even went 4-5 hours to Cyber Cafe just to crack it, bunked lectures, missed tests just to do it. But in the end when results got announced (http://www.thinkdigit.com/ctcresult) people who finished after me got prizes but I didn't. This is not fare at all, I know you will send reply to me that winners of consolation prizes are listed by lucky draw. But instead the prizes should have been given to those who finished first, I know many people in that list finished after me but they got the prize.

Yash Jetwani

Only the top 3 spots were drawn based on the finishing time. The CTC contest is not about prizes, but about having fun while learning. You say you had fun playing the contest, right? And I'm sure you learnt a few things you didn't know about before. Initially we were only going to have three prizes for the Top 3 finishers, but thanks to Amkette sponsoring the contest prizes, we were able to offer even more people the chance to win something. In order to encourage more people to play and finish the contest, I decided to make the consolation prizes a lucky draw for anyone who

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completed the task by 20th June.

This is also done to ensure that everyone has an equal chance of winning - including the Digit readers who live in small towns and villages, and sometimes don't get their hands on a copy until as late as the 10th or 15th of the month, as they have to travel to a town where Digit is available.

There are still villages and small towns in India that do not even have a news stand, or any place to buy magazines, and yet we have a reader or two in those villages, who, as far as I am concerned, deserve as much as a chance of winning a Digit contest as anyone else who reads Digit from big cities or metros.

This CTC, for example, we had a couple of players who were from towns that barely get 3 hours of electricity a day, and you can imagine the effort that they had to put in to play CTC. Sadly, our random number picker didn't select them, and they haven't won prizes either, but at least they stood the exact same chance as the people who did win the consolations, and I'm happy with that as the only fair means of distributing prizes amongst a set of our readers who are all passionate about tech.

I hope this explains my stance on why I chose to make it a lucky draw system. Better luck next time, and keep an eye out for CTC IV.

Robert

✉ I am an assistant Professor in a reputed college. I love each bit and byte of the magazine and feels that all the articles are well written and well researched. I wanna share two things with you. Firstly, do carry some videos on India growth stories too. The video can be on The IT revolution in India or early stages of Internet in India or how IT literacy helped in the rural India etc. As these videos can be easily shown in classrooms and stories can be discussed with the students too.

Second, I keep on asking the students to subscribe the magazine. They often complain of its raised price. Is there any scheme from your side to give discounted rates to the students?

Sandeep Kumar

Content such as this is difficult to come across, especially that which is licenced under creative commons. We'll intensify our search and keep an eye out for such videos but if you know of any sources, please let us know. We agree that such videos will be a good teaching aid and a good source for starting lively discussions in class.

Sambhav

LETTER OF THE MONTH

✉ I am a regular digit reader for more than 4 years now and this is the first time I am writting in. DHANYA HO Team Digit for always finding a way to beat the seemingly Impossible things, like providing two Fast Tracks for two consecutive months and that too at the same old unbelivable price, DHANYA HO. I hope that this 2 fast tracks a month thing becomes standard, just like 2 DVDs did.

Sammerjeet Singh Thakur

✉ I am kinda pissed off with you this time. I bought Digit, but before I could read and take it home, I lent it to my friend as he asked me for it. But when he returned it back to me, there was only ONE DVD. I was really pissed off at my friend first, I asked him to double check the missing DVD at his place. As he couldn't find anywhere, I thought he might have dropped it on the way. So for the second DVD I bought another copy of your magazine blindly. Yes, I should have read on the cover page about number of DVDs supplied.

But do try to understand, my sentiment. I was like, Digit would never send just one DVD.

Oh yeah, there was an extra Fast Track which was awesome. But it is not a good idea to deviate from your main track ethically. If it's a pricing problem, then add a little more (like you've been doing in the past).

Surhit Shah

We're trying out a pilot project for a few months. We value all feedback sent to us. In this issue also, we have 2 Fast Tracks and 1 DVD, and we will be taking a call on whether there is more reader interest in DVDs or Fast Tracks in the next few months.

I strongly urge all of our readers to write in to editor@thinkdigit.com and be heard on this subject. Let us know which you prefer – 2 DVDs or 2 Fast Tracks.

Robert

✉ I am very proud to say that I am sending this mail from evolution which is there in Digit OS which I start using few days back. Digit has done all the basic customisation which we need (and the lack of those customisations is one of the reasons that people don't like to install Linux on their system). Thanks again.

I was happy to find a simple and sober magazine this time, not like the anniversary one, but good. Really like the way you tested the routers by doing so much set up described in How we tested. From where do you get those routers? Do the companies give you to test? I figure you may not be buying all those routers right? As for the Crossword, this time you have not given how many words were there in the Crossword. Though I've found many but still not aware whether I have found all or not.

Also please include the answers on the website next month so that we can save space on magazine and utilize the web space. Also in the Digit Shop online please sell DVDs along with Fast Track. That way more people will go for the Fast Track.

Gaurav K

Thank you for your compliments on the Digit OS. I'm sure Vaibhav Kaushal, the Digit community member who designed the OS, would be delighted. The crossword point that you brought up was very valid. It was missed out last time, but you'll find it there in this issue. As for the products we receive, they are sent to us by the brands themselves. And to answer a further question that is bound to pop up in your mind, "Do we get to keep them?". No, we have to return them once we're done testing.

Siddharth

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M202

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Are there multiple iPhone or iPod players in your house? Now everyone can get a charge. Introducing the dual-dock [Octiv™ 202] for iPhone & iPod. It does everything a docking speaker does multiplied by two! Charge up and Rock out to your choice of music. With the free Music Mix app you can now shuffle songs from both players and seamlessly share each other's music without skipping a beat. Plus, its wedge design fits neatly on you desk, kitchen counter, and other tight spaces. Best of all, the Altec Lansing name means a crisp, clear sound to put your groove.

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Something for nothing
Georgia Tech researchers have found a way to cheaply tap ambient electromagnetic energy from the air

Bionic guiding light
Oxford University scientists have developed bionic glasses to aid the visually challenged, using minuscule cameras to alert wearers about the things around them

Crysis 2 DX 11 Ultra Upgrade and Sandbox Editor

Crytek has been busy this month, giving Crysis 2 players a DirectX 11 Ultra Upgrade, allowing the game to use a powerful graphics card's full potential. It also released the CryEngine 3 Sandbox Editor. Crysis 2 players interested in the DX11 upgrade will first have to patch the game to version 1.9 (136MB), before installing the DirectX 11 Ultra Upgrade (545MB), and Hi-Res Texture Pack (1.65GB). The texture pack is meant for systems with a 64-bit operating system and a GPU with more than 768MB of video memory. Patch v1.9 should update automatically once you start the game while connected to the internet.

New graphics features introduced for CryEngine 3 with the DirectX 11 Ultra Upgrade include Hardware Tessellation and Displacement Mapping, Parallax Occlusion Mapping, Hardware-based Occlusion Culling, HDR motion blur and post-processing, Improved Tone Mapping, Improved Water Rendering, Interactive Water, Realistic Shadows with Variable Penumbra, Particle Motion Blur and Shadows, Custom Shape Based Bokeh Depth of Field, and Real-time Screen Space Directional Occlusion (contact shadows) on top of the already present SSAO. A new and more complete advanced graphic menu has been added in-game. Also promised, is improved multi-GPU support, which makes us worry about single-card owners like ourselves.

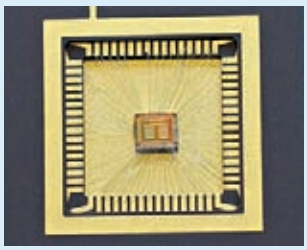
The new CryEngine 3 Sandbox Editor, allowing them to create their own maps, mods, and content for the game. Giving a fair amount of control, Crytek will be providing additional tools with the package, including plugins for Maya and 3ds Max, Poly Bump, FMOD Designer, and more. For beginners, sample content has also been provided to help build and edit. The crymod.com mod community has also been re-opened, allowing fellow Crysis 2 modders to share and discuss their work.

IBM develops multi-bit phase change memory

IBM Research – Zurich has announced a new type of inexpensive and reliable universal non-volatile memory, called phase change memory (PCM). Shattering records, it supposedly reads and writes 100 times faster than conventional flash-based memory with a latency of 10 microseconds, and is also several of orders of magnitude more reliable, with 10 million estimated write-cycles.

Surprisingly, the technology behind phase change memory is not expensive, and can be commercially used for a variety of devices requiring storage and memory, from servers to tablets. It's not going to be hitting markets very soon, with IBM stating the technology would enable "a paradigm shift for enterprise IT and storage systems, including cloud computing by 2016."

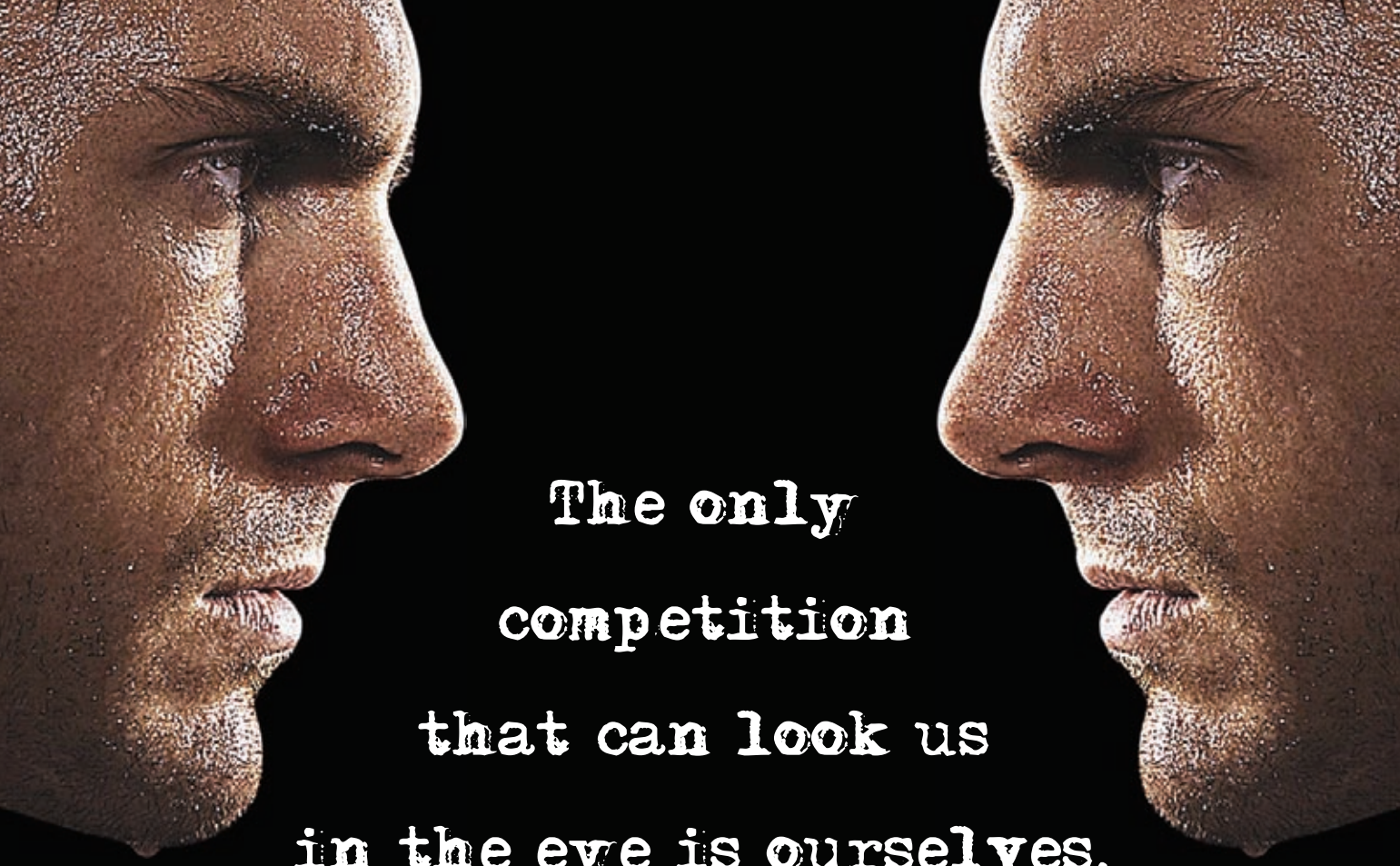
IBM's phase-change memory is built using cells created from a special alloy, which can be electrically controlled into different physical states – crystalline with low resistance properties, amorphous with high resistance properties. Each alloy cell is capable of storing four data bits using different resistance levels, making it the first multi-bit phase-change memory with reliable retention – only single bit PCM was capable of this earlier.



Zapak launches subscription based gaming services

Popular gaming website, Zapak.com, has launched a subscription-based gaming service – Zapak Plus, enabling users can download full games on their personal computers and play them via a client, by subscribing to monthly or quarterly plans. Initially, the gaming company is offering around 120 titles from different genres such as arcade, sports, action and others.

Charges for now are fixed at ₹99 for a month of playtime, or ₹247 for three months. Rohit Sharma, chief executive officer, Reliance Entertainment (Digital Business), says, "Zapak Plus offers an opportunity to millions of gamers to experience some of the biggest titles in PC gaming at less than Re 1 per month, in the comfort of their homes. Zapak is now a destination not only for flash games but for PC games, too. Gamers, who hitherto had access only to highly-priced gaming DVDs or poor quality of pirated game DVDs, can subscribe to Zapak Plus and enjoy good quality full-version PC games at affordable pricing."



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Acer TimelineX refreshed
Acer has released two models of the new Aspire TimelineX laptop series in India - Aspire 5830T and 5830TG - starting from ₹32,999.

Women Prefer Games
A Doritos survey found that more female online gamers (FOGs) liked playing online games, than FOGs who liked shopping or having sex

Notebook graphics go crazy

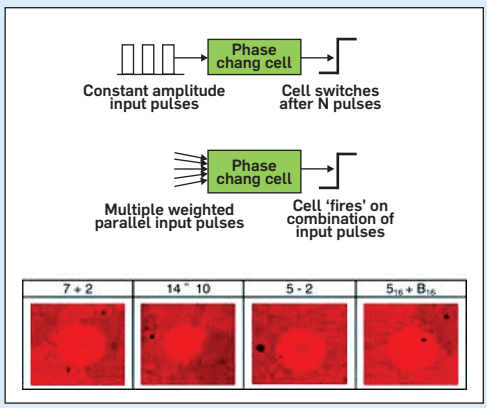
While AMD has been relatively quiet in the recent past about the growing prowess and adoption of its laptop graphics technologies, it has now decided to snatch some of the much publicise recent glory of Nvidia's GeForce GTX 580M GPU, by releasing the AMD Radeon HD 6990M as contender for the crown of the world's fastest mobile graphics card. Claiming 25% better performance than the previous top-end HD 6970M offering, the HD 6990M is based on the same Northern Islands family's Barts core as the 6970M, but with more stream processors, and faster clocks.

Yes Barts, and not the full-fledged Cayman architecture of the desktop HD 6990 GPU. Specifications of the HD 6990M GPU include a core clock speed of 715MHz, 2GB of GDDR5 RAM at 3.6GHz memory clock speed, a 256-bit bus with a bandwidth of 115.2GB/s, 32 ROPs, 56 texture units, and 1120 stream processors. The core clock of the card can be overclocked up to 740Mhz. The most noticeable difference between the GTX 580M and HD 6990M, apart from CUDA and PhysX, will have to be the lack of a switchable graphics solution like Nvidia Optimus for the AMD Radeon HD 6990M. This could have a serious impact on battery life, figures of which were notably omitted from the introductory announcement.

The AMD Radeon HD 6990M is already out in markets, starting with gaming laptops like the Alienware M18x, which offers it in single or CrossFire configurations. The M17x and M18x also come with the option of GeForce GTX 580M, Nvidia's "world's fastest notebook GPU". Based on the new GF114 core on the 40nm fabrication process, the GTX 580M has 32 render back ends, 8 tessellation engines, 384 stream processing units, 64 texture units, and a 256-bit memory controller. The core clock speed is 620MHz, while the stream processor clocks in at 1240MHz. Partners are recommended to clock the GDDR5 memory at 1.5GHz.

Brain-like processors created, with simultaneous data processing and storage

Folks over at the University of Exeter have demonstrated what they call the memflector – an optical equivalent of the memristor. Built using advanced semiconductor materials capable of phase-change, the team has constructed a processor that can compute and store data simultaneously. This is quite unlike today's computers, which have separate components for memory and processing, but is supposedly very similar to what our brains, or biological computers do.



The team is calling their advancements a large step forward in computing, potentially leading to much faster, cheaper, and more power efficient computers. The work is also a big step toward achieving another milestone in the field – 'brain-like' computing. The memflector-based processor demonstrated synaptic-like functionality, with each phase-change cell mimicking the "integrate and fire" mechanism of a neuron. The processor is also capable of reliably executing the four basic arithmetic functions.

Hopes are high for the new technology, and the team's next step is down the biological alley, aiming to develop better brain-like computers by making their still basic processor much more complex, with interconnected systems of phase change cells that can 'learn' simple tasks using both memory and computing, such as pattern and object recognition.

LulzSec ends 50-day Anti-Security campaign

LulzSec announced on Saturday that it would be ceasing activities, now that its "planned 50 day cruise" for the Lulz Boat is over. The "crew of six" hackers said in their sign off that they

hoped the AntiSec movement, or Operation Anti-Security, would continue without them, and that it had inspired others enough to spark a "revolution." Previous hacks have included everything from Sony Europe to the CIA's homepage.

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A look at what's new with Nokia phones and tablets and interesting news apps for iPads, iPhones and other devices

22 **Streaming the tunes**
Music streaming is a viable alternative to dowloading online or buying from music stores.

Google+ What we like, what we don't

Google's best kept social secret is finally out. Google+ is out of the blocks, threatening to gate-crash Facebook's social party. At the time of writing this, almost 20 million users around the world are spending time on Google+. The social networking product is still in beta, but that hasn't stopped hordes of online users from scrambling for Google+ invites.

We've been using Google+ for a while now. Here's what we like about it and a list of features that need more attention from Google.

Likes

Circles

Okay, credit where credit's due - we like Google's philosophy of keeping your friend circles isolated from each other. The ability to share updates with a certain Circle while excluding another is fun, too.

+Hangout

For many people, the group video chat feature, Hangout is the only noteworthy feature of Google+. It's really something to sit up and take notice of. Through Hangout, Google+ allows you to connect with up to 10 people, including you. Hangout intelligently puts the spotlight on the one who's talking automatically – there's no manual control. It's video chat like you've never seen before.

Facebook tried to counter this by supporting video calls / chats over Skype.

Share – anywhere

For any social product to work, being able to share content with as little complexity as possible is crucial. We think Google+'s one-click share button on the top-right browser bar is a fine example of just that. No browser extensions or bookmarking needed; the feature works on every web browser. As long as you're on a Google product page or service, if you come across something interesting and worth sharing with your social circles on Google+, you just need to hit the Share button.

Sparks

Contrary to user complaints that Sparks is similar to an RSS reader, the service lets you select the topics you're interested in without having to subscribe to feeds on a web site. Sparks is a good starting point to encounter new content that you're interested in.

No games!

Boy, are we glad about this! Although, there's a lot of noise in your Google+ update stream, we're celebrating the omission of any game-related updates for now.

Dislikes

Instant Upload adds photos from your phone without telling you

Keen to explore the social network's potential on a smartphone, we installed the Google+ Android app and played around with it. All seemed fine. Until we found photos from the smartphone's library being automatically synced with our Google+ accounts online!

We understand that this is supposed to help in sharing the photos with your social circles, and when Google+ syncs photos online, it doesn't automatically share it - which indicates that Google has learned its privacy lessons well from the Buzz fiasco. But sorry, don't do something with our phone's data without letting us know – that's just unnerving and uncalled for.

Tag people outside your circles

Google+ isn't without its privacy gaffes and here's a glaring one we came across. If you thought you were sharing a personal picture with your Family circle on Google+, all it takes for the privacy wall to come tumbling down is for someone in your Family circle to tag anyone from their circles to that photo or update. Ridiculous, isn't it?

Old threads come on top – unlike Facebook

In Google+, week-old updates and conversation threads are resurrected and brought right on top if someone commented on them. This is unlike Facebook which only shows you old updates if you had liked or commented on them. A little tweaking is needed to at least include an option to decide the behaviour of individual streams depending on user's tastes.

No private messaging

Even though Google+ is Google's social network candidate, it lacks a private messaging feature like Facebook Messages. If Google wants to really dent Facebook's dominance on all things social, it should pay attention to the finer things that make it tick.

No support for Google Apps

One way of assuring a ready, early-adopter base would've been to upgrade all existing Google Apps users on to Google+. We suspect Google is being extra cautious with its Apps user base, since any Google+ deployment there without stringent security and privacy checks might be disastrous to the company's image and bottomline.

Mobile rail tickets?
Indian Railways has announced a new SMS-based system for purchasing rail tickets on mobile phones, a system that will reportedly roll out soon

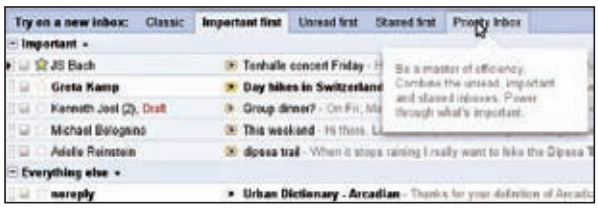
And in other news...

A lot has happened all over Google's web properties apart from just Google+. The search giant has made many feature and UI changes, applying what's being called a unified design philosophy, inspired by Google+'s clean layout, dark interface and icons. Here we give you a lowdown on some of these changes. First up is YouTube Cosmic Panda, a new experimental user interface that brings new features and layouts to videos, playlists and channels, as well as new editing tools and channel page designs. YouTube is awaiting feedback before fully incorporating the new ideas. The Blogger platform was also completely redesigned, incorporating several features such as the improved text editor and mobile blog support. Google Analytics tools have been added to the dashboard.

Over at Gmail, Google added the inbox style option, allowing users to quickly switch between style presets in a tab-like format, or a dropdown menu. There are five different style presets, to be used depending on personal taste, usage scenarios, etc. Google Docs has got better document sorting and sharing on the go with the improved Google Docs for mobile. Also new are Google Docs' videos features, which allow users to insert, embed or caption videos from their Google Docs lists to their Google Sites. Both, Gmail and Google Docs can now also preview ZIP/RAR archives directly as attachments.

The shared photos are viewable under a photo topic by other Photovine users who can add to them, thus creating an image thread.

Google Translate also supports five new Indic languages – Bengali, Gujarati, Kannada, Tamil and Telugu – bringing the count up to 63. In related news, Google has tied up with the British Library and will soon be releasing thousands of historic books online for free.



Gmail's new inbox styles

Opera's slightly new look

World of browsers

Firefox 5 has been released as the first offering from the new rapid release model that Mozilla has adopted for most of its products. The biggest new change in Firefox 5 is with the add-on compatibility process, featuring an add-on compatibility scanner and version changer. A manual validation process is available as well. Mozilla has also developed a new add-on SDK for Firefox, which allows developers to create add-ons using web standard technologies. Firefox 5 also brings a number of small new features, bug-fixes and improvements.

Opera 11.5 comes with Speed Dial extensions, with which developers can create widgets that will display in place of one of the speed dial entries. Additionally, the browser has a new menu and tab interface, the usual bug fixes, performance improvements and tweaks to the graphics engine.

Microsoft Office 365 launched in India

Microsoft has extended its major stride in the cloud computing segment, Office 365, to India. Microsoft says the Office 365 will provide affordable businesses productivity tools on the cloud. The suite, comprising Word, Excel, PowerPoint, email and other software, can be used by enterprises on a pay-per-use basis. The Office 365 plans start at $2 (₹88) per month for basic e-mail and going up to $27 (₹1,197) per month.

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Electric power
Leonardo Di Capio becomes first celebrity to take delivery of the Fisker Karma electric sedan

Courting trouble
Apple files another patent infringement case against HTC

All That Is Nokia

Nokia has been busy and July was no exception. The Nokia E6 Touch & Type business phone has been launched in India at an MRP of ₹18,679, while the Nokia X7-00 entertainment phone has been launched at an MRP of ₹22,829. Check out detailed specifications of the two devices online at www.thinkdigit.com. We've also covered them in past issues of Digit.

N9-615

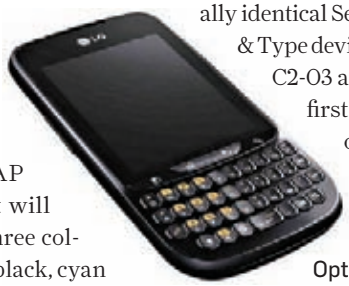
Earlier this July, Nokia introduced the world to the first MeeGo smartphone – the long-awaited and nearly vapourware Nokia N9 that's been expected since MWC 2008. It represents the first major step into the consumer space by the entire platform, jointly developed by Intel and Nokia.

A sleek all-screen device with a polycarbonate shell, the N9 bears a 3.9-inch AMOLED Gorilla Glass capacitive multi-touch (480x854) display. The Nokia N9 is also the first Nokia phone with a 1GHz Cortex A8 CPU and PowerVR SGX530 GPU (TI OMAP 3630 chipset). It will be available in three colours at launch – black, cyan and magenta, and in two variants, with 16GB and 64GB of inbuilt storage. It comes with an 8MP wide-angle autofocus Carl Zeiss camera and dual-LED flash, capable of 720p HD video recording. As for connectivity, the N9 supports only Micro SIM cards, offers USB-on-the-Go as well as NFC, and has quad-band GSM and penta-band WCDMA radios.

The N9 thins down to 7.6mm at the edges, up to 12.1mm at its thickest, and weighs 135 grams. It has a 1450 mAh battery, rated to deliver up to 11 hours of talk time. The MeeGo 1.2 Harmattan OS has a Webkit2-based browser and comes bundled with a few apps, including a document editor, PDF viewer, Ovi Maps, Angry Birds Magic, Facebook and Twitter. The interface has apparently been simplified a lot, with just three types of home screen views: apps, open apps and events. Navigation is all in the swipe.

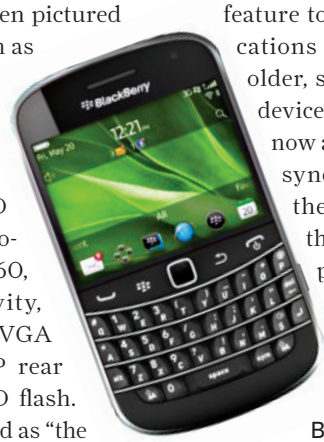
HTC Flyer

No tentative release date or pricing accompanied the N9's announcement, however, it is expected in 2011 itself. Nokia also announced three new and virtually identical Series 40 Touch & Type devices: the C2-02, C2-03 and C2-06. The first, C2-02 is the odd one out, not being a dual-SIM device. All three phones have basic features, with 2.6-inch 240x320 resistive touchscreens, 2MP cameras, GPRS/EDGE connectivity and 1020 mAh batteries. The only difference between the C2-03 and C2-06 is that the latter comes in a different colour scheme. As for the pricing, the C2-02 and C2-03 phones are expected to start at €75, or roughly ₹4,800, and C2-06 is expected to be €80, or roughly ₹5,200. Refer to www.thinkdigit.com for more details.


Optimus Pro

Huawei MediaPad-615

Two other Nokia devices were spotted online: the Symbian Belle based Nokia Zeta and the Windows Phone Nokia Sea Ray. While other Symbian Belle devices have been seen listed, the Zeta is the only one that's been pictured so far. Also known as the Nokia 700, it will reportedly sport a 1GHz processor, a 3.2-inch AMOLED display with a resolution of 640x360, NFC connectivity, a front-facing VGA camera and 5MP rear camera with LED flash. It's also being billed as "the thinnest smartphone ever" and is very lightweight at roughly 80gm. Just days after the launch of the E9, a leaked confidential video recording of CEO Elop introduced the world to the first Nokia Windows Phone. Codenamed Sea Ray, a device quite similar to the sleek, all-screen N9 was shown off, except that it had what looked like a capacitive Windows button at the bottom, and a dedicated camera key on the side.


BlackBerry Bold

Apple iPhone 3GS

Keeping a Tab

In the world of tablets, Google has just released the latest revision to the tablet side of the Android platform, Android 3.2. It brings a number of enhancements and touts optimisation across the system that aims to improve the performance of the OS on current tablet devices using the OS. Android 3.2 introduces a new compatibility zoom feature to enable applications designed for older, smaller-screen devices Android also now allows users to sync media from their SD card, if their device supports it. For developers, the Android

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Cell phone cancer
A new study suggests that people who've been using a cell phone for more than a decade haven't shown exceptional occurrence of brain tumours

iOS 4.3.4 Jailbreak
Apple iOS 4.3.4 was supposed to have fixed the recent jailbreaking on 4.3.3. It's reportedly still vulnerable to PwnageTool, working across most iOS devices

3.2 SDK has been released, with extended APIs for managing screens support. For more information about this release, check out the Android developer web site.

Globally, the Huawei MediaPad was introduced, detailed as the first 7-inch Android 3.2 Honeycomb tablet. Expected in Q3 2011, the Honeycomb tablet doesn't have a dual-core Tegra 2 processor and instead comes with a 1.2GHz dual-core Qualcomm CPU and Adreno 220 GPU. The 7-inch capacitive touch screen features an IPS display, with a resolution anywhere between 1024x600 and 1280x800.

The 10-inch Dell Latitude ST tablet was leaked again. Code-named Peju, the full HD device is rumoured to be upgradeable to the touch-friendly Windows 8, and features an improved line-up of specifications since we last saw it, with a Core i5 processor and 4GB of RAM.

In the meanwhile, back home, India got itself the 7-inch Gingerbread HTC Flyer (₹39,890 for Wi-Fi+3G), and the 10.1-inch Honeycomb 3.1 Motorola Xoom tablet (₹32,990 for Wi-Fi and ₹39,990 for Wi-Fi+3G) this July.

Moto Xoom

Keeping connected

Other mobile phones have been introduced globally, with vague announcements right from RIM promising seven new BlackBerry next-gen smartphones by the end of 2011, to Sony Ericsson's descriptive introductions of the Gingerbread-based Xperia Ray and Xperia Active.

Seen on the company's product blog, the Xperia Ray looks somewhat like a smaller Xperia 10, with a 3.3-inch screen and 854 x 480 pixels resolution. The 3-inch scratch-resistant Xperia Active on the other hand, has sporty looks, is water-resistant and can survive under 1m of water for nearly 30 minutes. It also has GPS and a barometer, along with Bluetooth and a wrist-strap.

Xperia Active

The LG Optimus Pro C660 and Optimus Net Android Gingerbread phones have also gone on sale abroad. Back home, the iPhone 3GS was re-launched, and the LG Optimus Black was launched, at the same ₹19,990 price point.

News on smartphones & tablets - A lot more fun!

If you're in the habit of following the global news updates on your smartphone, here are some different (compared to traditional text-intensive) apps. The best three apps you can download on compatible devices.

Zite

Free app. Only for iPad

http://zite.com/

This is a 'personalized magazine', and true to its name, it offers a very retro magazine-ish interface. No interference or space stealing by social networking features, this one is all about info.

We completely love the "white like paper" background and classy fonts. It is fully customizable in terms of what content you want, and we're sure you'll love the 'flicking through a magazine' feel Zite offers. Have an iPad? Get this!

News 360

Free app. For Android, Blackberry Playbook, iPad, iPhone, Windows Phone

http://www.news360app.com/

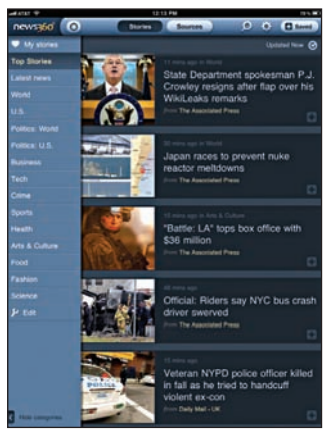
The sheer volume of content available on News 360 is just unbelievable. The information you want on the first screen itself can be fully customized, but the app focuses on providing maximum news in headline format first, and lets you select the one you want more info for. Also, you can sort news by stories or sources (like CNN.com, NYT, Fortune etc.) for each category. The app's design layout is extremely well done, because with the amount of information on offer, there was a huge risk of it becoming overwhelming for the reader.

FLUD

Free app. For iPhone and iPad

http://www.theflud.com/

FLUD does the job of pulling information from various sources including feeds from the URLs that you may specify. Through this app, you can also sign in to Google Reader. The interface depends on visuals with accompanying text to get its point across. You'll like the way content is organised according to source, and the slider tabs on the top, allowing switching between categories. It's a bit limited in terms of sources for certain news categories, particularly sports.



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Microsoft's social secret
Microsoft accidentally revealed Socl.com, its 'in the works' social network

Great? Really?
Sony Network chief calls PSN outage a 'great experience'

Streaming the tunes

Get all the music in an instant

Vishal Mathur
vishal.mathur@thinkdigit.com

Finding all the music you may like (even if you're talking about a few select tracks!) is a pretty arduous task. Considering the fact that music stores aren't well stocked with music, except probably the Bollywood soundtracks, and downloading online can be pretty difficult for someone without a credit card (well, we'll not recommend piracy), music streaming is a viable alternative you can try out.

The simple theme of music streaming from online sources is simple - instant and relevant. With so many sources available, there really won't be a track that you may not be able to search for. After all, how many CDs will you be able to procure, stack up and maintain over the years? Music streaming is available on a variety of devices including the PC, your smartphone and even certain HD media players. Literally a million music tracks available at your fingertips!

Here are the best online services that are available in the Indian region. The likes of Pandora are not available here, due to geographical and contractual limitations.

Live365
Methods of access:

- PC software (Free for ad-supported accounts; 5-day VIP trial included)
- PC Web browser (Free)
- iPhone, Blackberry, Windows Mobile platform (VIP subscription needed)
- WD Live HD media player (VIP subscription needed)

The online radio streaming web site

offers a wide variety of music genres on multiple platforms: web browsers and dedicated applications for the PC, applications for iPhone, Blackberry and Windows Mobile, widgets for your blog and Facebook page as well as a built-in app on the Western Digital Live HD Media Player (and now even on the WD Live Hub). The ad-supported "no subscription necessary" access version is available on the PC only (browser or app), without

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Service Offering Overview

- **Web Hosting**
- **Dedicated Servers**
- **Hosted CRM**
- **Mail and Messaging Services**
- **Co-Location**
- **Content Management Systems**
- **Virtual Private Servers (VPS)**
- **Web Designing**
- **E-Commerce**

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Actual Data Center Pictures

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PayPal's goes offline hunting
The major online payment gateway eyes the offline market to catch more fish

Apple's 'locationgate' settlement
The $323 billion company was ordered to pay $946 in compensation for collecting user geolocation data without permission in May

any time limitations. However, to access the service on any other device, there's a VIP charge of $7.95 (₹353) per month.
The Indian connection: www.live365.com/genres/indian.

TuneIN
Methods of Access:

- PC Web browser (Free)
- Android, iPhone, iPod, iPad, Blackberry, Symbian, Bada, Windows Phone (Free)
- WD Live HD media player (Free)

This is one service that seems to be available on almost every device you may lay your hands on. With over 50,000 radio stations catering to music, sports and talk, available for free, we're sure you'll find something to your liking here. It has more than 400 Indian radio stations as well.
The Indian connection: http://tunein.com/radio/India-g147/

SHOUTcast
Methods of Access:

- PC web browser (Free)
- Toolbar for Windows and Mac OS (Free)
- iPhone app (Free)
- Winamp Media Player (Free, from within app)

Over 40,000 free Internet radio stations on tap, and counting, this service won't disappoint you when you're out searching for that one track you've been humming in your head! Start listening to radio without signing up, but if you want to stream your own station, then a signup is necessary. The free service extends to the iPhone/iPod Touch platform with a dedicated app. Not only that, SHOUTcast is also integrated in the Winamp Media Player interface. And just to reiterate, this service can be accessed without any subscription payment.
The Indian connection: www.shoutcast.com/radio/Hindi

AccuRadio
Methods of Access:

- PC web browser (Free)
- iPhone, Android, webOS app (Free)

Completely free service offering a huge variety of online stations streaming all genres of music. It has a really slick interface which appeals visually as well as content wise. No need to sign up or pay a subscription charge to listen to the tunes. Point your web browser to the web site or download the app for iPhones, Android and Palm's WebOS.

Last.fm
Methods of Access:

- PC web browser (Paid subscription needed after 30-song trial)
- iPhone and Android app (Paid subscription needed after 30-song trial)

The way this site works is quite simple. It allows you to play "radio stations" based on music genre, artists, top tracks and even most loved tracks. This method not only ensures that you don't have to hear the same music over and over again (unless you wish to, of course!), but also get to listen to "similar" music. For example, if you wish to listen to music from the band Coldplay, you'll be suggested music by Radiohead, Muse, Keane and even The Killers.

This service is available via the good old web browser, as well as through dedicated apps for the iPod and iPhone family and Android phones. If using this service on the phone, we suggest you use a Wi-Fi connection for faster streaming.

When you sign up at Last.fm, the free trial lets you listen to 30 tracks. If you want to continue, you'll need to pay $3 (Rs.133) per month for unlimited streaming. However, if you happen to live in the U.S., the U.K. or Germany, the service is available in unlimited quantity for free via the web browser.
The Indian connection: www.last.fm/tag/hindi

Grooveshark
Methods of Access:

- PC web browser (Free "ad-supported" version or Grooveshark Plus subscription pack)

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Really fast broadband!
T-Mobile has started 4G HSPA+ network with 42Mbps speeds in 50 cities in the US

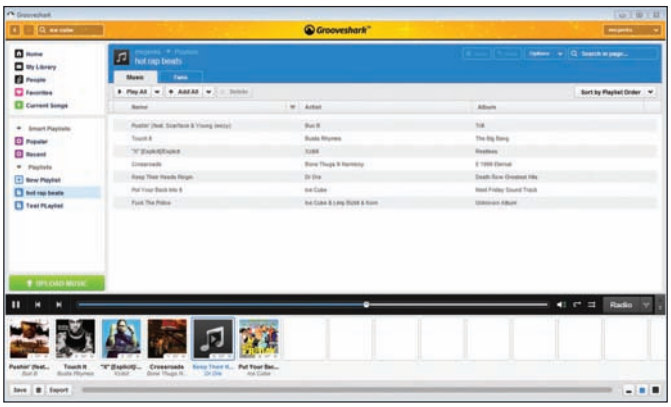
What do you really love?
Google officially announced its "What Do You Love" search tool in June **http://www.wdyl.com/#**

With so many sources available, there really won't be a track that you may not be able to search for. After all, how many CDs can you procure, stack up and maintain over the years? Music streaming is available on a variety of devices including your smartphone and even certain HD media players.

- Blackberry and Palm (Paid Grooveshark Anywhere subscription pack)

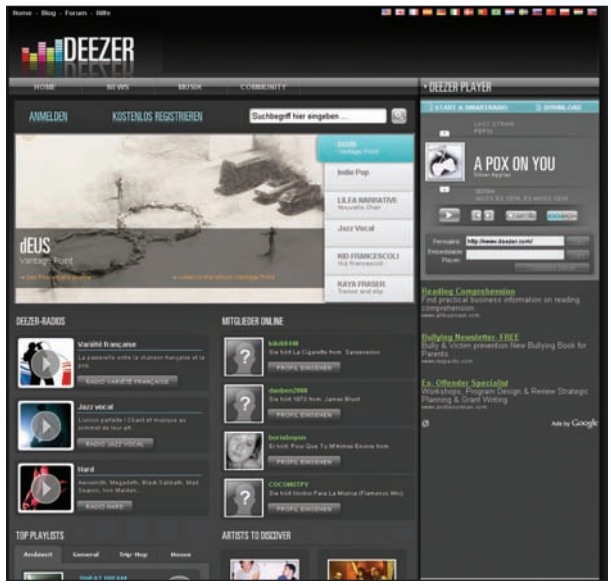
Another music streaming service which is available on the PC and the phone. The interface offered within the web browser is quite funky, but does tend to lag a bit on slow broadband connections. Grooveshark will allow you to sign up for free and let you listen to unlimited tunes. However, there are a couple of paid options as well. Upgrade to Grooveshark Plus for $6 (Rs.266) per month if you don't want any ads with the service. Paying $9 (Rs.400) per month for Grooveshark Anywhere will give you access to the Plus features in addition to the service on Blackberry and Palm. However, if you choose to continue with the free subscription, you get access to lot of music. Though the advertisement-supported interface is not really to our liking, the variety of songs on offer is quite decent.

The Grooveshark app was removed from the Apple App Store and the Android Market after the (Recording Industry Association of America) RIAA complained that Grooveshark had infringed on some artist copyrights.



While Grooveshark vows to fight back, the app isn't available for the iPhones and Android phones, at least officially. However, an "unofficial" Grooveshark app is now available for Android phones!

The Indian connection: http://grooveshark.com/artist/Hindi+Songs/1213295



Deezer

Methods of access:

- PC web browser (Free, Premium and Premium+ subscriptions)

This is one super loaded platform and the sheer variety of music on offer is just superb. Over 6.5 million tracks are available for your listening pleasure and it's highly unlikely that an artist and the tracks won't be there. However, we did manage to find some missing links. Search for Linkin Park, and only "Linkin Park tribute" tracks will be available, from other artists. No original tracks from the band. Also, search for Johnny Cash, and you'll find almost all of his tracks except "Ain't No Grave". This selective unavailability of tracks is the only niggle in an otherwise excellent package.

Signing up is free, and you get access to all tracks available, for simple streaming and listening. Apart from individual tracks, there are user playlists and Deezer Radio services. Deezer users make playlists and share them. You can listen to, rate and comment on them. The Deezer radio stations are categorized by genres (which even include music festivals!), and you can listen to these with the free subscription.

However, when you pay for the Deezer subscription, there's a lot more that falls on your plate. For €4.99 (Rs.360) per month, the Premium subscription removes all adverts, both from the screen as well as the ones embedded in the audio stream. The audio quality gets a boost, from 96kbps/128kbps to 320kbps.

Go a step further, pay €9.99 (Rs.715) for Premium+ and along with the Premium subscription features, get a lot more good-

ness. You can download your favorite music and playlists on your PC or mobile device. These tracks will be available in online/offline mode, on the Deezer Desktop or Deezer Mobile application, through the duration of the active subscription.

Bandwidth limitations

The biggest limitation with online audio streaming is the amount of bandwidth on offer, and the quality as well. If the Internet connection you're using is 512Kbps or more, then you'll be able to enjoy stutter-free online radio. Any lesser than that, and you might become good friends with the term 'buffering'! If using broadband at home (DSL etc.), the connection ideally should be more stable. Wherever you access these services - PC, smartphone, or devices like an HD media player - the connectivity and load times will be seamless.

You'll have a bigger connectivity problem if you're on a data card or using the mobile network. 3G data cards with sufficient speeds and signals at that time will work fine. However, the older gen data cards with 144Kbps max speeds won't be the best tools for online streaming;neither would a GPRS/EDGE connection be. While EDGE will allow you to listen to music, it may be littered with paused and buffers, unless you select the lowest quality stream on offer.

Those who have a data limited plan should keep a tab on their amount of usage, since streaming can eat up the MBs faster than you think. Avoid the trouble of a huge data usage bill at the end of the month.

Price factor

Online radio/streaming services offer, as we have illustrated in this article, both - free and paid versions. If you aren't very finicky about having the absolute ultimate package available, we suggest trying out the free options. If they solve your requirement, fair and good, no need to pay! If they don't, and you want to use some of the extra features on offer, then pay for a subscription plan accordingly.

Most home users might be on unlimited data usage plans. However, be aware that most ISPs have a 'fair usage policy' set. Crossing that will mean the speed will get chopped quite a bit for the rest of the billing cycle. Those who have a data limited plan should keep a tab on their amount of usage, since streaming can eat up the MBs faster than you think. Avoid the trouble of a huge data usage bill at the end of the month.

We still haven't seen any truly unlimited data usage plans on mobile networks such as EDGE, 3G for mobiles or even on data cards. Usually, mobile service providers charge around 10p/10KB. Keep a check on the amount of data you may be using.

30 **PMP is dead?**
Long live the smartphone! No. wait. long live the tablet

Up, up and away
NASA's Atlantis crew carries Samsung Nexus S and an iPhone 4 to help them conduct science experiments using custom-made apps

Tag Heuer LINK Smartphone

Luxury watch maker Tag Heuer's foray into mobile phones might take you by surprise. LINK smartphone, as it is called, is made of alligator skin and a variety of stainless steel material. The phone is pretty rugged as well as it is waterproof and shock resistant. Sporting a 3.5-inch Gorilla glass screen, LINK smartphone runs on Android 2.2 Froyo. Other specifications include a 5-megapixel camera, 256 MB internal memory expandable upto 8 GB. The phone is priced at ₹3,50,000

Loewe Reference

A perfect ensemble from the house of Loewe to add further stature to your living room is the Loewe Reference. Featuring a super slim 52-inch HD LCD TV which has a side width of a mere 60 mm displays images at 200Hz technology. Along with a Dolby 5.1 system an integrated media centre allows you to store content of upto 500 GB and record live TV. A complete home entertainment system, the Loewe reference is available for ₹2,68,300

Money management

Standard Chartered Bank hopes to make mobile banking a breeze with its new iPhone app, Breeze

Smallest radio speaker

Although miniature in size, X-mini WAVE flaunts an inbuilt radio receiver capable of recalling the last station played

Panasonic Toughbook H1 Field

Considered the industry's most rugged PC tablet the H1 Field tablet from Panasonic is truly made for the rough outdoors. The internal frame of the tablet is made of magnesium alloy which gives it an all-weather durability. A 10.4-inch sunlight viewable screen lets you work and play in extreme conditions. Two fast charging hot swappable batteries ensure you never run out of juice on your device. Other features include Wi-Fi, Bluetooth and a smart card reader. Available for ₹1,50,329

Terminator skull DVD player

This is one collectable item all Terminator fans would kill to own. It seems like the deceased T 101's remains are still around and have been turned into a DVD player. We don't know if this is an insult to the late warrior bot or a homage but it's shiny and the exoskeleton's eyes glow red (just like the one in the movie) while its head opens up to insert DVDs. If only it could wield out a Gatling Gun, but then, you can't get everything. Contact Skynet for price and availability.

Nokia Oro

You might have seen luxurious iterations of smartphones studded with diamonds and have platinum coating. However that's not the case with the Nokia Oro, a Nokia designed and manufactured limited edition phone. The 18-karat gold plated Oro is studded with sapphire crystals. Only a handful of these would be available at the end of this year. If you're wondering why you haven't seen any ads of this beauty then you're probably living on the wrong side of the world. It runs Anna, the latest version of Symbian and features a 3.5-inch display with an 8-megapixel camera. Available for ₹50,120

Nokia trying to keep afloat
Nokia may slash prices of its smartphones after having lost market share in the European Union

Another Google service bites the dust
Due to slow uptake, Google will stop its health monitoring service Google Health on Jan 1, 2012

The PMP is Dead

Long live the smartphone! No wait... Long live the tablet!

Siddharth Parwatay
siddharth.parwatay@thinkdigit.com

Ever so often you come across a "*something* is dead" headline, right? Late last year, Wired tried to shock you by proclaiming "The web is dead". In the aftermath, the tech intelligentsia pretty much scoffed at the sensationalism at work. Now, here we are with another one of those headlines. Could there be some truth to it? Let's find out...

Times, they are a-changing

The portable media player (PMP) as it was first experienced by the world in the form of the good old Sony Walkman has come a long way. Since that time in the early 80s right until that fateful November of 2001 when the iPod exploded on to the scene, the landscape pretty much remained the same. Sure you had the Discman and the odd idiot walking around with a Boombox, but the concept essentially remained the same - you chose the amount of media you wanted to carry (only music then, in the form of cassettes and later compact discs) and limited yourself to your selection for the day. Digitisation, compression algorithms and, of course, 'sharing' laid the groundwork for the iPod's entry. With the coming of the iPod, people changed the way they listened to music. You no longer had to shortlist music for the day. The first iPod could store a thousand songs in your pocket! That was more than what most people owned back then, or more aptly - more than what they'd managed to accumulate over P2P networks.

Meanwhile the lesser known Cowons, iRivers and Creatives of the world launched competing products of their own. Soon the MP3 player underwent a mini transition. It became a portable media player. People wanted to watch video on the go and why not? The players had colour screens even before the arrival of the iPod. But most of them were clunky in comparison in terms of user experience. Apple pulled another rabbit out of its hat by revamping the user interface of its sixth-generation iPod Classic and third-generation iPod Nano, even adding video.

Birth of the converged device

About this time, phones were truly transforming into what we're familiar with these days - the ubiquitous smartphone. These devices had started incorporating larger screens, more memory (at least via expansion cards), codec support and decent battery life. They were slowly but surely inching their way closer to being truly converged devices. If it has everything that you want from a portable media player, why wouldn't you want a single device? One device to rule them all. Well sort of. Phones still had a long way to go.

The true cannibals arrive

By mid 2007, the world witnessed another revolution of sorts in consumer technology. The iPhone was unveiled. The device and certainly its later generations could do much of what Apple's own iPod could and then some more. On a single device, you could now store tons of media, connect wirelessly and even purchase music over the air. No more syncing hassles, at least in theory.

Besides the convenience of carrying a single device, the cost benefits can't be ignored. Spend once and cover all bases, seems to be its mantra. There are very few people remaining who would want to carry around a high-end PMP such as an iPod Touch or Cowon coupled with a very basic phone. It's just not cool.

Now, we also have newer operating systems such as Google's Android OS. Just like the iOS on the iPhone, Android too has become a 'platform' that can greatly enhance the underlying smartphone's functionality by way of apps. Plus, phones of today have hardware specs that can rival full-fledged computers of just a few years ago. They enjoy better battery life, data connectivity infrastructure, storage and multi-tasking than the first lot of smartphones that now seem like proof-of-concept devices. Over the past year or so, we've also seen a new creature take centre stage. Yes, we're talking about the tablet. What better way to stream video content than on a plus 7-inch screen, right? Each stage of evolution seriously threatens

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Super Speed

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Lock down the labs

Google has announced plans to shut down its Google Labs web site. Labs, a source of tricks, hacks and gizmos the world over, is the latest casualty after Google Health and Google PowerMeter. Many Android apps created here will continue to be available on Android Market

No naked scans

A new software for screening of travellers at the US airports will address the general public concern over full-body scanners

to cannibalise earlier generations.

Meanwhile sometime amid all these shifts, Apple released its iPod Touch - a device that was pretty much an iPhone sans the phone! In hindsight, could technology historians one day look at this as Apple's last attempt to save a dying franchise? Perhaps. The iPod Touch now honestly seems like an anachronism, a device that belongs to another age. Developments such as these surely indicate that the epoch of the iPod and the PMP may finally be over.

What else is changing?

Apart from hardware on existing devices like smartphones and the emergence of a newer class of devices such as tablets, there are certain game-changing transformations in the offing. Just like digitisation, audio compression and piracy laid the perfect groundwork for the entry of the iPod, certain trends are occurring as we speak that will lay the foundation for a shift away from the PMP. We're now witnessing a paradigm shift in the way media is consumed. We've gone from hoarding music to now being open to streaming music as and when we need. Think about it, when was the last time you thought of a song and played it from your "collection"? At least we've not for the longest time. Why would anyone? Streaming is perfectly legal and instant.

With bandwidth finally starting to become readily available people just stream music from the numerous services available. Streaming services even provide curated lists, algorithmically generated recommendations, listening statistics and loads of other features, thereby adding another layer of functionality to the user experience. With 3G and next generation wireless data services being implemented, soon enough, you'll be doing the same on your smartphone or tablet. By then, battery would (hopefully) not be a problem either. Instead of trying to cram nearly endless collections on to your device you'd simply be able to tap into the infinite backup that is the internet. Sorry, we meant cloud.

Disclaimers

Of course we weren't going to make seemingly ludicrous claims without appropriate disclaimers. While all of the points we've spoken about so far certainly indicate that the discreet PMP is certainly on it's way out, there will be certain caveats.

One possible argument in favour of the PMP could be that the PMP will evolve into something better. But what? If a PMP one day lets you make calls and connect to a data connection its functionality as a phone supersedes that as a PMP. If it becomes large enough to be a tablet, it'll be called a tablet. The logic is akin to saying that the device in my pocket is essentially a calculator that can make calls.

Another more valid argument in favour of the dying device can be found in certain niche spheres where the PMP may still dig its heels firmly into the ground. There'll be the odd person going, "but I like to wear my itty-bitty Shuffle on my official Nike sports arm band for my morning run". Sure there's no perfect substitute for you. But what we must realise is that this sort of thing will become more and more rare as we go along. Smartphones of today will not only keep you pumped up with your favourite tunes, but also track your run. Apps will give you all sorts of data on calories burnt and some such.

The other category of readers who'd by now have turned blue trying to contain their opinions are audiophiles. Or more appropriately pseudo-audiophiles who swear by the iPod's superior components. These are guys who'd wax eloquent about the Wolfson DAC on their iPod like it's God's greatest gift to mankind, but really, it's not. To truly up the iPod's audiophile quotient you need to implement mods at both, the software and hardware level. For instance, to play FLAC you need to Rockbox the firmware. But all this is beside the point. Most of us are satisfied with decent quality audio on the go coupled with good UX which today's range of smartphones easily provide. Who cares if you can't hear the faint rustle of the lead vocalist scratching his privates which the recording might have picked up?

WHAT ELSE COULD BE DEAD SOONER THAN LATER?

With smartphones and tablets evolving beyond what was thought possible here are some of the other things of everyday use that face possible imminent extinction:

GPS devices: With accessories such as car docks and map packages constantly being updated with up-to-date POI data, who would need a dedicated GPS device?

Point and shoot cameras: With sensor sizes increasing, it may not be a stretch of one's imagination if this product category disappears.

Magazines/Newspapers: Yes, with a heavy heart we must acknowledge that the reading experience that tablets, phones, and eReaders offer is superlative. Of course Digit will live on, it'll just be on your electronic device.

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36 **Future of Linux**
Will 2012 finally be "The Year of the Linux Desktop"?

42 **Is there money in OSS?**
There's some serious money to be made in Open Source. Here's how...

A Career in Open Source Development

Open Source offers a world of opportunity, even for non-coders. In this article we give you the basic know-how on what you can expect and how to get started with Open Source as a career.

Anoop Verma
readersletters@thinkdigit.com

The most unique thing about Open Source programming is that it offers all kinds of opportunities even to those who are non-programmers. The entire framework of Open Source is such that just about anyone with creativity can give expression to his idea.

Even if you don't have programming knowledge, you might be able to do some really good work with popular Open Source programming languages like Python. What you ultimately create with Python depends more on your creativity and less on your programming skills. Many non-programmers tend to give Android App Inventor a try. With the App Inventor you can use the drag and drop method to create the app of your choice. And if the product is good enough, you might be able to find buyers at the Android market place.

Most of the opportunities however, are available at the enterprise level. According to data released by the popular international job site, Elance, up to 20 percent of its top 50 most sought after skills in IT, are comprised of Open source technologies.

An open world

Venkatesh Krishnan is an Open Source enthusiast. He became part of the Open Source community while he was still in school, when he had become habituated to downloading all kinds of software from sites like SourceForge. While he was in College, doing his Btech, he came in contact with the Campus Ambassador Program, which is the initiative of Sun Microsystems. He picked up many new trends in Open Source development and also managed to improve his programming skills. Today he is employed in an international technology company at a senior level, but in his free time he continues to contribute in various Open Source projects.

"If you are good at Open Source development, companies are going to come out looking for you," says Venkatesh Krishnan. "Every major company in the world, including names like Oracle, Google, Microsoft and IBM have major Open Source projects going on all the time." There used to be a time when Open Source was synonymous with Linux and Java, but now it includes several middleware and enterprise applications. Open Source skills that are most commonly in demand include content management systems such as WordPress, Joomla! and Drupal. All three are good examples of on going Open Source projects that have been built by teams of contributors from around the world.

"The basic frame work of the data management system can be created by using WordPress, Joomla! or Drupal, but for putting special features in the overall set up, companies still need to hire competent professionals," says Venkatesh. There is also demand for open source database systems such as MySQL, and mobile, e-commerce and web server technologies. A normal Google search on Open Source projects will give you thousands of leads. Many of these projects are the brainchild of programmers, like Venkatesh, who work in corporate offices during the day and contribute to Open Source projects in their free time. You could be a Java developer by day and Python or Apache expert by night.

How to begin?

"Open Source has now become so vast that there cannot be any clear-cut guidelines for anyone to build a career in this field," says Prashanth Bhatt, software professional based in Bangalore. "There is nothing that stops a programmer from working with both licensed software and with Open Source. The difference between the two seems to be narrowing down." By participating in Open Source projects, you will be able to acquire new skill

sets and you will add new credentials to your resume. This will only bolster your chance of having a better job opportunity in the company of your choice.

When applying for a job, you should try to give full details of the Open Source projects that you have been involved in. You must try to describe the project in as much detail as possible, why you became involved, and your contribution.

Your reputation is your certification

As far as the basic programming related knowledge is concerned, it can be obtained from any reputed training institute. NIIT, Aptech and others provide courses in Linux, MySQL, etc. Once you have the basic training, you will be free to apply your ingenuity and creativity at various projects. The best certification in Open Source development that anyone can hope to have is reputation. There have been many instances where highly commendable contributions to Open Source projects have come from individuals who are still in school or college. Age is clearly no bar for excellence in this field. Once you have done some good work, people within the community of Open Source developers will start recognising you, and slowly you are able to build a reputation.

One of the most popular hangouts for Open Source programmers is SourceForge (http://sourceforge.net/). Currently this place has more than 300,469 live projects. Google Code (http://code.google.com), the initiative from the search giant Google, offers lot of opportunities to developers not only for posting their own projects and participating in those started by others, but also by way of providing different kinds of tools that can be used for software development. Here you can download the source code for the popular mobile OS, Android, and use it to develop all kinds of apps, which can then be offered in the Android market for free or for a fee. Google Summer of Code, an extension of Google Code, is a global program that offers student developers stipends for writing code for various Open Source projects. The program has been running since 2005. The 2011 Google Summer of Code, organised in India, saw enthusiastic participation of students from many colleges across the country.

Codeplex (http://www.codeplex.com), an initiative of Microsoft, has thousands of Open Source projects running at any point of time. You can also start your own project and if you are creating something interesting then other developers will take notice and join the project for fixing bugs and implementing new features. With certain specific skill sets, you can join commercial Open Source projects like Fedora, Mozilla, Apache, Alfresco, Pentaho, etc. Here the chance of being paid for contributions is pretty high. When you become part of project, you usually begin by becoming a tester. That is you try to identify the bugs, even as you get an inkling of the technology behind it. Eventually you can try to come up with solutions for the bugs. You can also contribute by doing a through documentation of the project.

In most cases, the projects running on SourceForge, Codeplex, Google Code and on many other places on the Internet, remain free from copyright or patent related issues and hence it can be used by everyone. So Open Source development should not be seen only from the angle of bagging a job with higher social status, and better pay and perks, it is also about giving something back to the world. Any free software that gets created has the effect of further enriching the world of IT and that in turn leads to new products and services becoming available to everyone at a cheaper price. Open Source has now come of age, with a vibrant community of developers and entrepreneurs supporting it. So if you have the necessary skills and the mindset then it is about time you became part of the Open Source movement.

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Tomorrow's tux

Linux has come a long way over the past 20 years, but what will the next 20 years be like for it? Will 2012 finally be "The Year of the Linux Desktop" before the Mayans come to the future in their time machines and kill us all?

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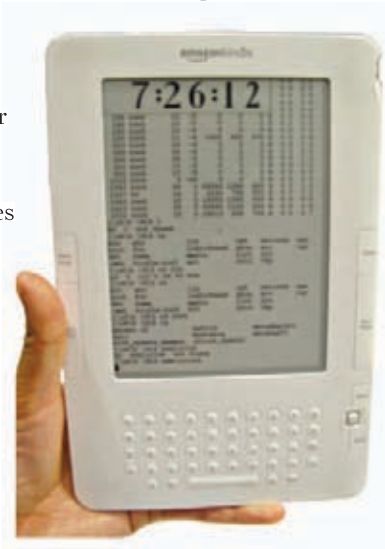
Open source isn't just a geek term anymore, for good or for bad, open source has become mainstream and is generally considered a Good Thing™ by everyone, even those who don't have the faintest clue about what it means.

In the end, to the average user who doesn't know how to code, how is software whose code they won't download any better than software whose code they can't download?

Linux is everywhere

There is a boom of devices now, and we're faced with more computing platforms than we ever were before. We have smartphones, tablets and netbooks as entirely new form factors, and they've brought with them special requirements, such as the need for a low power, customisable operating system, which Windows is not. On devices such as OLPC (one laptop per child) where there's an emphasis on reducing cost, Linux is just the right option, being most economical.



An Amazon Kindle running Ubuntu

Microsoft has been slow to respond, and while there's a boom of ARM-based devices, it will be the next version of Windows, still far from release, which will feature ARM support. Debian GNU/Linux, on the other hand, has been available for as many as nine hardware platforms!

Android is Linux, Samsung's bada is Linux, Intel's MeeGo is Linux, Nokia's Maemo is Linux, HP's webOS is Linux, Amazon's Kindle runs Linux, and these are just some of the mobile operating systems. HP even wants to install webOS on printers.

Linux can be customized to the core, and this core has been to places you wouldn't believe, from watches to keyboards and digital cameras to weather balloons. It might not seem very beneficial to the average user that a company is using Linux to run their microwave, but the nature of the General Public License (GPL) is such that any advancements made by any company to Linux come back to Linux.

So where does Linux go next? Well, everywhere! The Linux kernel has many places to go yet.

The desktop dream

Linux has been to every imaginative place, but on desktops it's still lagging behind. Compare the statistics of Linux on PCs to Linux on specialized hardware and servers. On PCs, Linux is still hovering around 2 per cent, while on top 500 supercomputers, it has a share of over 90 per cent!

So is the Linux desktop dream dead? Far from it.

A larger number of people today are aware of Linux, many of whom have used it at some point. Those who start off using netbooks have probably used Linux, and probably won't be averse to using it again. However, schools are still mostly using Windows, and for most people that's where computers begin and end.

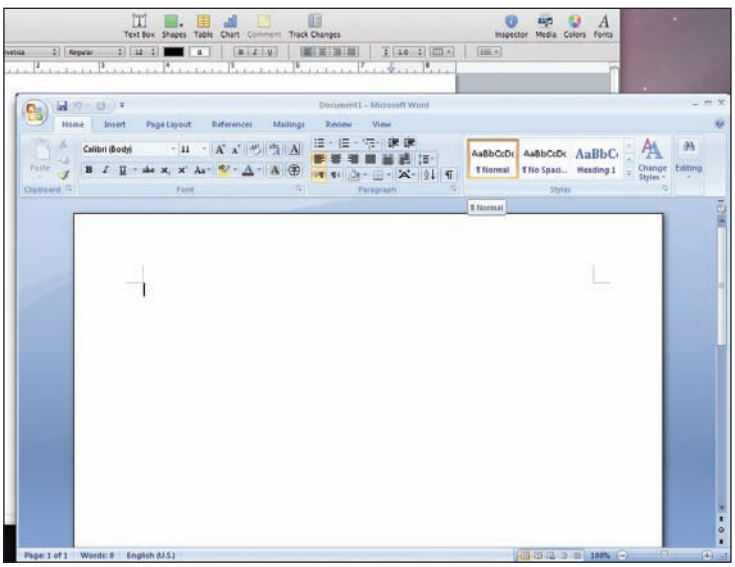
Linux is getting easier to use, despite the objections of ardent fans of the good old ways, and it's getting easier every

Login from your mobile phone: Terminal running on Android

Malware too is moving online, and becoming platform-independent!

Mass Effect 2 running on Linux using Wine

Amnesia: The Dark Descent, a critically acclaimed indie game that's available for Linux


Microsoft Office 2007 running on Ubuntu using CrossOver Office

few months as a new version rolls out, for free, while Windows comes every few years with a heavy price.

Linux is rightly advertised as the safer OS to use thanks to its lack of malware, but till now there's been no incentive to create malware for Linux. The increasing instances of malware reported for Mac OSX serve as a good indicator for what lies ahead for Linux. The worst part of it is that most Mac OSX users – many of whom have switched to the Unix-based OS just to get away from malware – are unaware that malware could infect their system and are thus unprepared.

The same might happen with Linux, but the beauty of Linux is that it might just fare better. Unlike Mac OSX and Windows, Linux is not only used by major corporations all over the world, but is even developed by said corporations. The Linux community can act faster against threats that crop up since more people have access to solutions to problems that exist and those that lie ahead.

Against Windows...

Now we come to the whole chicken and egg scenario. Certain applications are unavailable for Linux due to its small share, and Linux has a small share because certain applications are unavailable for it. We're going to break it to you – and you heard it here first – the egg came first. Unless the egg was laid on a radioactive pit, it had chicken DNA long before it became a chicken. Similarly, this Windows-Linux situation has a resolution as well.

Wine has shown great success in getting Windows applications to run on Linux, so much so that it can even run complex applications such as Microsoft Office 2007. There's a project, called Longene, in development that intends to include Wine in the Linux kernel, making Linux in essence compatible with Windows. On a Longene-based Linux distro, one will be able to install Windows drivers and software!

There's another huge aspect of Window that hasn't taken off on Linux yet, and that's gaming. The good news is that times are finally beginning to change. Wine is again very helpful here; you can

Private browsing not so private?
A Stanford University research points out that the private browsing feature in many popular browsers retain information when they should not

World of Warcraft running on Windows in VirtualBox running on Linux

run even the most recent games such as Portal 2, Dragon Age II, Crysis 2 and RIFT in addition to popular titles such as World of Warcraft, StarCraft II, and Half-Life 2.

Furthermore, there's a greater push towards releasing games on Linux now. The Indie gaming community ran the Humble Indie Bundle promotions, which were collections of cross-platform games at pay-what-you-want pricings, and Linux users were the largest contributors to sales.

Even better news lies ahead, as new game stores for Linux users are being launched. Gameolith, a Linux-only game store just launched with five titles, while Desura, an Indie-gaming-centric digital distribution store similar to Steam, is working towards a Linux offering. Speaking of Steam, rumours are abuzz that Valve is working on Steam for Linux, after they've already released a version for Mac OSX.

Currently, games mostly use the DirectX framework which is Windows-only, but OpenGL is once again starting to be a favourable technology. The apps themselves are changing in such a way that the OS platform might not matter as much as it used to.

...the apps themselves...

While Windows has stuck mostly to PCs, the scope of computing has gone far beyond that, and today an application developer needs to target more than just Windows if they want to reach the broadest audience. This means more apps developed using cross-platform technologies and toolkits, and thus increasing portability to Linux as well.

While DirectX only runs on Microsoft's Windows and XBOX platforms, OpenGL, its open alternative, is supported on Windows, Linux, Mac OSX and PlayStation 3. Furthermore OpenGL ES, a derivative of OpenGL, is supported on Android, iOS, Symbian, Bada, WebOS and BlackberryOS. WebGL, the new standard that enables 3D content on the web, is also based on OpenGL ES. As more game developers target mobile and web gaming, OpenGL will once again become the platform of choice.

A second change that is coming to applications is how they're delivered. A large number of great applications now run directly in the browser, making the underlying OS meaningless as long as it runs a browser that supports the latest web standards.

Angry Birds running in the browser on Windows, but it could as easily be Linux or Mac OSX

Another new mechanism that makes the OS running on a device inconsequential is streaming applications. A brilliant example of this would be OnLive, a new gaming system that streams games to your computer instead of running the game on your computer. Essentially, the game is played on its servers and a video of the game is streamed to your computer. Any mouse movements, key presses or gamepad data is sent to the game over the net. This way one can run a game in full HD without the need for a powerful graphics card. In fact, you can also use a netbook! With improving internet speed, such technologies will only become more powerful. Such mechanisms are also available for using applications rather than games.

Yet another change is coming to applications, and that is virtualisation. Running Windows in a Linux environment means that any Windows application will run perfectly. There's some evidence that game developer Ubisoft is playing around with this idea, as they've posted a video that demonstrated how a single computer can run two games on two monitors at the same time using two graphics cards. The OS they're using is Linux while the games are running on a Windows running in a virtual machine (VM).

With newer means and mechanisms for application and game delivery, one major barrier, that is lack of major applications / games on Linux will also pass.

...contend in vain?

The future of any OS though, depends on how far into the future we look. The current architecture of operating systems was developed for computers that had a single processor, and has over time expanded to include better support for multicore computing.

MIT researchers have shown that Linux is capable of scaling to as many as 48 cores with small modifications, so we aren't yet ready to abandon all OSs, there's still time.

That however is where the future lies. As the number of cores increase into triple digits and beyond, a new architecture of operating systems will be needed. Such operating systems will, in all likelihood, more closely resemble the distributed computing systems of today than either Windows or Linux.

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The rise of Zimbra
Zimbra began its life as an ordinary SourceForge project, and it was later on acquired by Yahoo for a heart-stopping $350 million

Mega savings
Standish Group has published a report stating that adoption of open-source software models results in savings of about $60 billion per year to consumers

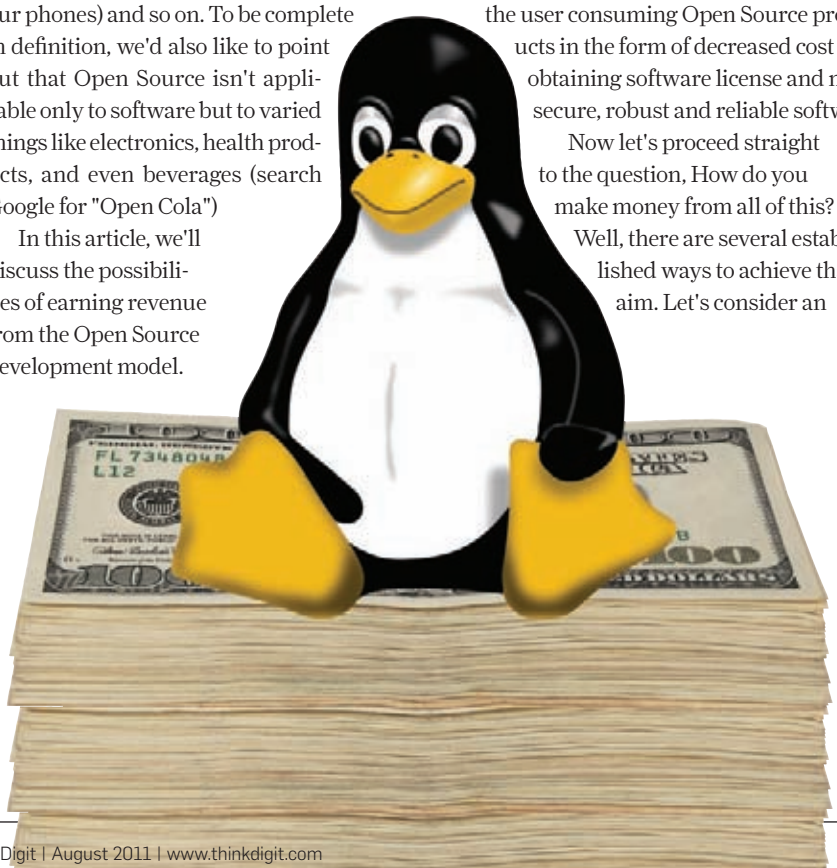
Who $aid there's no free lunch?

If you thought Open Source was all about charity, think again. There's some serious money to be made in it; here's how...

Nishith Rastogi
readersletters@thinkdigit.com

Open Source (OS) is a development model, where the application or software tools are typically available for free. And not free as in "free beer" but free as in "free speech". By that we mean that not only does the application not require money to use (as in free beer), but its source code (if a software was a food dish, then its source code would be the recipe) is open to all to read, access, modify and most importantly contribute (as in free speech). Some of the best examples of Open Source Software (OSS) that we all use are VLC Media Player, WordPress, Wikipedia, Android (on our phones) and so on. To be complete in definition, we'd also like to point out that Open Source isn't applicable only to software but to varied things like electronics, health products, and even beverages (search Google for "Open Cola")

In this article, we'll discuss the possibilities of earning revenue from the Open Source development model.



Though at first you might think that it's paradoxical to economise something which is available for free, you'll be surprised to know that there are companies with over $1 billion in revenue (RedHat), who earn that from the Open Source ecosystem.

From the development point of view the major advantages of preferring OS over proprietary counterparts are the possibility of volunteers contributing to your code base from all over the world. Plus, peer-reviewed source code tends to have less bugs and be more robust. A good example of this would be GNU/Linux which runs majority of the world servers and almost all of the supercomputers where reliability is of top importance. Many of these benefits carry over to the user consuming Open Source products in the form of decreased cost of obtaining software license and more secure, robust and reliable software.

Now let's proceed straight to the question, How do you make money from all of this? Well, there are several established ways to achieve that aim. Let's consider an almost exhaustive list of them and take them up one by one in brief.

Providing customer support and service

This is the most prevalent method to monetise Open Source services in the industry. Typically, when an enterprise deploys Open Source Software, which unlike commercial software doesn't come with customer support by default (since it's free), they want to be able to access technical support for it via some medium if they don't have in house expertise for it.

If you're wondering how much money can be made from this, you should know that one of the leaders in the field, Red Hat which provides enterprise support for Linux installation is close to raking in $1 billion in revenue this year. Yes, that's about ₹4,500 crore. It's been growing at an astounding rate, providing services over the past decade with more than 8X returns over the S&P 500 (Sensex of USA).

Similarly, a younger and newer entrant in this field Canonical, providing support for the super popular Ubuntu distribution is closing in on the hindered million dollar figure.

All you have to do is pick up any popular Open Source product used by thousands of enterprises, develop the required skill set and set up a support and service business for it.

Commercial documentation

Many of the best Open Source Software (OSS), especially the not-so-mature

A billion dollars from supporting free products

products, don't have very good documentation available for them; this might be a critical factor in enterprise-level deployment. Banking on this situation, original developers and third-parties provide the complete reference manual (say in the case of JBoss) for a reasonable sum of money.

Since the source is available for anyone to access, it's a huge oppor-

tunity for third-party companies to develop and sell documentation for popular Open Source products.

Modularisation

Some products have multiple offerings differing in features for the product. While the basic one is available for free in the Open Source format, some advanced features are available as a commercial option (examples would be WSAD and Sun Studio). Often the premium version will have some basic customer support rolled in, as explained above.

As an individual or a company, you can also develop add-ons or modules for the Open Source product which you can sell commercially. Because of the Open Source nature, it's easier to develop add-ons which integrate well and give superior functionality.

Custom solutions

Often it happens that for a huge enterprise the commercial solution is too costly or not technologically sufficient for its needs but the Open Source solution is slightly generic and doesn't integrate well with its existing system. This calls for specific customisation and addition of a few features. Some companies offer rewards to have specific features implemented in OSS that they use for their own business functions. Many times there's no need for the feature to remain Closed Source, so significant code is contributed back to the community. This is known as the beekeeper model of Open Source development. For example, Google contributed a lot of code to WINE (a project to run a Windows application on Linux) when it wanted products such as Picasa and Chrome running flawlessly on Linux without rewriting the whole code base.

Dual licenses

A powerful approach is to offer software under two alternative legal licences – one, a copyleft license requiring modifications to be released back to the community if the software is distributed, and a commercial license allowing the use of the software without Open Source restrictions. For example, when Nokia wanted to use Qt (a graphical base UI system used in KDE) in its mobile phones, but wanted to keep the development Closed Source, it went ahead and purchased (for $153 million from mobile software maker Trolltech) the commercial development license for the same.

Products based on OSS

As the startup cost of proprietary technology can prove to be prohibitive, you can use Open Source development tools to build your products. Twitter made very scalable and massive applications using completely Open Source technologies such as Ruby on Rails. Similarly, IBM built services and products around Open Source instead of competing with it. And how is it doing for its investors? Well, for comparison if you would have put $100 in Microsoft 10 years ago you would now have about $70, while a similar investment in IBM would have resulted in about $140.

S3 (Cloud Storage) and EC2 (Cloud computing) by Amazon are other great examples of the same.

Reputation

As an individual, if you make noteworthy contributions to an Open Source project which is even moderately popular, your employment worthiness increases exponentially in terms of choices and remuneration. High profile developers might even get paid to continue working on their Open Source contributions.

Acquisition and partnerships

If your Open Source project catches steam and you can provide a quality product, then companies are looking to acquire you and your team for the skill and intellectual property. Want to guess how big this gets? Consider the following: Sun Microsystems announced the purchase of Open Source pioneer MySQL for $1 billion, while Open Source mail-client firm Zimbra was acquired by Yahoo in late 2007 for a staggering $350 million.

Investment into Open Source Companies

What are you waiting for?

We've tried to cover various options for monetising the Open Source development model as an individual, organisation, third-party support or as the original developer of the product. Hoping these pointers will leads to better technology products and sprout some millionaires among our readers.

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Chief Product Architect

Industry: IT/Technology - Mobile/VAS Applications
Function: IT/Information Technology
Location: Gurgaon
Profile: Bachelor/Master in Computer Science with 15+ years experience. Java programming, UML and software source control & version control experience required.

Job Code: 5168

Program Manager

Industry: IT/Technology - Software/Services
Function: IT/Information Technology
Location: Hyderabad
Profile: Minimum of 10 years industry experience including Project Management, estimation and risk evaluation. Knowledge of Oracle Apps is essential.

Job Code: 5499

Technical Architect

Industry: IT/Technology - Software/Services
Function: IT/Information Technology
Location: Greater Noida
Profile: Technical Architect with 10+ years of experience and Engineering/MCA degree. MBA would be preferred.

Job Code: 5195

Solution Architect (.Net)

Industry: IT/Technology - Software/Services
Function: IT/Information Technology
Location: Bangalore
Profile: 10-15 years of experience in developing End to End solutions. Must be conversant with Enterprise architecture & Design and Architecture validation/Design & Code Reviews.

Job Code: 4237

Senior Manager

Industry: IT/Technology - Software/ Services
Function: Project/ Program Management
Location: Pune
Profile: 15-20 years of experience in application development and application management with deep skills in at least one Technology and Domain skills in Banking/Insurance.
Job Code: 4809

GM - Sales (Enterprise Solutions)

Industry: IT/Technology - ERP/CRM/SCM
Function: Sales/Business Development/Account Management
Location: Noida, Bangalore
Profile: 10-12 years of experience with exposure to Marketing/Business Development/Sales in the software industry including 5 years in sales management. MBA preferred.

Job Code: 4758

Sales Director

Industry: IT/Technology - Software/Services
Function: Sales & Marketing
Location: Gurgaon
Profile: PG Diploma, BE/BTech with 10-20 years of experience. Should have strong knowledge of IT and/or BPO services, preferably in the travel domain.

Job Code: 4462

Vice President-Data Production & Mgt.

Industry: IT/Technology - Data Center
Function: Senior Management/General Management
Location: Noida
Profile: MS/BS (specialisation in Computers) with over 15 years of experience. Must have prior experience in building large databases from multiple, disparate sources.

Job Code: 4769

Director of Product Development

Industry: IT/Technology - Software/Services
Function: Senior Management/ General Management
Location: Bangalore
Profile: 10-12 years of experience including in a product development team with history of releasing online, internet-based products for the commercial market.

Job Code: 5322

SAP Technical Architect

Industry: IT/Technology - Software/Services
Function: Software Architecting
Location: Bangalore
Profile: BE/BTech/MCA (regular graduates only) with 9-16 years of experience, including 9+ years in SAP technology in multiple business & technical processes.

Job Code: 5141

Solution Architect

Industry: IT/Technology - Software/Services
Function: Software Architecting
Location: Pune
Profile: MCA/BE/BTech with 10-15 years of experience, including in IT/software development, application architecture design and coding & best practices in Java/J2EE, Microsoft.
Job Code: 5521

Senior Software Development Engineer

Industry: IT/Technology - Security
Function: Software Design & Development
Location: Bangalore
Profile: Relevant Engineering Degree with 5-9 years of experience. Knowledge of coding major components of a product and of multiple relevant technologies required.

Job Code: 5636

Divisional Director - .Net with Silverlight

Industry: IT/Technology - Software/Services
Function: Software Design & Development
Location: Mumbai
Profile: ME/MTech/BE/BTech (Computer Science) with 20-25 years of experience in software design and development in C#/ .Net, Silverlight and Microsoft Web tools & technologies.
Job Code: 5745

Test Manager

Industry: IT/Technology - Telecom Software
Function: Testing – Software
Location: Bangalore
Profile: MS/BE with 8-10 years of related experience in Software. Certified Project Management Professional preferred.

Job Code: 5255

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Who made it big in Open Source

Who says there's no money in Open Source? We tell you the 'how' part in another cover story, but here's the 'who' side of the story. Strap yourself in for an in-depth look at some of the rockstars of Open Source did quite well

Siddharth Parwatay
siddharth.parwatay@thinkdigit.com

Most of us as end-users of Open Source Software (OSS) are very comfortable using it. And it's not simply because the products are built well or that using them keeps you away from piracy. There's another reason, operating at a more sub-conscious level. Search within yourselves and you'll realise that a small part of you is happy about using OSS since you feel you're not adding to someone's coffers. You fire up Firefox everyday content that no big evil corporation is getting rich off of you. The truth, however, is a little different. Like we've explained several times in this cover story section, free in open source doesn't mean free of cost but rather freedom. Hence, in actuality there are lots of people making money from Open Source one way or another.

Blake Ross

Now 26, Blake Ross was a young kid when he started off as an intern with Netscape years ago. Not happy with the direction Netscape was taking under AOL, he started Firefox as a renegade project under the Mozilla banner. What emerged from it was an easy-to-use browser that was free to download, easy to use, safe and not Microsoft. Within the first year itself, the browser was downloaded more than a hundred million times. While Mozilla is a non-profit foundation, it's still a rich foundation. Most of the world thinks Mozilla survives on generous donations, but the most significant part of its income comes from corporate deals. It was said that 80 per cent of its revenues came from a long standing deal with Google. Did you honestly think the custom search engine on the default home page and that little search bar was altruism? Mozilla's revenues for the year 2009 were to the tune of $104 million. Now coming back to our boy wonder Blake Ross. We don't exactly know the details of the arrangement he has with the foundation, but his reported net worth is around $150 million. And the journey to this stage began when he was just out of his teens. Maybe he was like any other developer working on the project and no cheques were directly written to him, or perhaps it was some angel investor who saw potential; clearly it pays to have co-

Blake Ross

Matt Mullenweg

founded one of the most successful Open Source projects on the planet, right?

Matt Mullenweg

Another very successful Open Source story of the new world (read: web) is WordPress. The founder of the ubiquitous blogging platform has had a strange success story. He originally came from a non-technical background, studying to be a Jazz Saxophonist. He started dabbling with code with the Open Source b2/cafelog blogging software sometime in 2002 when he was just 18 years old. He later used b2 code base to launch a fork project, and soon enough by 2005 the first version of WordPress was out. The company he started, Automattic, soon had many more projects under its umbrella such as Akismet. WordPress, though Open Source and free to deploy for the most part, has a few substantial revenue sources as reported by www.labnol.org. WordPress offers VIP hosting services to clients like gigaom.com and All Things D. Revenue is also generated via premium accounts, WordPress support and the commercial licence of the Akismet spam filter. All of this can lead to only one thing. Now 27, Matt Mullenweg's net worth as of 2010 was estimated to be somewhere in the region of $40 million.

The weird ones

In December 1999, at the height of the dot-com madness, a tiny company called VA Linux Systems came out with its IPO offering. The company combined Linux and Intel-based hardware. Its stock debuted at $30 a share, but almost instantly rocketed skywards by a staggering 800 per cent! The day closed with VA Linux garnering a market cap of about $10 billion. Till until at least a decade later it was to remain the biggest first-day gain on the NASDAQ. In contrast to its $10 billion market cap, the company's net revenues until just a month prior were under $15 million and assets probably twice that - a big bubble indeed. What's important in the context of this article though, is the effect this rally had on the promoters of the company. Overnight, CEO Larry Augustin's holding and stock options took his net worth to $1.7 billion. Of course, as all bubbles this one had to burst soon enough too. Valuations returned back to ground level, VA Linux went on a fated downward decline. But the story didn't end there. Soon the company changed its name to SourceForge, (sound familiar?) and then again to Geeknet. Augustin may have had a tumultuous path since he left Stanford, but he seems to not have left his Open Source roots and serves as CEO of SugarCRM, again one of the most successful Open Source projects around.

Larry Augustin

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Paanini N Navilekar
readersletters@thinkdigit.com

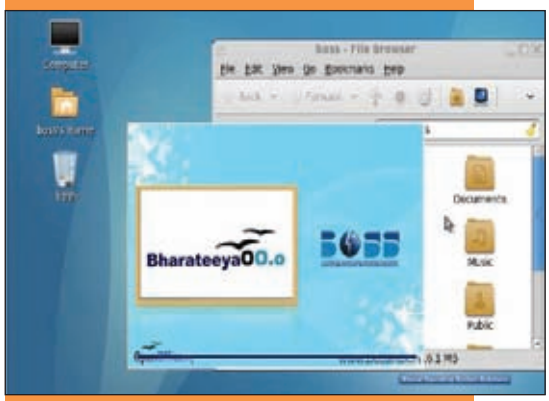
open source in india

How FOSS is transforming our society by taking computing to the masses

What's common between Mozilla Firefox, VLC Media Player, BitTorrent and Pidgin? Apart from being indispensible applications on any computer, they're unique in belonging to a class of software called 'Open Source'. What this means is that the source code (the set of instructions that enable a program to perform its function) is available for study, modification and redistribution. More commonly abbreviated as FOSS (Free and Open Source Software), this type of software has found widespread acceptance and popularity among communities of software evangelists, who, by critically reviewing and studying the source code of such software, are able to continually improve upon it. (It must be noted here, that 'Free' refers to the freedom to modify and copy, not necessarily meaning free of charge. Most FOSS however, continues to be free of charge as well). This is very similar to a peer reviewed journal, wherein papers are carefully scrutinized by the community before being published. Today, the term covers a massive range of software, from operating systems (GNU/Linux, FreeBSD, Android) and servers (Apache, Moodle, Wordpress) to popular applications and even programming languages like PHP and Python.

The Indian story

The ideology of Open Source holds a lot of promise for India and has found favour in a number of projects throughout the country. The Department of Information Technology (DIT), Government of India, has held a keen interest in FOSS, leading to the formation of the NRCFOSS (National Resource Centre for Free and Open Source Software) in 2005. NRCFOSS serves as the nodal authority, co-ordinating various FOSS projects in India. According to its web site http://www.nrcfoss.org.in/, it was formed "with the twin roles of bridging the digital divide as well as strengthening the Indian software industry". The implementing agencies include C-DAC (Centre for Development of Advanced Computing), Anna University (AU-KBC), IIT Bombay and IIT Madras. Some of its key achievements include the development of the BOSS Linux operating system, the setting up of the GNU Compiler Collection (GCC) Resource Centre at IIT Bombay and starting of the Centre of Excellence for mobile internet devices jointly at C-DAC Chennai and DIT.



Open source story in India

One of the primary objectives behind the formulation of the NRCFOSS was increasing computer literacy by imparting computer education to students as well as teachers throughout the country. It was soon realized, that one major hurdle in taking computing to the masses was the lack of computer software in native Indian languages. Since only 11 per cent of our population can speak English, the urgent need for developing tools and products that are highly customised to Indian needs was realised.

One of the earliest efforts in this direction was the IndLinux project, an independent venture, jointly started by two Open Source enthusiasts, Prakash Advani and Venkatesh Hariharan. The project's aim was to create a Linux distribution which would provide full support to all major Indian languages. This included the development of fonts, translators as well as changes to the kernel, which would ultimately "bring the benefits of Information Technology down to the Indian masses." (http://indlinux.org) Karunakar Guntupalli, a key developer of the IndLinux project, stated that "It was the first Linux distribution to have all Indian languages supported by default, and was mainly released as a live CD which could also be installed. It was derived from another live CD called Morphix. The main goal was to demonstrate Indian language support in Linux. A Live CD was the most effective and non-intrusive way, since the language support hadn't yet reached the mainstream level. The IndLinux Rangoli base was also used in the Nepalese (Nepalinux) and Bhutanese (DzongkhaLinux) language versions"

Development on the IndLinux Rangoli distribution stopped in a couple of years, once mainstream Linux distributions started including Indic languages, and a user could choose an Indic language during the installation process itself.

Meanwhile, C-DAC Chennai set about making an operating system that would suit Indian requirements by harnessing the power of Open Source. This resulted in BOSS (Bharat

Operating System Solutions) Linux, a Debian-based Linux distribution, which included support for all major Indian languages, as well as tools and applications (such as fonts, translators and spellcheckers). It was primarily intended for desktop use by governments aiming to ease the transition from the proprietary Microsoft Windows to GNU/Linux. However, two variants, called EduBOSS and BOSS Advanced Server were also released subsequently, which modified the original software to suit the requirements of school students and servers, respectively. This was one of the major deliverables of the NRCFOSS. Developers stated that over the long term, the BOSS Linux project would "attempt to be the standard GNU/Linux distribution for desktop computers in India". BOSS Linux is currently at version 4.0, and can be downloaded from http://bosslinux.in/.

Karunakar Guntupalli

While supporting Indian languages certainly widens the user-base, Dhvani, a

```
<शैली श्रेणी>
#समावेश <मानकपन.स>

श्रेणी शेर : खुला जानवर
{
खुला:
        व्योम लिखो()
        {
                म_लिखो("शेर एक जानवर है।\n");
        }
};
```

Opensource story in India

text to speech (TTS) conversion software for Indian languages, took it a step further. Winning the third place at the FOSS India Awards in 2008, Dhvani aimed at making computers available to everyone, not just the literate masses. If Dhvani and many more projects were aimed at spreading the use of computers in general, "Hindawi", a software project which grabbed the first place at the FOSS India Awards 2008, aimed to make computer programming and software development available to the masses. Hindawi allows for programming in native tongues using equivalents of popular programming environments like C, C++, BASIC, Assembly Language, Lex etc. and equips students to learn concepts ranging from those taught at the primary school level to advanced ones like robotics and supercomputing.

Another prominent Open Source venture from India is GNUKhata by the Comet Media Foundation. It aims to motivate and help businesses who are contemplating switching to free software. It's a free accounting and inventory management software that uses Postgresql as its database server and is licensed under GPLv3. It is currently undergoing development to make it compliant with any RDBMS such as MySQL and SQLight.

Government Policy

In 2009, the Maharashtra State Government signed a MoU with Microsoft to increase computer literacy as well as provide e-governance solutions in the state. The MoU included the setting up of three academies in Maharashtra at Nagpur, Aurangabad and Pune, to train approximately 90,000 school teachers and familiarise them with the use of computers.

"FREE" AND "OPEN SOURCE" SOFTWARE

Frederick Noronha

While referring to FOSS, one may be led to believe that "Free" and "Open Source" are synonyms that refer to the same software model. There is, however, a subtle but important difference between the two. The difference lies mainly in their ideologies: Proponents of 'Free Software' (The Free Software Foundation (FSF) founded by Richard Stallman) believe that software should inherently give users the right to change, modify and redistribute the software without restriction. They believe in the concept of software being something akin to a 'right', and the freedom to use it as per one's will follows naturally. 'Open Source' on the other hand, is a more practical description of software, and believes that by making the source code available to users, the software can be improved upon. In other words, according to the Open Source model, it's easier to improve software by keeping it open-sourced rather than proprietary. Frederick Noronha, an independent Goa-based journalist and an Open Source enthusiast puts it very succinctly when he says that "...the whole emphasis is different. Open Source builds its argument on the basis of efficiency. Free Software, on ethics."

It's worthwhile to mention here that both concepts are very different from the term 'Freeware', which simply refers to software that is free of cost, without commenting on the freedom it offers, or the ability to modify / redistribute it.

Open Source browsers

Google Chrome is based on Open Source software, Chromium which has no branding and auto-update mechanism from Google.

Clearing misconceptions

That Open Source software is free of cost is a misconception. Many Linux distributions such as Mandriva, OpenSUSE and RedHat offer alternate paid versions.

In addition, it involved the setting up of email with school-specific domains and encouraging the use of Microsoft Office Live Workspace to streamline the process of collaboration between different users.

This move received flak from several free software purists, who believed that something as important as technical education for the masses can't be left to an organisation like Microsoft, whose interests were mainly commercial. Furthermore, the MoU made the use of Microsoft software mandatory, which was in direct opposition to the Open Standards that had been established by the FOSS community. In a letter to the Secretary of School Education Sanjay Kumar, the Free Software Foundation of India wrote, "The State cannot allow products of only one private company to be utilised, and must instead actively engage with and promote FOSS which is based on principles which are consonant with our democratic polity." The letter along with many others, raised several concerns over the MoU, including the high cost of proprietary software which would ultimately have to be borne by the students and the responsibility of the government in setting up Open Standards in technology that benefit the public.

It also demonstrated how the Kerala government had incorporated FOSS philosophy into their education system with the IT @ School programme. The programme replaced Microsoft Windows with the free Linux operating system on close to 50,000 desktops in 2,800 schools. This led to its teachers and students becoming ICT literate, and savings of more than ₹50 crores over the past couple of years.

In a major victory for the proponents of free software, the Department of Information Technology (DIT) in 2010, finalised its policy on Open Standards for e-governance, wherein it stated that all e-governance projects must adhere to a single set of Open Standards, and these standards would be made available 'royalty-free'. In an article on opensource.com, Venkatesh Hariharan applauded this move of the government and highlighted important features of the policy:

Prakash Advani

1. The government is spending more than $10 billion on e-governance projects, and enforcing open, royalty-free standards would imply major savings.
2. Due to the volume of data processed by the e-governance solutions, the adoption of these standards would make them popular throughout the world.
3. As the volume of data stored went up, protecting its integrity would become crucial. In this regard, using proprietary software would give the vendor enormous control over the agreement.
4. It also calls for defining and implementing a single standard, which would ensure uniformity and ease of integration when dealing with data from different state governments.

Final thoughts

Many such initiatives have been undertaken by the NRCFOSS and its associates to provide various low-cost solutions in numerous projects across the country. One of the most ambitious projects, the UID project – which aims to provide a unique identity to more than 700 million Indians – will benefit from the Open Standards adopted by the Government. Projects that call for storage and processing of large amounts of data, decision-making in critical situations and automation of tasks that were manually handled all use software that is Open Source.

Indian IT firms have benefitted immensely from the Open Source model, and Indian developers have contributed extensively to popular projects like GNOME and KDE. DimDim (a video-conferencing tool) and Zoho (a complete web-based office suite) are among India's popular Open Source offerings. FOSS has proved to be an excellent alternative (OpenOffice in place of Microsoft Office and Ubuntu in place of Microsoft Windows) to many SMBs who have recorded significant savings after making the switch. Co-Founder of the IndLinux project and Regional Head, Asia-Pacific of Canonical, Prakash Advani stated, "Today Ubuntu has been able to create an impact by providing a good option as a free operating system. It's been widely deployed in India and growing very quickly." On the topic of businesses and institutions that have made the switch to Open Source, Advani said that "With re-use of code, the Open Source model has a low cost of development. Indian software companies can hence reduce their cost of development and increase profitability. Meanwhile, the IITs are big users of Open Source. Some others that we know of are: Rishi Valley school, SNDT College, Guru Nanak Dev University Ludhiana and Delhi University. Many of the engineering colleges around India are running Open Source/Linux labs." Former President of India of India Dr. APJ Abdul Kalam also believed that FOSS would play a critical role in promoting growth of IT in developing nations like ours. Indeed, the low costs and the community-driven nature offered by FOSS, as well as the establishment of open standards in IT are all contributing significantly towards India's social, economic and technological prosperity.

SAAS

Software as a Service

Relatively new, SaaS is a software delivery model, wherein the software is provided to client by the vendor on an on-demand basis. The software and its data is usually hosted by the vendor's server, and clients access it through an application like a web browser. The benefits of this model are lowered costs, constantly updated version of the software, platform independence and data security. However, drawbacks include lack of customisation by the client, not having enough control over data and always requiring a network connection to the server. SaaS is another low-cost alternative to proprietary software. In fact, very often SaaS relies on Open Source technologies to create reliable back-ends as well as to keep the cost of the service low. However, SaaS vendors usually don't share the source code of the software back with the client, making it 'closed source'.

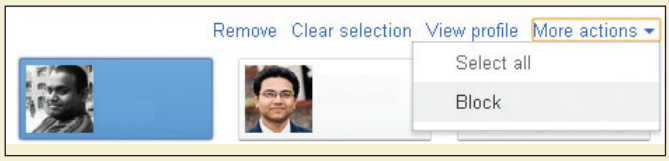
Google +

Whether you've got an invite or not, by now you've probably squeezed yourself in though the Google+ gates. But now that you're there you're probably wondering what the heck to do next. Fear not. These tips and tricks will help you get the most out of your Google+ experience.

Google+. 51
Steam 53
Gmail plugins and enhancements 55
Cloud 57
Wi-Fi Tips 58

Create a blocked circle

If you've ever blocked someone from your Gtalk list, you'll have this circle already present. But if you've never felt the need to so far, Google+ might actually evoke that latent instinct. To create a blocked circle, simply select the people or person you want to block and click the "More actions" dropdown menu at the right corner of your Circles screen. Next, click on Block and a new red circle will appear. After this point it's a simple matter of drag and drop.



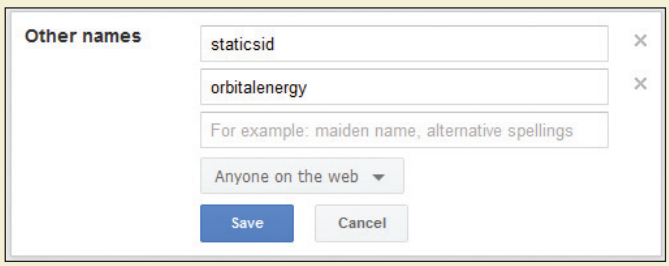
Creating a blocked circle

Let more people discover you

When people first started getting on to the online world, they usually registered with absurd esoteric names like silent_killer666 and what have you. So if you want your old hotmail buddies from your Quake III days, who know you as noob_frager123, to discover you, here is a simple way. Click on `Profile > Edit Profile > Other names`. Here you can add an entire laundry list of aliases that you may have had before.

Keep track of what you like with +1s

In the brave new world of Google+ your profile will now start playing an important role in how you're represented on Google products. It's also a place where you can track the things that you've liked on your excursions around the interwebs. Click the +1s button on your profile, and you'll see a record of everything you've +1'd (sic).



Letting yourself be discovered by others on Google+ by adding nicknames

Tagging tweaks

Yes, well, it's not exactly clear who has the patent on Tagging, but Google+ sure has taken a page out of other social networks and given you this feature straight up. To tag photos click on any photo to get its expanded full-size version and click the Add tag button. Likewise, you can choose who can tag you. Go to `Profile > Edit Profile > Photos` tab. Here you can add or remove circles from the "People whose tags of you are automatically approved to link to your Profile" menu. By default, it's set to "Your Circles", which means anyone in your circles including Acquaintances.

Pull Facebook into Google+

Now that Google+ is here keeping up with another social network might become painful. You might miss out on updates from good old Facebook. Unless of course you use Crossrider's Google+Facebook browser extension (available for Firefox and Chrome) to combine your Facebook stream into Google+. Simply download the extension from http://bit.ly/googfab, connect to Facebook, and get all the updates on your Google+ Facebook tab. The extension adds a Facebook button right next to your home button in the Google+ UI.

Using Facebook in Google+

Basic formatting hacks

Text posted in Google+ follows most of the universal formatting options followed by other Google products such as GTalk. Enclose text in *Asterisk signs* to make it bold. For italics enclose within _underscores_, and a -dash- for strike through.

Stop auto-upload from Android app

When some of us started mucking around with the Android app early on, we were appalled by the Instant Upload feature. Basically, what it does is upload any picture or video you've clicked from your

DO this

If you're a complete noob when it comes to Google+ and have absolutely no clue about what we're talking here, read our UI Walkthrough on thinkdigit.com (http://bit.ly/digitgplus). This back-to-the-basics article will help you get around Google+ in no time.

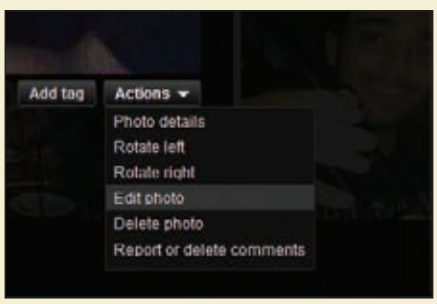
Android device on to Google+. Yes, it won't share it unless you choose to, but our paranoid selves felt it an invasion of privacy. So here's how you disable it: On your Android device go to the Google+ app. After log-in hit the options key. Tap Settings and uncheck Instant Upload. This will stop it entirely. If you want to further customise when to upload, Tap on Instant Upload settings.

Tweak your Sparks

The default interest areas covered in Sparks (left pane) are pretty lame. To add more interest areas, simply type your interest (say technology) in the search bar and click "Add interest". This will pin that interest to your sparks. The default sources are pretty good.

Edit photos before sharing

When you go to your photos find the little magnifying glass that appears at the bottom left corner of the thumbnail. Once you click on it the photo will fill up the screen and you'll see an "Actions" dropdown menu. Here you'll find the Edit Photo option. Google+ has six basic



Edit photo option

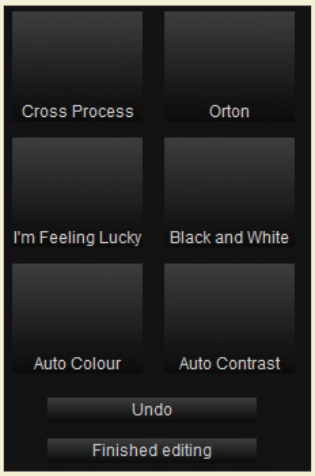


Image processing options in Google+

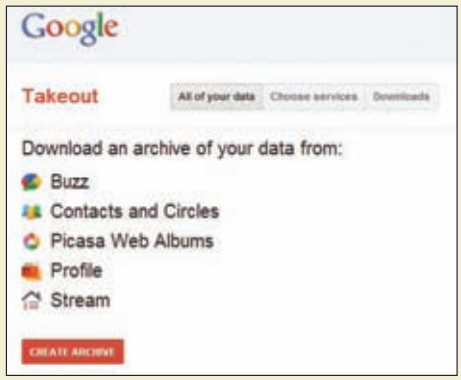
post processing options : Cross Process, Orton, I'm Feeling Lucky, Black and White, Auto Colour and Auto Contrast. The I'm Feeling Lucky option adjusts all levels as per its own algorithm. You also have the option of undoing any of the filters you've applied. Once done click "Finished editing".

Manage circles easily

No matter how much fun you try to make it with all the drag and drop effects and such, organising hundreds of people into circles can be quite painful. A trick to make this easier is to open a few circles in tabs. Not browser tabs but tabs in the Circles section. To do this simply click on a circle and find the "View circle in tab" link. Unfortunately Google+ only allows one circle to be opened in the tab at once.

Backup your Google+ data

Through Google's Takeout service you can take a backup of your data on Google +. Items that you can backup include Buzz posts, Contacts and Circles, Picasa Web Albums, Profile and all posts on your



Backup Google+ data using Google Takeout

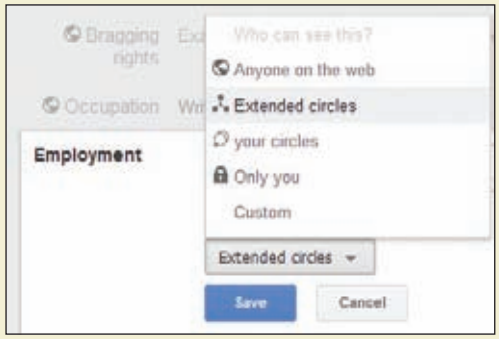
stream. To start the backup process, click on the Settings button at the extreme top-right corner of the screen. It resembles a cog. Click through to Google+ settings. On the left side panel, you'll see a menu item called Data Liberation. Next, click on the Download your data button, choose what you'd like to backup and click Create Archive. This will create a .zip archive that can be downloaded on to your PC.

Incoming! Run for cover

You can check out what's happening on the periphery of your circles by clicking on the Incoming button in the left-hand pane. Specifically these are posts shared by people who have you in their circles but who you haven't added yet. It might just be beneficial to keep an eye on this to make sure you've not missed anything interesting.

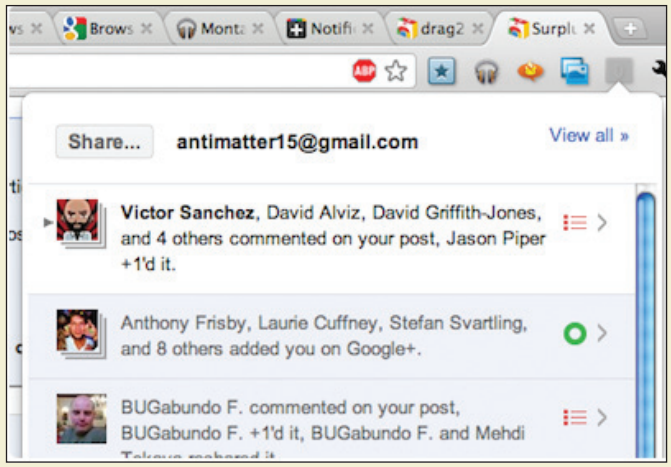
Privacy tips

By default, Google+ is more open than we'd like. For example, on your profile, most of the sub-sections under the About tab, are set to "Visible to Everyone". You might've filled in some info back in the days when Google Buzz had a small spike in popularity. To change this, go into "Edit Profile more" and click on the little globe next to each section.



Profile visibility options

Get Google+ notifications in your



Surplus - the notification extension

browser

Though the black Google bar may soon become ubiquitous across all Google properties, it will still not be present across the web. What you need is a notification system integrated in your browser. Install the Surplus extension for Chrome and you'll soon get notifications on whichever site you are.

Manage notifications from Google+

Some of you may already be very frustrated with the amount of email Google+ sends you on a daily basis. For those of you who haven't figured it out already, there's an easy way to control the events for which Google+ notifies you via email. Click on the settings button (top-right corner). Now simply check or uncheck the relevant boxes

You can choose between SMS or email notifications

Add Circles interface to Facebook

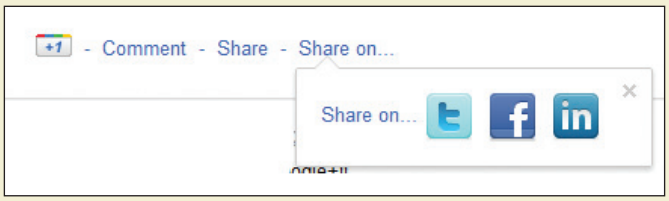
A while ago a new tool called http://www.circlehack.com/ came onto the scene that let you manage your Facebook friends using the drag-drop functionality of Google+. Since then, though the site seems to be facing a lot of down time (probably legal issues we suspect). However, all is not lost. An enterprising coder, by the name of Varunkumar Nagarajan, has taken the source code for CircleHack and made his own tool from it. Infact, he has even created a reverse tool that's supposed to transfer your Google+ Circles classification to Facebook using VCF files that can be created with Google Takeout. Visit http://services.varunkumar.me/circles to find out more.

Lock side columns

The Beautify G+ extension for Chrome increases a bit of usability by locking the side bars. So when you scroll down that endless stream of posts on your timeline, the options at the side are always visible. Download it from: http://bit.ly/beautifyg

Share posts to other networks

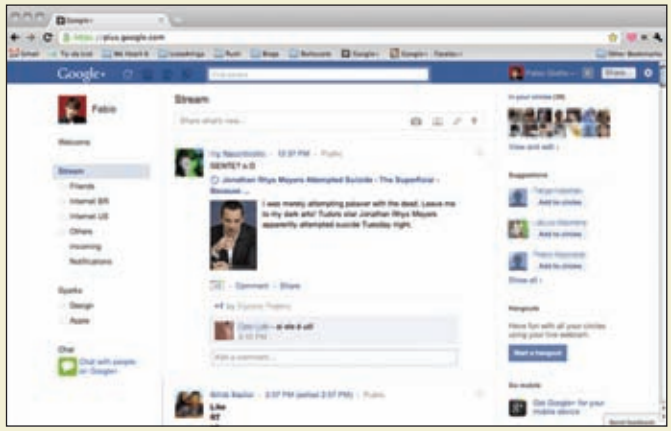
Google+, by default, doesn't have a easy way to share posts to other networks such as Twitter or Facebook. The Extended Share for Google Plus extension fixes this problem easily. It adds a link "Share on ..." to each post. Once clicked, it will bring up an internal bubble asking you where to share your post. Install it from here: http://bit.ly/extshare.



Quickly share posts to other networks using extended share

DO this

Access this user-generated ultimate Google+ guide. This is a public Google Doc being edited, refined and worked on simultaneously by hundreds of people from around the world. A good guide to understanding the nuances of Google+ http://bit.ly/gpcolab



Make Google+ look like Facebook

Zoom photos by hovering

The good old photo zoom extension is now available for Google+ as well. It lets you quickly view full-size versions of thumbnails by hovering your pointer over them. Download it from: http://bit.ly/Gphotozoom.

Make Google+ look like Facebook

If you miss your old favourite Facebook here's a user script that'll make Google+ look like Facebook: http://bit.ly/goog2fb. You'll need to install Stylish and enable JavaScript as well.

Avoid those oops moments

Posts in Google+ are not etched in stone. So if you realise that you've made an embarrassing typo in the earlier post, there's always scope to change it. Look for the dropdown menu on each post and click on "Edit this post".

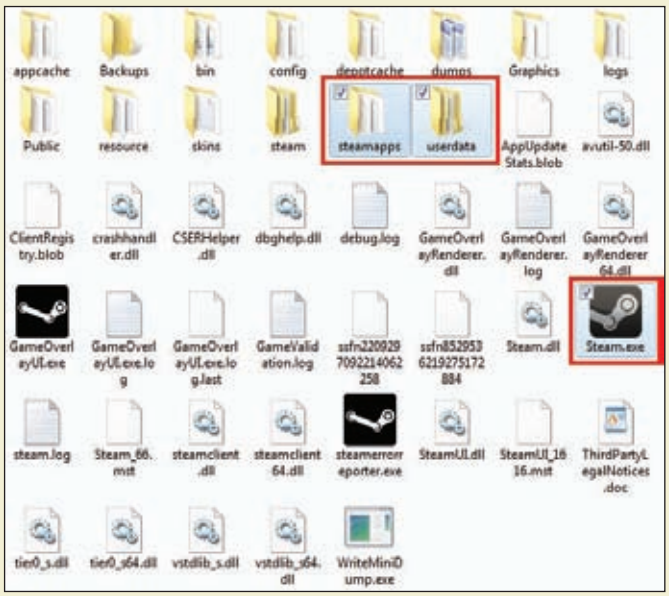
Steam

Steam is a brilliant service for buying, downloading and updating games, and actually adds to your gaming experience via achievements, in-gaming chatting, screenshots sharing, etc. With a few tips and tricks one can improve their Steam experience and iron out some of its flaws.

Move Steam to another drive

Steam has the odd habit of installing all games in the same folder, and offers no way to change this behaviour. You might install Steam in `C drive` when you have a game or two, and realise – quite soon, considering the sizes of

Your posts aren't etched in stone. You can always go back and edit them



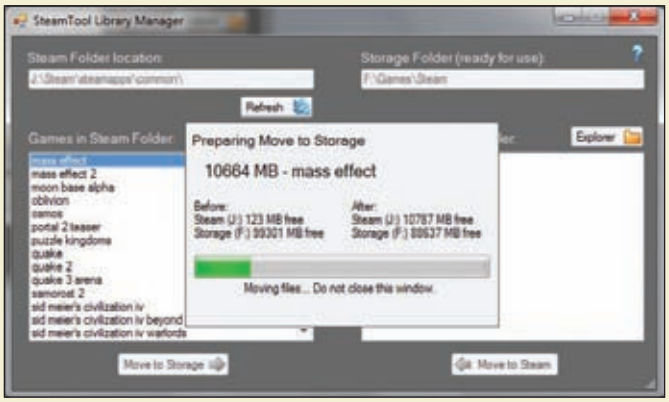
Everything, except the highlighted three, has to go.

games these days – that you're out of space.

The solution is rather simple, here's what you do:

- Move your Steam folder with all your games from its current location (probably `C:\Program Files\Steam` to the new location (say `D:\Steam`)
- Delete all files and folders in the new location *except the following*:
- The folder "steamapps": This has all your game installs and setting
- The folder "userdata": This folder contains your Steam screenshots.
- The file "Steam.exe"
- Alternatively, you could've just copied the above-mentioned file and folders
- Launch "Steam.exe", it will redownload just your Steam files, around 30MB, not the games.

Now you can log in and continue using Steam from the new location. Steam might verify your game files and for some games, will reinstall DirectX and other prerequisites before launching the game. Any new games you download will also go to this folder. You can also move Steam to another computer in the same manner, however remember that you can only be logged into Steam on one computer at a time.



Moving Mass Effect to a different drive using Steam Tools Library Manager

Move some Steam games out of the Steam directory

Steam is adamant about keeping all games installed under its own folder, and sadly it's quite possible that no single partition / drive on your computer has enough space for all your games. In this case, you might think the only option is to uninstall some games, but there's another option, thanks to "SteamTool Library Manager".

SteamTool Library Manager is a small under 1 MB software that lets you move individual games out of your Steam folder and onto another partition or folder.

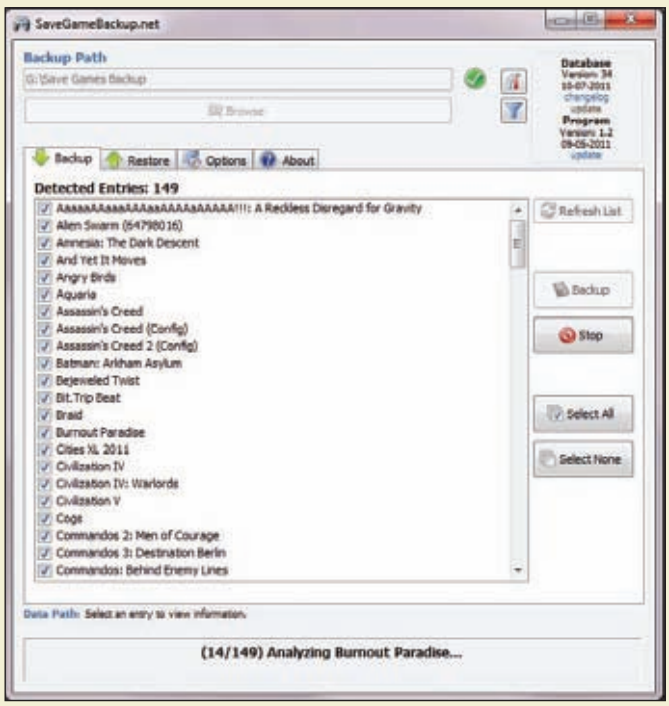
You merely need to select an installed game and a destination folder, and click on "Move to Storage". Your game will continue to run, update and operate as normal.

SteamTool Library Manager takes advantage of a feature of NTFS called "Junction". Junctions allow one folder to act as a portal to another. So `C:\folder1` could actually point to `D:\folder2` and most applications won't be able to detect the redirection. If you wish, you can do this manually using a software - such as Link Shell Extension included on the DVD – capable of creating a junction.

Backup all your games' save files

Steam offers a brilliant feature, wherein your game's saved files can by synchronized to Steam's servers, thus allowing you to continue your game progress from anywhere via your Steam account. Most games don't take advantage of this feature though, and you risk losing many hours of gameplay progress if the worst were to happen. "SaveGameBackup.net" can come in handy here.

"SaveGameBackup.net" is an application having a database of game save locations for nearly every game, and updates are released as new games come out. It will automatically detect the games installed, and with one click backup the saved files, in compressed form, into a folder of your choice. Combine this with a synchronisation service such as DropBox or SugarSync, and you have cloud sync for your



SaveGameBackup.net backing away

game save backups as well. This includes saved files from games on Steam, and Steam's own settings.

Save bandwidth, copy Steam games from a friend

No, we're not talking about piracy here! Games are rather large downloads, many being on the wrong side of 10GB. What's worse is that Steam downloads expanded versions of the game files, so they're even larger than what a game's setup files would be. So if you have a friend / acquaintance who also has the same game on Steam, and has already downloaded it, why not just take the downloaded files from him?

Here's how to go about it:

- Start the download process for the game that you are copying from a friend, but pause it immediately after it starts.
- Locate the game install folder under Steam on your friends computer. In the Steam directory (usually `C:\Program Files\Steam\`) there's a folder called "steamapps", within which there's the folder "common". Here lie all downloaded Steam games. Each game is in a separate folder, unless it's an expansion.
- Copy the entire folder for your game to the same location on your computer, overwriting whatever little started downloading.
- Resume the download, or,
- Go to the game's properties (right-click > Properties), and under the "LOCAL FILES" tab click on "VERIFY THE INTEGRITY OF GAME CACHE..."

The game will now speed through the download as it won't download files that already exist.

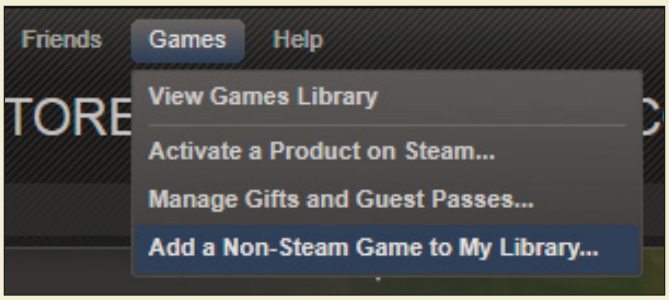
If you can get access to the non-Steam version of the same game, or even the install disk, you can save a lot of bandwidth. Copy the installed version of the game from a friend's computer to the directory created for it on your computer by Steam. If you have a game setup disk, install the game on your computer first, then copy the installed game folder under Steam, and uninstall the game before proceeding with the above steps. If you use a non-Steam game, you'll need to download more, since many files will be different, and the disk-version might be older.

Use the Steam Community In-Game overlay with non-Steam games

Not everyone likes it, but the Steam overlay can be incredibly useful if you use the Steam community features, or would like to access a web site while in the middle of a game without alt-tabbing out.

You'll find several other components to augment your gaming experience at Steam

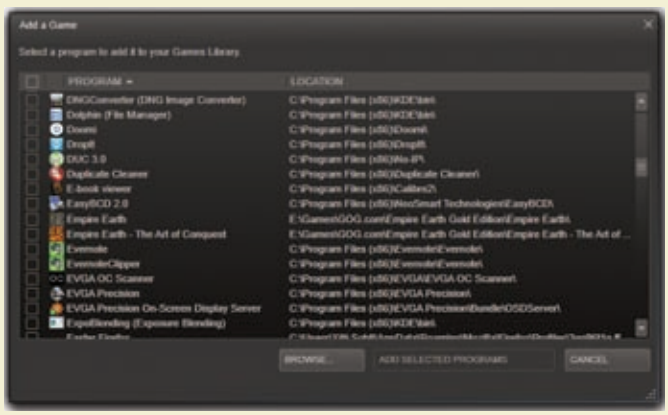
It's only available for games launched through Steam though. There is, however, an easy way officially supported by Steam that lets you add non-Steam games (or even applications) to Steam.



The option is easily accessible and officially supported

- In the Games menu of Steam, there's an option "Add a Non-Steam Game to My Library..." Click on it.
- Steam will start detecting and listing all installed applications.
- Select your application from the list, or speed up the process by clicking on "BROWSE..." and selecting the game exe in the browse dialog.
- Click on "ADD SELECTED PROGRAMS"

The added games / applications will now show up in your Steam interface. They won't support all Steam features, but you'll be able to use the overlay and even take screenshots that can be uploaded to your account. Amaze your friends and open the Steam overlay in Firefox!



Steam detects most applications installed on your computer

Gmail plugins and enhancements

Gmail is one of the most used electronic mail services in the world, and there is no denying its intuitive and customisable interface, its plethora of smart features including its Labs experimental feature section, and its modular nature that allows users to add gadgets, plugins and enhancements to further personalise their Gmail experience. While there are plenty of features that the Gmail and Google Apps team develop themselves for their users, some of which graduate from the Labs section while others make their way directly, there are also thousands of enhancements and plugins made by third party developers, for everything

from productivity to lifestyle to entertainment.

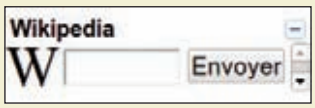
Below we list some of the top gadgets, plugins, enhancements, and third-party services that are great additions to Gmail, additions that will suit a variety of users. There are also enhancement packs, with an assortment of features, such as Better Gmail.

Gadgets

Gmail allows users to "Add any gadget by URL," a setting that can be toggled on/off in the Labs section. Users can then click on the new Gadgets tab under Settings, and add the relevant XML address. Gadgets here refer to any XML based gadget, and users often use iGoogle gadgets apart from specific Gmail-made gadgets to augment their Gmail use. Some of the top gadgets are listed below:

Wikipedia

Look for a specific query right from Gmail - http://bit.ly/4PLr0y



Google Calculator

Make some quick calculations while typing an email - http://bit.ly/7qK8st

Note

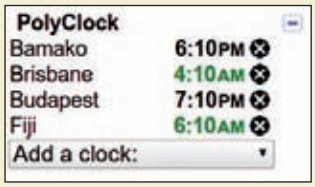
Add a sticky note to the corner of your Gmail account - http://bit.ly/4ynJd5

Remember the Milk

If you're a fan of this task management system, accessing all your "Remember the milk" notes from right within Gmail can be super handy. - http://bit.ly/SoWDC

PolyClock

Gives you the time of day for any place in the world - http://bit.ly/48eyYP



Currency Converter

A real time currency converter - http://bit.ly/lXkFru

bit.ly URL shortener

Lets you shorten URLs in a single click - http://bit.ly/PYny

Chuck Norr is fact generator

Displays a different "Chuck Norris fact" every day of the year - http://bit.ly/4AzqYE

Google Calendar

Displays your Google Calendar agenda right from Gmail - http://bit.ly/kFrU9q

Google Docs

Gives you quick access to your most recent documents - http://bit.ly/5YZlwO

Plugins and Services

Attachments.me

Attachments.me is a service that lets users organise their attachments from several sources, including Gmail, Twitter, Facebook, and Yahoo Mail. Pull in these attachments to a unified interface, users will be able to share them easily with their other accounts including cloud storage services like DropBox. They can also share attachments with other users.

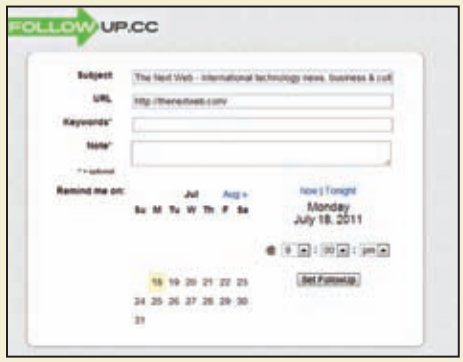
ActiveInbox

ActiveInbox is a free 'better Gmail' plugin (also for Google Apps), that installs into Chrome & Firefox, which helps you organise and manage your email tasks and projects, from multiple email accounts, allowing users to have a faster email experience. Facilitates GTD (Get Things Done), Inbox Zero and Gmail Folders. There is no new system to learn, it just uses Gmail labels to create a series of labels

– 'Action', 'Waiting' and 'Some Day' – which you can apply to emails using the specially created menu. This also helps users easily create projects and assign emails to that project. The paid version has plenty of other features as well.

FollowUp CC

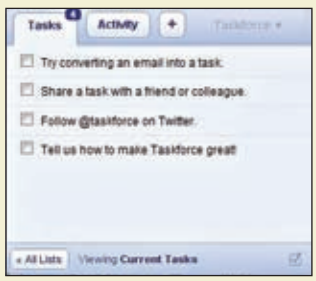
FollowUp CC is a reminder application that once installed will allow users to send automatic follow up emails. This is done by adding a specific email address to the CC field, an email address that determines if the follow up email is sent certain duration later, or at a predetermined time – e.g., jul20@followup.cc



to send a follow up email to July 20, while 1w@followup.cc will send an email 1 week later. The service also works as a bookmark reminder, notifying users to check back on bookmarked sites at a specific time.

Taskforce

A Gmail add-on that turns email into tasks. This not only lets users juggle plenty of emails in a single interface and de-clutter their inboxes with archiving options, it also allows for collaboration and synchronisation of Tasks between users, and with Google Tasks and Calendar.

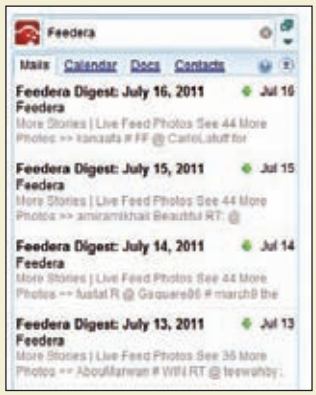


Sanebox

Quite a few of us simply ignore unimportant emails, which then fill up our inboxes as unread mails. Sanebox is an extension that will filter a user's inbox just like Google's Priority Inbox, except it actually moves the unimportant mails to a differently labelled location, while leaving the important ones intact.

CloudMagic

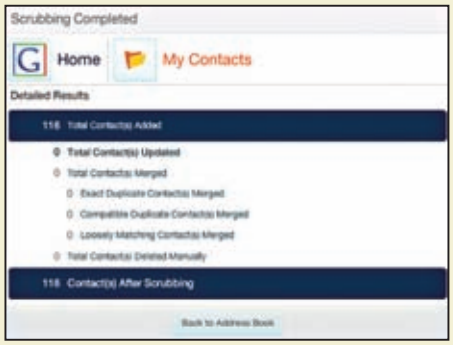
While Gmail search is quite advanced, CloudMagic helps users with many extra features, such as offline search capability, and simultaneous search of Google services including Gmail, Google Docs, Calendar and Contacts. As it



is a browser based extension, users can simply check their email account without logging at all.

Scrubly

Scrubly is a tool that helps both Gmail and Google Apps users get rid of duplicate and junk entries in your Contacts. The whole search, identify, and reallocate process is automatic, giving the users the option of restoring the original contact list, or verify the changes. The free version can scan up to 250 contacts.



Send Using Gmail

Quite often, our browser treats email links as addresses to be used via the system's default mail client, such as Outlook, Thunderbird, etc. However, once you have Send Using Gmail extension installed, users will be redirected to Gmail Compose Mail page when they click an email link again.

OBoxer

OBoxer is another service that allows users to easily sort, archive, and delete their Gmail emails, using a toolbar interface. The toolbar interface also awards points and badges each time an email is deleted or archived, a fun feature if other friends are on OBoxer, keeping track of points and badges.

ToutApp

ToutApp, a browser extension for Gmail, allows users to send canned responses, in a much more customizable manner that Gmail's own Canned Responses. Apart from being able to create and edit a variety of templates, it also offers analytics features to keep track of the email stats.

Rapportive

Rapportive enhances your Gmail contact list, showing additional information about the people in the list in a sidebar, which appears when a list is open. This is similar to the People Widget of Gmail, but more detailed, with recent emails, links to social profiles, etc. Rapportive can also turn your Gmail account into a Twitter client.

Cloud

Map Skydrive account on your computer

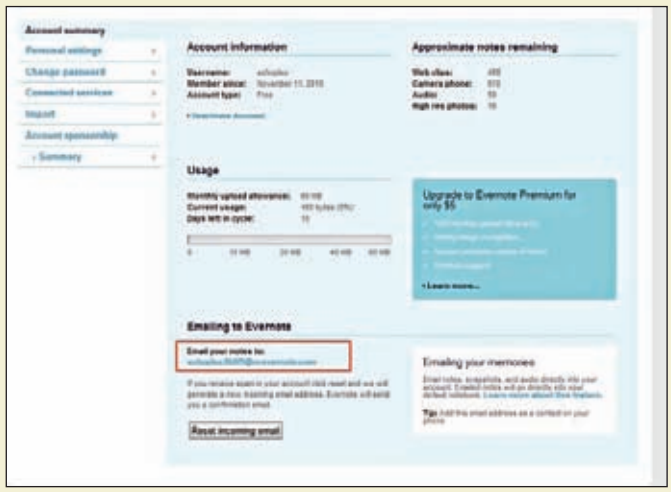
Windows Skydrive allows you to upload and manage upto 25GB of data. What's even better is that you can You can map your Skydrive account to your computer. Once mapped you no longer need to sign in to your Skydrive account and can simply go to My Computer to access your data. Here's how to do it: go to `Control Panel > User Accounts and Family Safety > User Accounts`. On the left pane, select "Link online Ids". Now click on "Add an online ID Provider"; this would prompt for a download. Install the 20.2MB file and return to the Link online IDs window and click on "Link online ID". Use your Hotmail account to log in. Your PC is now linked with your Window Live account. Open any MS Office file. Go to `File Tab > Save & Send option > Save to Web Option` and then sign into Windows Live SkyDrive. Double-click on your Skydrive folder which you want mapped. Having copied the address of that folder and go to My Computer select Map network drive. Paste the folder address in the folder box. Don't forget to check the reconnect at logon box, now click "Finish". Now, access your Skydrive folder from My Computer now.

Have Evernote access everywhere

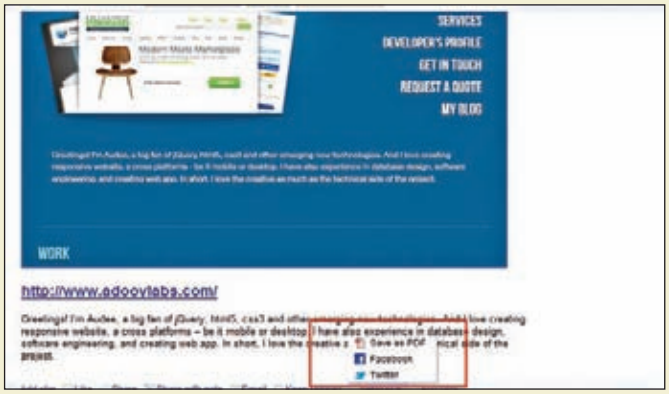
Although Evernote is available on multiple platforms, there might be times when you're stuck without an access to your notes. At times like these, all you need to do is send an email to your Evernote mail id (Evernote provides you with an email id at the time of registration) with the title of the note as the subject and the matter as the note details. Evernote would then sync it with your account. When you have access to Evernote next time the note would be visible. Neat.

Backup all your Google Docs with a few clicks

If you want to save all your Google Docs on your hard drive, simply select any file on your Google Docs homepage, click on "Actions", select "download", click on the "All items" tabs next to it and click on "download". All your documents would be downloaded in



Go to the settings tab on your Evernote Chrome app to find your Evernote email address



reader.png

a single zip file, however you can only download up to 2GB worth of files at a time.

Share Google Reader feeds on multiple social networks

All you need to do to publish Google Reader feeds on Twitter or Facebook is go to settings, click on "Send To", choose from over ten social networking web sites here. Once you've made your selections, the links would start appearing with the Send To button below the feed. Click on the Send To button and choose the desired network to push the feed on your stream.

Droptunes in your Dropbox

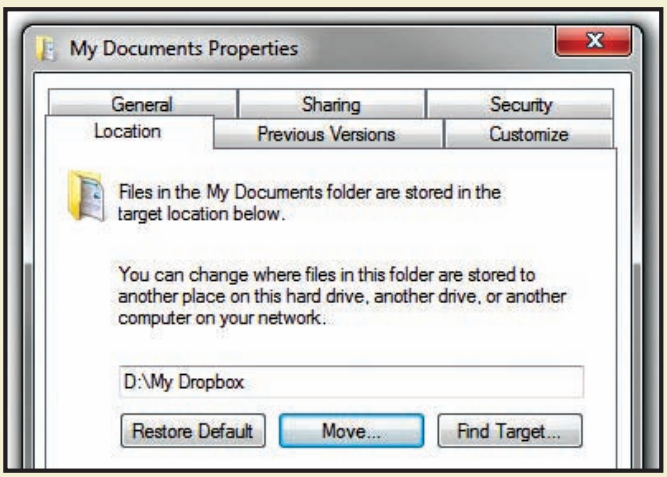
This is a simple way to listen to the music collection present in your dropbox account. Head on to www.droptun.es and log in with your Dropbox id. The entire music collection in your Dropbox can now be played using a Dropbox-type of interface.

Move My Documents to Dropbox

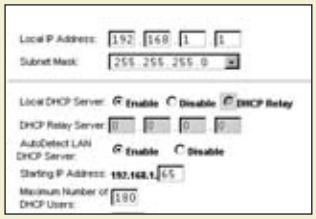
You can backup your entire My Documents folder to your Dropbox account. Select Properties in My Documents. Click on the Locations tab and click on Move. Now select your Dropbox folder. The contents of My Documents would now sync with Dropbox depending on their size.

Wi-Fi Tips

Most of us will buy a router, configure it and then forget about it like a bad dream — unless you have to troubleshoot it many moons later. Here's a couple of tweaks you can apply to your underappreciated router.



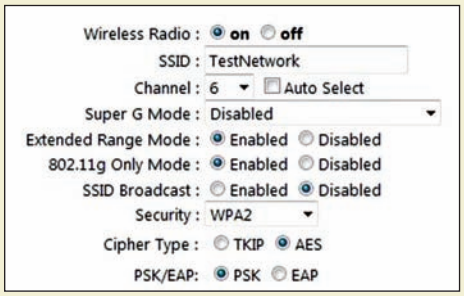
dropbox.jpg



dhcp.png

1) Disable SSID broadcast

Tons of wireless security advocates prophesize this as the first step to prevent unauthorised access to your wireless network. People won't know about your Wi-Fi network if their wireless devices can't identify it. To disable your wireless network's name, disable it's SSID or service set identifier.



disable-ssid.png

Here's how to do it on most modern Wi-Fi routers. Open your router's admin panel through a browser (Find it either at http://192.168.1.1 or http://192.168.2.1), type in your username and password, and hunt for the wireless settings tab. Once there, look for an option called Disable SSID Broadcast and make the necessary changes. Save the setting and your router shouldn't broadcast the network's name anymore.

2) Limit connections

Another way of keeping out nosy neighbours from trying to even establish a connection to your network is by limiting the number of devices that connect to your wireless network. Yes, if you have a total of, say, 10 devices that connect to your router (both, wired and otherwise), you can assign all these machines static IPs that won't change. And don't allow IPs from outside the range to connect to the network.

How do you do that? Just go to your router's Settings page and click on "DHCP options" to manually define the IP range. You should find a field to enter your network's starting IP address (for eg: http://192.168.1.2) and its end (for eg: http://192.168.1.5). This will allow only four more machines to connect to your network. Newer routers have something called DHCP reservation. This feature makes sure that every time a device connects to the network, it gets the same IP address the second time.

3) Change channels

On your router that is. In the 2.4GHz frequency band, all Wi-Fi 802.11 b/g/n routers operate in three non-overlapping channels - 1, 6 and 11. So if you encounter signal drops and low transfer speeds, chances are that your neighbour's router is also functioning on the same channel as yours. This is a limitation of the band, that's why the increased impetus on opting for 802.11n enabled routers for their 23 channels.

From your Wi-Fi router's admin panel, go to Network Settings. Depending on your type of router, the channel setting might be clubbed under different tabs. But find the option that lets you tweak channels. If your router is operating at channel 1, change it to channel 6 or 11 — the idea is to change to a value that's as far apart as possible from the default to minimize radio interference.

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www.netgear.com

KDE Netbook shell
KDE has offered a netbook-optimised shell since KDE SC 4.4; it's optimised for smaller displays and is quite touch friendly

KDE SC 4.7
The latest 4.7 version of KDE SC is just around the corner, and is to be released on the 27th of July

KDE Plasma Active

Kshitij Sobti
kshitij.sobti@thinkdigit.com

Computing form factors have changed a lot in the past few years. Netbooks became quite favourable for a while, before falling into disfavour with tablets gaining a foothold and seeming to be the form factor of the coming generation. Until something better replaces them, of course.

Still, there's a clear inclination towards smaller multi-touch capable screens, and the same is reflected in the new user interfaces that we're seeing on next generation operating systems. Windows 8, for example, has a new tile interface, that can support new forms of applications that work better on touch screens. Gnome 3 too has an interface optimised for smaller screens with touch support, and the new Unity interface for Ubuntu 11.04 developed by Canonical also seems to bear the new form factors in mind.

More important however, are applications. On a tablet form factor, people expect to do more than they can on a smartphone, and while there certainly are people who purchase powerful smartphones with no intention of installing third-party applications, tablet users will generally want more out of their devices than what the device can deliver by default.

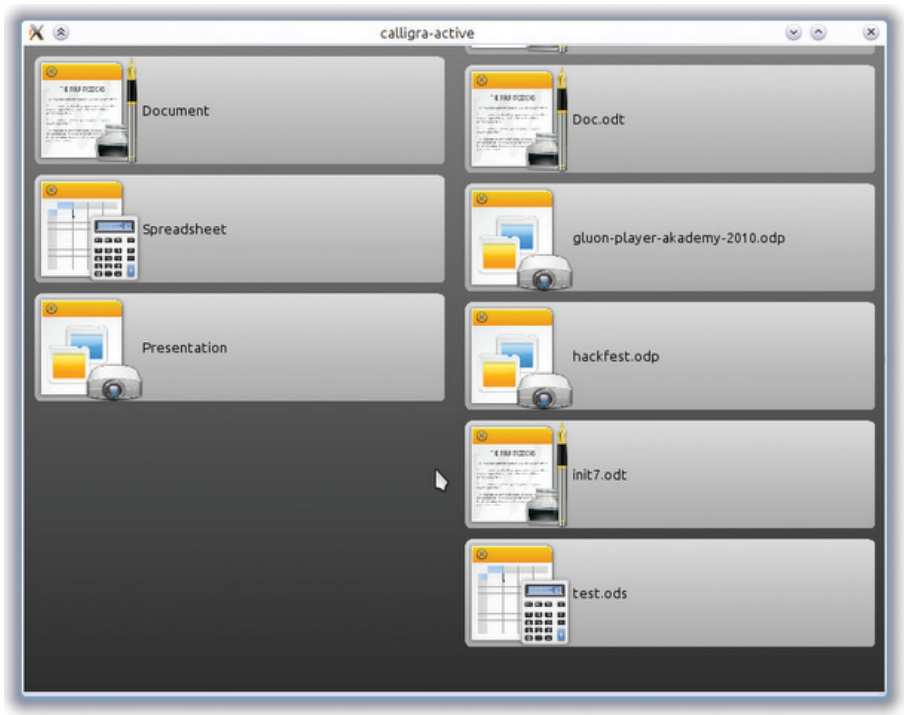
Plasma Active is the KDE community's entry into user interfaces for new form factor devices. The KDE community was quick to embrace the netbook form factor with a netbook shell simply called Plasma Netbook. They were able to release something quickly because Plasma – a new framework released with KDE 4.0 – is incredibly flexible and separates the data from the user interface.

Plasma Active is a new effort to take plasma to non-PC environments such as tablets, smartphones etc. Its mission statement is to "create a desirable user experience encompassing a spectrum of devices".

User experience has been put front and centre and the goal is not simply to port KDE software and workspaces to run on tablets, but also to develop a completely new UI that better suits the form factor for which it's being developed. Not just the core KDE Software Compilation (SC) experience, but also the KDE apps are being redesigned to fit the new form factor. The initial target is tablet computers.

To achieve this vision of KDE running on a "spectrum of devices", the KDE community is working on five separate but converging tracks:

Browsing activities on Contour



Calligra Active (Tablet version of Calligra, the KDE Office Suite)

Plasma Quick

This is an initiative to upgrade the underlying plasma infrastructure to make it better suitable for devices. This will entail performance improvements, stability improvements, etc. and these benefits will also come to those using KDE SC on desktops.

Since plasma is based on Qt, it will also take advantage of some of the new features that were added to Qt in its recent releases. These features include Qt Quick and QML, which make it very easy and simple to create rich UIs.

Contour

Contour is a new data-centric user interface for the tablet form factor with an aim to "create a context-sensitive user interface that adapts to the user's current context, activities and behavioral patterns" (instead of opening an application that deals with the data you want, sorting and searching). The data could be your contacts or social network stream. Contour, on the other hand, will combine data with the current context (geolocation, time, etc) and usage patterns and provide different ways of dealing with that data.

Active apps

Just an OS designed for a tablet form factor doesn't cut it. The KDE developers realise that the way people interact with tablets is different from how they interact with mobiles, which is different from how they interact with desktops. Each form factor needs wattention and the same UI can't be reused.

The frameworks that KDE is built on make it simple to separate design from data and functionality, such that it isn't a major effort to create new user interfaces for popular KDE SC applications. Some applications are already available in touch-friendly forms; these include Calligra Active, an office suite like LibreOffice / OpenOffice and Microsoft Office and Marble, a map application like Google maps.

Virtual keyboard

Activity switcher

Operating systems

This is still Linux, still open source, so Plasma Active isn't something that will be restricted to only one distro. Traditionally, the KDE community only releases the source code of the desktop environment and software, and different Linux distribution creators compile and package KDE for their distros. However, when it comes to the mobile platform (or even Windows) this method doesn't work well.

KDE needs a different approach, since unlike Android it's created and maintained by a community, not a corporation. This time around KDE will need to provide the OS stack as well, and for that they've started working with OpenSLX, rather than creating their own distro.

Vendor interaction

One of the most important things, in the end, for any software product is that it reaches users and they use it. For a system running on a tablet, this requires some support from the creators of the tablet.

Unlike a PC, where one can install new operating systems, dual-boot or install an OS in a virtual machine, such is not possible in a tablet. On a tablet one expects to get a pre-installed OS, which the end user is unlikely to change. KDE developers can't just rely on people to install KDE by themselves; they will have to interact with vendors to have the software pre-installed on tablet devices.

These five tracks will need to be worked on in parallel if KDE SC is to reach tablet devices, and the good news is that the progress till now has been remarkable. One can already download images of Plasma Active for tablets. The issue, however, is that you need to have a tablet to actually test it properly.

Linux is everywhere when it comes to non-PC devices. Android is Linux, webOS is Linux, Bada is Linux yet none of these operating systems can tap into the plethora of ready-made Linux applications out there, since they use custom SDKs. This means that Linux applications can't directly run on such operating systems and application written for such OSs can't directly run on Linux.

This is where MeeGo and KDE Plasma Active shine. Both can run standard Linux applications, and applications written specially for these systems will likewise run on normal Linux distros. This means that the development resources that go into such platforms help Linux as a whole by increasing the number of quality applications available for it.

While some KDE fans might be worried that a new tablet-centric direction will mean decreased focus on their desktop environment, this isn't true. The desktop work will continue as normal, and in fact, the work done to make KDE components and applications more efficient in memory usage, better consumption and CPU usage should pay off for desktop users as well. As a major initiative by the creators of one of the most prominent and modern desktop environments for Linux, KDE Plasma Active is something to look out for. If successful, it could bring a big change to the mobile device ecosystem.

No more naked scans
A new software for screening of travellers at the US airports will address the general public concern over full-body scanners

Google Credit Card!
The $7 billion company gives its advertising customers a credit card to beef up competition in the cut-throat market

From monitor troubles and Linux issues to BlackBerry problems

Everyone needs help troubleshooting tech problems, and that's where we come in

An eyesore

My problem is that my display used to flicker all the time. To be more descriptive it would weave in pattens.

I first faced the problem while playing some games, but later on, the problem exists when I am just on desktop. Some of my friends told me that it is because of my monitor. I was using a LG 17 inch CRT monitor, so I bought a new Samsung 18.5 inch LCD monitor but the problem still persists. I have also removed my speakers from the computer table. I have even tried different Operating Systems like windows XP, Ubuntu, Windows 7 but I can't get rid of this problem. Please help

Partha Goswami

Sounds like a graphics card problem. Try a new GPU and if you're using onboard display, get a GPU. Don't buy one, ask one of your friends to loan you one to test for a day. If the GPU fixes the problem, you will have to purchase one for yourself.

Crazy keyboards

Last year, I have purchased a Lenovo 38Q laptop running Windows Vista. The problem is that when I am typing the cursor keeps skipping to the left again and again. It rarely happens when I type fast. Please help. What I feel is that some keyboard driver may be corrupt. Please help.

Sandeep Kumar

See if it happens when you press the keys nearest to the arrow buttons. Also ensure that you're not touching the trackpad accidentally with your palm and moving the cursor by mistake - it's a common problem. The easiest way to test this is to see if you have a button to turn off the trackpad, and do so. Alternatively you can even look for the option in Control Panel. Then try typing at fast speeds and see if the problem recurs. If it's happening when you use letters such as L, K, M or N, then there's something wrong with your hardware, and you might need to change the keyboard layer of the laptop.

Here to serve you

I want to know if I can setup a mail server or web server in Linux and make it live, i.e. i can go live using my private system. I have a domain name for myself.

Saurav Singh

Yes you can, that is how any web sites is hosted. However you will need a static IP. You might not have one if you connect to the internet using a regular internet connection. You can opt for services such as http://www.no-ip.com/ or http://www.dyndns.com/ which map a dynamic IP to a host name.

You will be better off buying hosting unless you are using this server for small experiments / testing. In those cases you need not even map them to a domain name.

Outdated ISP

I just installed Ubuntu 11.04 with my Windows. After installation I found that the login software provided by Sify Broadband for Linux does not work on Ubuntu 11.04 as Ubuntu comes with a newer version of openssl but Sify login software requires openssl0.9.7-0.9.7c-52922cl.i386 as one of its requirements and I can't downgrade to this version (Don't know why Ubuntu is not doing this) so that means my Sify login software does not work on the new Ubuntu 11.04 and so I can't access my internet on it.

Can you please check this problem and tell me if there is any way around this?

I've included the download link for the Sify dialer.

Ashmeet Singh

You could alternate dialers such as this one: http://bit.ly/dialerdown. Sify is using an obsolete version of openssl and Ubuntu cannot and should not support such outdated version due to security issues. Complain to Sify.

Need a distro

I need a Linux Live CD which can run all normal Unix commands with vi, grep, cut, sort, sed, awk etc. + AWK and Shell programming. Secondly, I need it to compile C, C++ programs and Java programs also. Thirdly, I need it should open or create word documents, spreadsheets, presentations, gimp photos etc. Lastly, I need it to access fully all the existing windows partitions with both Read+Write+Execute. I have searched with my limited capabilities and found only Knoppix 6.4.4 live CD have all my requirements, although Ubuntu 10.10 also fullfils some of my requirements (Java compiler, gimp don't exist, can't create executable files on Vista partitions, hugely memory hungry). Can you suggest me some more Linux Live CD distros which can fullfil all of my requirements. If you advice me then it will be very much helpfull to me and my hundreds of students of computer science.

Roubhya Shankar Aluni

The JDK is a rare sight on live CDs, so one of the readymade solutions might not cut it for you. Why not roll out your own customized live CD?

For this you could go with http://porteus.org/ a Linux distro designed for portability. You can install modules for any applications that dont come by default. Another option is SUSE Studio, which is an online tool for creating your own Linux distros. You can pick the repositories and software selection, and it will create a live disk image for you that you. You can even add your own branding to this for better effect.

No berries here

I got a BlackBerry Bold 9700 as a gift but I never used a BlackBerry phone before. So, any have following problems: 1. The phone is connecting to Wi-Fi at home but I am able to surf the internet when there is no SIM card and when the SIM card is inserted I can't. I also changed the setting in the browser to use hotspot, but it's not working then I to use the internet through my SIM card then it says "this is a Wi-Fi connection please check your Wi-Fi". 2. When I removed the SIM card and installed BlackBerry App World from the browser, it downloaded and installed successfully, but where it installed I don't know. I checked in application folder and in menu but I can't find it. Please help me out.

Rajshekhar Sirimala

Do you have a BlackBerry (BB)connection / data plan? A BB is pretty useless without a BB plan.

You should also install Opera Mini, and use that to surf. As for the browser settings, use "Internet Browser" as the default browser. The App world app should be in your home screen by default, or after you downloaded it, then it's in your download folder. It will also not function without a BB plan from your mobile service provider.

Penguins begone!

I operate P-4 3.0 with 1GB RAM. I have installed Linux, 10.0 with my Windows XP (pre -installed). Now I want to remove the Linux from my system without formatting the HDD. Please help me to uninstall Linux from my system

Nirbhai Singh

Blackberry bold 9700

The answer to you question will change depending on whether you have any important data on your Linux installation. If you do, please first back that up to an external drive or elsewhere.

First of all, we need to ask, which Linux distro do you have installed? Also how did you install it?

Since operating systems are such core parts of your system, there is usually no uninstall tool. Instead, you need to simply delete your Linux partitions. For this you need to know where you have Linux installed. That will depend on your install method. For example, using the Wubi tool you can install Ubuntu Linux along with Windows. In this case even an uninstall tool is provided.

To remove the Linux partitions you need to use the Disk Management tool on Windows. You can launch this tool by running "diskmgmt.msc" by entering it in the run dialog. The Linux partitions will not have a drive letter, and will show nothing in the File System column. Be very careful though, as often some disk recovery utilities, and system manufacturers store important content in these partitions.

To reset your boot loader so it uses the Windows boot loader instead of GRUB, use the startup recovery tool that comes with Windows. This can be accessed by pressing F8 immediately after selecting Windows from the GRUB boot menu. Select startup recovery there, and follow the instructions for startup recovery.

If you are having trouble with the above, you can run the same tool from your Windows setup disk. Boot from you setup disk, and choose the recovery options instead of the setup options.

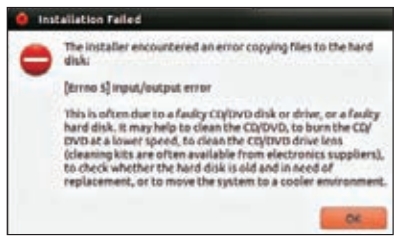
Memory madness

I bought my system 3 years ago it has a P4 3 GHz processor, 2 GB RAM 1 TB HDD. A few months ago I started experiencing a problem that any software that was bigger than 50 MB in size won't install. It showed some or the other file of the setup is corrupted (every time it showed a different file was corrupted for the same setup). I thought it would be a virus problem, so I formatted my system with Windows XP SP2, but the problem remained. I thought I should go for Linux instead of Windows. I tired doing that, but I could also not install Linux on my system. It showed me some error in CD/DVD or the HDD while installing. So I bought a new HDD, but still the problem exists. The problem also exists for Vista. I am not able to install that too. So I also replaced my DVD drive hoping it had the fault but the same problem exists. I even tired formatting my system by USB but no Linux (Ubuntu, Mint or Ferdora) would install and all would give the same error. I have downloaded different copies of software & OS but nothing works.

Ashmeet Singh

Get a linux installer. Run the memtest option and wait for it to complete. Sounds like corrupt memory to me. Let us know how it goes.

Q: Continued...
I did the Mem test and found out that one of my RAM sticks was corrupted. I removed the RAM and was able to install the software that gave an error on Windows. But I am still not able to install Linux on my system. When the installer asks me to setup the hard disk, I have



Installation error

20 GB free space. I make a new partition (ext4) of 16 GB for the main Linux. As soon as I make the first partition, it shows the other 4 GB as unusable. So I can't make a swap of it. Choosing it install it alongside Windows, it pops up an error "Too many primary partitions".

Due to a limitation of the way hard disks are partitioned, you cannot have more than 4 primary partitions. Essentially you cannot have more than 4 partitions. To work around this, the concept of extended partitions was introduced, extended partition can themselves contain partitions within them. They are called logical partitions. To have more than 4 partitions, create up to 3 primary partitions, and then create additional partitions inside the extended partition. Most partitioning tools do this automatically.

Cool Google chrome Web store apps

TweetDeck

TweetDeck provides a one-stop solution for all your social media needs. It consolidates your social accounts into one place. An update on any of these accounts is pushed to a crisp interface. A status update on Tweet Deck can be published to multiple accounts including Facebook groups.

Angry Birds

Angry Birds has been quite the phenomena over the last couple of months. With increasing number of downloads from the Chrome apps store Angry Birds has now more than 1 million players. The game can be played inside the browser window and can also be enjoyed in offline mode.

Snapdeal

Snapdeal.com is a leading e-commerce platform which promotes lifestyle services and product and travel deals across India. It provides its users with an opportunity to try out new places, products or services at a reduced perceived risk. Chrome app is a simple yet efficient way of offering more relevant deals at the click of a button.

Hobnox Audiotool

If making music is what you like then you need to install Audiotool from the Chrome web store. The app contains almost all the music editing tools and effects one can think of inside a browser.

Cricinfo

The Cricinfo app is an advanced HTML5 application which uses some of the most cutting-edge techniques and technology to provide a fresh, exciting way of consuming ESPNcricinfo, the world's largest, oldest and favourite cricket website.

Springpad

Springpad is one of the most beautiful apps we've seen in the Chrome app store. With Springpad, you can save notes, bookmarks, recipes, movies schedules and much more. You can access your notes from any browser via offline support from Chrome.

Evernote

Evernote is one of the most handy and useful apps. It's used to save a web page or parts of it, saving a variety of data like pictures and voice memos. With Evernote you can tag, sort in folders and comment on the notes saved and access them from anywhere using your login and password.

Chimpoo

Chimpoo is a fun, online, virtual universe where kids can play and enjoy for hours. There's online chat enabled inside the browser making the game truly interactive.

Time spent and engagement on the game is very high from India (approximately 15 minutes)

Aviary image editor

Some might argue that the browser-based interface of Aviary image editor is powerful enough to replace its desktop counterpart. However Aviary image editor offers essential image-editing tools. It's fun to play around with and requires basic image-editing skills.

Handheld keypad and mouse?
Want a compact keyboard and mouse functionality? Try out the Portronics mini wireless keyboard which comes with a trackpad to be used as a mouse pointer

A computainment solution for your HDTV

Get the HD back in your HDTVs and also do basic computing tasks. This DIY shows you how to get a sleek system to fulfill this.

Nimish Sawant and Raj Saxena
readersletter@thinkdigit.com

You're bound to find a lot more High Definition TVs nowadays than traditional CRTs, thanks to the falling prices of LCD panels. The only way a majority of the users enjoy HD content on their screens is if they have an HD set-top box. But what about the collection of HD movies that you have on your system's hard drive? Streaming it is one option, but the control lies with the system which will most probably be in some other room. The other option is to connect your laptop to your HDTV via an HDMI cable and playback your movie. Honestly, how many times can you do that? What if you could have a complete entertainment box around your HDTV which can also allow basic computing?

Welcome to the world of home theatre PCs. The main purpose behind this DIY was to have a decent rig in the most compact form factor, which apart from playing HD content also allows you to surf the web, work on your documents and allow very basic gaming on your flat screen TV. We're assuming that you have a HDTV and/or speaker system.

What should you expect from an entry-level HTPC rig? Well for starters, it should play all your HD content flawlessly and we mean 1080p onboard. If the rig tends to drop frames while rendering or the output is jerky, then the purpose is lost. Upscaling SD content for viewing on 32-inches and above should be quite good. Online streamed video should be handled with ease.

Another critical aspect pertaining to building a sleek HTPC is heat and noise management. You surely don't want a system that heats up and makes the system unstable. Since the system will be used for viewing HD movies, you want the rig to not make any noise, be it from the power supply or the CPU fan. You want a quiet system.

Keeping these points in mind, you should be very careful while selecting the components.

Test scores

Now there are various ways to go about building an HTPC. With every major motherboard manufacturer coming out with Mini ITX form factor boards (we looked at this form factor as we wanted a compact system that could be placed beside the TV). We decided to use components on both ends of the spectrum.

For the high-end HTPC system we used an Intel Core i5-2500 processor with a clock speed of 3.3 GHz and integrated Intel HD 3000 graphics and lodged it on a ZOTAC Z68 Mini ITX board with onboard Wi-Fi. This HTPC is more like a workhorse system, which can also be a compact desktop replacement provided you don't go for a discrete graphics card for gaming, else that will defeat the purpose of building an HTPC. Plus, with an Intel Sandy Bridge processor's integrated graphics, you can watch all your HD content flawlessly and also transcode video files faster.

On the lower end of the segment we

How the rigs fared

Processor	Intel Core i5-2500	AMD E350
Motherboard	ZOTAC Z68ITX A-E	ECS HDC I2
RAM	2x2GB Corsair Dominator DDR3	2x2GB Corsair Dominator DDR3
HDD	300 GB Velociraptor	300 GB Velociraptor
Cabinet	Cooler Master CM Elite 100	Cooler Master CM Elite 100
PC Mark Vantage		
PC Mark	9257	2549
Memories	4322	1499
TV and Movies	4796	1296
Gaming	6809	2075
Music	8398	2776
Communications	11011	2522
Productivity	8724	2495
HDD	3155	2791
3D Mark 2006		
CPU	6478	783
Graphics	1593	859
Overall	4135	1950
Cinebench R10		
Multi-core CPU	21692	2013
OpenGL	6740	1966
CPU Utilization during HD playback	**<10 per cent**	**around 50**
DivX Encoding (100MB VOB to DIVX)	**20 secs**	**131 secs**

HTPC software you can use

Bored of the Windows Media Centre, here are 10 alternatives to it http://goo.gl/bHpXJ

Bypassing WMP gates

Download the K-Lite codec from this site to play every file format that you throw at Media Player Classic: http://goo.gl/g6Ts

Probable HTPC recommendations based on usage scenarios

Usage Scenario (Assuming you already have an HDTV and speaker system in place)	I want an HTPC that not only plays my multimedia but which also helps me in doing a lot of multi-tasking, web surfing, working on office documents as well as on heavy applications such as Photoshop. I am willing to spend money but i want a compact solution that will rest beside my HDTV. I am not going to be gaming on this system, so not interested in adding a discrete graphics card.		I want all the benefits of a regular computer, but at the same time, cost factor is very important. I am on a budget of around ₹20,000. My expectations from the system are watching Blu-ray HD content flawlessly, do a bit of surfing, online video streaming. I also have a lot of video files that i would like to encode to various formats.		I am an extreme budget buyer and my primary aim is to be able to watch Blu-ray HD content. I will not be indulging in a lot of productivity on this system as i have my fully specced desktop for that. But i would like to surf once in a while on this system	
	Components	**Price (₹)**	**Components**	**Price (₹)**	**Components**	**Price (₹)**
Processor	Intel Core i5 2500	10,200	Intel Core i3 2100	5,500	AMD E350	onboard
Motherboard	ZOTAC Z68ITX AE	9,999	ZOTAC H67 Mini ITX	6,000	ECS HDC I2	5,500
Cabinet	Cooler Master Elite 100	3,200	iBall Baby 306	1,600	iBall Baby 306	1,600
Cost so far		**23,399**		**13,100**		**7,100**
Common Components						
RAM	4 GB DDR3 Corsair Vengeance RAM (₹2,500)					
HDD	Seagate Barracuda LP 2 TB (₹4,250)					
Cooler	Stock cooler / heat sinks for the processor (free)					
Wireless Keyboard	Amkette Cruiser Wireless Keyboard and Mouse (₹1,140)					
Total Cost		**₹31,289**		**₹20,990**		**₹14,990**

decided to use the new Zacate board featuring the AMD E350 processor which is clocked at 1.6GHz. It houses the lower end HD 6310 integrated graphics. This is a budget HTPC which will give you a decent performance for absolute basic tasks such as working on documents, Excel, etc. and watching Blu-ray HD content. Considering the low spec processor, you can forget about using heavy applications such as Photoshop.

Note that this isn't a comparison, but the scores in the table are an indication of the kind of performance you can expect. The Sandy Bridge rig for instance was great for performing tasks such as transcoding and CPU-intensive work. The AMD E350 rig, on the other hand, is great for watching HD content, but transcoding and other CPU-intensive tasks will be slow. Also note that the CPU utilisation while watching an HD movie on the Sandy Bridge rig was hovering around 6 - 7 per cent, whereas on the AMD E350 board it was around the 50 per cent mark.

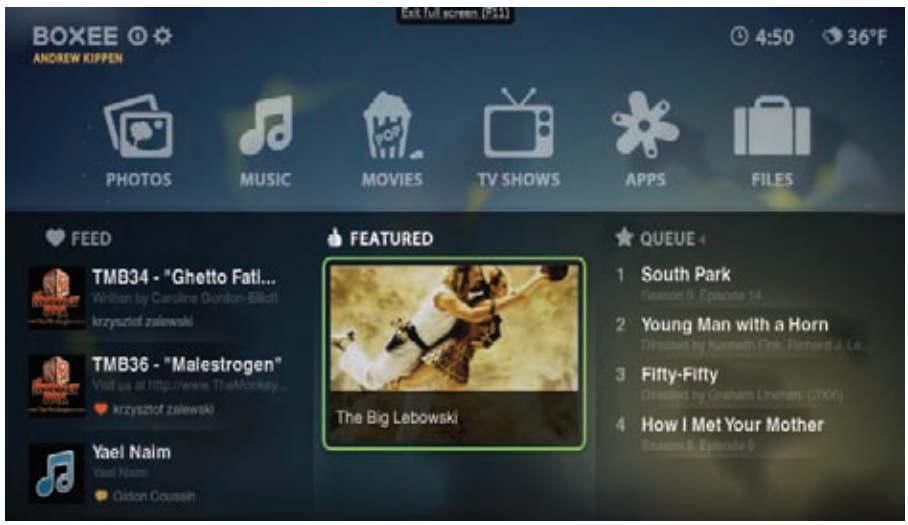
You should ideally select components which lie within these extremes based on your budget. We've also given processor and motherboard recommendations based on market prices in the table above.

If you just want a barebones download rig then you can go for an older generation Intel Atom based mini ITX board. You can just connect your LAN cable to the system and use this system to download torrents. As it is a low power system, you can keep it on for weeks if you so want.

Good to know...

Select a processor based on applications you'll use

A processor comes with many specifications such as clock frequency, number of cores and integrated graphics. You'll need to select an appropriate processor based on your usage scenario. For instance, if you perform transcoding operations frequently, then it's great if you could get a processor with a higher number of cores – preferably with an integrated GPU, rather than just a higher clock frequency (for example, Intel's Core i3, i5, i7 processors). Higher number of cores will ensure that the task is completed quickly and the integrated GPU eliminates the need for a discrete graphics card, thus keeping the power considerably lower.



A screenshot of the user interface in the Boxee media player hub

Cabinet woes

Since we're looking at a compact system, it is pertinent to keep a tab on the dimensions and expansion slots offered. You'll come across plenty of sleek-looking cabinets, but these are the questions you need to ask yourself.

- Will it fit the motherboard comfortably? (Look at specs such as the form factor - ITX, Mini-ITX. But it's best if you could actually place the board and see for yourself.)
- Will there be enough space for managing the wires?
- Is there space for adding a discrete card?
- Is the cabinet well ventilated?

Avoid overclocking

It makes no sense to overclock the processor you're using in an HTPC rig for the simple fact that overclocking will generate more heat and may cause the rig to overheat. The whole idea of an HTPC is to have a low power, cool and quiet system beside your HDTV. Overclocking will ruin that notion. Period.

Media player user interfaces

The XBox Media Centre and Boxee, both are open source media players and entertainment hubs for all your digital media. Both work on any and every platform that you can think of. The installation is quite simple and the interface is aesthetically pleasing. If you're planning a dedicated HTPC then you can download the Windows or Linux version from http://bit.ly/digit_htpc1 (XBMC) or http://bit.ly/digit_htpc3 (Boxee). The Linux version can be installed in a flash drive using the popular utility Unetbootin (http://bit.ly/digit_htpc2) and the system can be booted from it. So, no other operating is required!

There are many skins and utilities available. The audio quality is decent and dependent on your audio device. It is distortion-free but offers no equalisation options or advanced audio options. A major functionality that both of them lack is PVR support.

Media players and codecs

So you've assembled your rig but your Blu-ray 1080p rip won't play as it is in the MKV format. Ensure you have the right media player and all the codecs required to playback those files. We prefer the free VLC Media Player and Windows Media Player Classic. Also download K-Lite Mega Codec Pack, available for free on the net or better still, get it on our DVD.

Invest in a wireless keyboard/ mouse combo

You surely don't want to see wires coming out from under your TV to your keyboard and mouse. Invest in a good wireless keyboard with a trackball. You'll get one, starting at around ₹2,000. Although this increases the overall cost by a bit, especially when compared to wired options are available, the reduction in wiring and the associated clutter is heartening!

Before you start

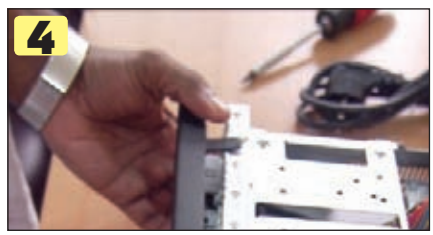
1. Work in a cool environment to avoid damaging any computer parts with wet hands.
2. Be careful not to drop any small parts (particularly screws) into unreachable areas such as into the computer fan or disk drive.
3. Before touching any part within the tower, put your hands against another metal surface (such as the computer casing) or just stand barefoot on the ground to remove static charge, which may damage sensitive devices.
4. A container or piece of paper with labels for each part (casing, motherboard, CD drive, etc) is ideal to avoid confusion between the similar-looking screws. We use labelled paper cups to store screws.
5. Handle all parts with care. Place each piece you remove carefully down onto a stable surface.
6. Don't forcefully remove components. Instead, check that you're removing them correctly and no wires are in the way.
7. Be careful when holding the motherboard, it's underside is actually quite pointy and can scratch you.
8. Never attempt to remove the power source, while its still connected to the power supply.
9. When removing any cables, wires or ribbons, grasp the wire at the base or head to keep it from breaking.

STEPS

Make a checklist so that you have everything in one place to keep at bay the "what goes where" problem. Seen in the picture above are the following components: A Cooler Master Elite 100 Cabinet, 2 x 2GB Corsair Dominator DDR3 RAM, WD 300GB Velociraptor HDD, SATA cables, Stock Intel cooler, Intel Core i5-2500 processor, ZOTAC Z68ITX AE board and a screwdriver along with a paper cup to hold all the screws.

Unscrew the cabinet screws and take off the cover. Many HTPC cabinets (such as ours) have the power supply already installed, so if you need more space to work with, remove that (like we did)

Remove the top flap of the cabinet. As you can see, it comes with a power supply.



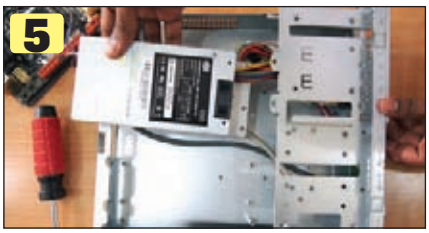
We also removed the front panel so that the HDD holding panel could come off and we could install the hard disk easily.

Core i3-2100T vs AMD E350

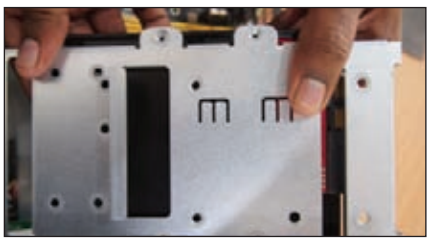
Xbit labs has done an in-depth testing of the entry-level low power Sandy Bridge processor with its AMD counterpart: http://goo.gl/UDihP

Adobe Flash 11 beta

Adobe has released the beta versions of Flash Player 11 and AIR 3 runtimes

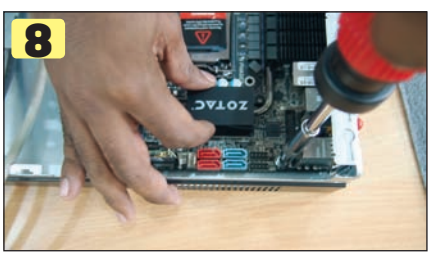


Detach the power supply and the top panel on the left-hand side (let's call it 'A') to allow the motherboard to be easily lodged.



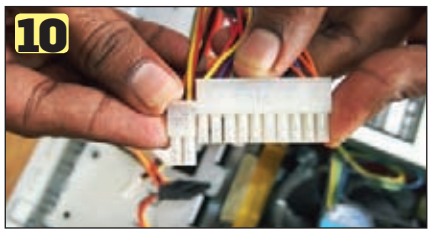
Attach the hard drive on the underside of panel A with the help of additional screws found in the cabinet's box.

Put the back I/O shield in place. Be careful with the sharp edges found on most of these back I/O panels.



Place the motherboard in place and make sure that the screw holes on the board correspond with those on the cabinet. Once in place, screw the motherboard to the cabinet.

Refer to your motherboard manual to connect the Power LED, HDD LED, USB and audio front panel cables. You may leave the HDD LED disconnected if the blinking light is distracting

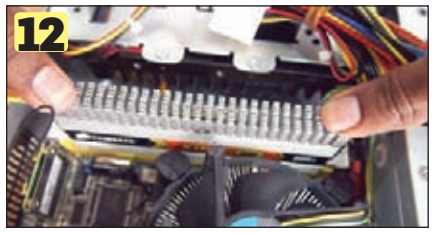


The next step is to connect the 24-pin motherboard power cable into the motherboard coming from the power supply. You'll also notice a four-pin CPU power cable, make sure you connect that to your motherboard as well. Once that's done, connect your SATA cable and power cable to the HDD.

Next, we install the CPU and heat sink. Align the processor according to the notches.

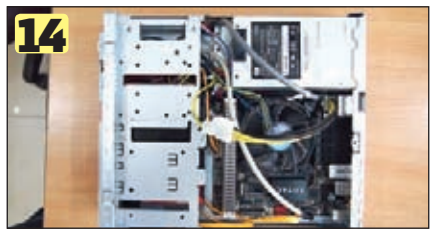
While Assembling

- Ground yourself before handling the motherboard by just a wall or just standing barefoot on the ground.
- Most heat sinks will have some thermal paste stuck on its base, but if yours doesn't, ensure that you put a drop of thermal paste on top of the lodged processor.
- Make sure that you choose your cabinet wisely so that there's enough space for adding components in the future if you so need. In our assembly, we didn't have space to add a discrete graphics card as we didn't feel the need for one.
- Once done with the wiring, tie the stray wires with zip ties so that the wiring looks clean and doesn't block the air flow in the cabinet.



With the above done, you can now install your RAM. Again be careful and work in an anti-static environment.

After installing all the components and fixing Panel A which holds the HDD, you'll notice that the wires are all over the place.



You'll have to find a way to manage the wires, else the cabinet won't close. We nudged the wires just behind the power supply to get a clean rig before closing it.

After all the steps above, close the lid on the top and attach the screws in place. Your HTPC is now ready to be powered up.

worldview

OUR PICK OF THE BEST TECH ARTICLES FROM AROUND THE GLOBE

(MUST READS)

ARMOUR TECH

Ever wonder how the Knights of the medieval era managed to move let alone fight wearing such heavy armour? Well so have lots of people, including the bio-mechanics experts at Leeds University. In this fascinating study, they put brave volunteers armed with sensors on a treadmill in full armour and come up with some interesting results.

http://bit.ly/wv08100

DEALING WITH TROLLS ON YOUR WEB SITE

If your web site gets the undue attention of online pricks, its your fault says this interesting article on dashes.com. It also gives you easy ways in which you can deal with these vitriolic, hate-filled wasters who incessantly spew nonsense in your comments section

http://bit.ly/wv08102

GOOGLEVILLE!

Google+ is soon to have social gaming thereby taking away the one remaining ace up Facebook's sleeve. According to reports, on its gaming network Google is going to offer developers a sweet deal, taking only a 30 per cent cut of revenues. Read on for more insider scoops:

http://dthin.gs/wv08103

THE ILLUSIVE FUSION DREAM

For years harnessing the power that fuels the sun has been the holy grail of science. Fusion, Now, emerging fusion programs including bold startups and billion-dollar government labs have taken the first steps toward generating star power.

http://bit.ly/wv08104

(Ars Technica Corner)

UNLICENSED: ARE GOOGLE MUSIC AND AMAZON CLOUD PLAYER ILLEGAL?

First it was Amazon, followed by Google and then Apple. The first two started their Cloud music services without actually getting record labels on board. Did Apple waste money by appeasing copyright holders or will Amazon and Google be forced to bow down? Find out...

http://bit.ly/wv08113

The return of Space Combat

Where did space combat games go wrong? Find out how a game development studio Seamless Entertainment wants to bring back the space combat genre with its upcoming game, SOL: Exodus.

http://bit.ly/wv08114

Mass extinction very easy to trigger

Scientists have been worried about the current release of methane from seafloors. What this study shows is that it already happened in the past and may happen again

http://bit.ly/wv08115

How Stuxnet was decoded

When security specialists first encountered the Stuxnet exploit, the code seemed way too sophisticated than its intended purpose. Here's the comprehensive story of the rise and fall of Stuxnet, the most menacing malware in history.

http://bit.ly/wv08116

SHORTS

TRYPOPHOBIA!

According to Urban Dictionary Trypophobia is an intense, irrational fear of holes. As strange as it may sound, there may be some truth to it. Have a look at this gallery on PopSci and you'll involuntarily start feeling a bit queasy. http://bit.ly/wv08105

INTERNAL COMBUSTION ENGINE UPDATE

On its way out, the good old Internal Combustion still has a few miles to go. What are the improvements happening in this now age old technology? Check out this fascinating article and photogallery for insights from the cutting edge of automotive technology: http://bit.ly/wv08106

PDFs ARE OLD. SAY HELLO TO CDFS

Wolfram Research is trying to add compute power to regular documents with the Computable Document Format (CDF), a new kind of interactive document. Think of it as a PDF document with an embedded data manipulation app. More: http://bit.ly/wv08107

HOW MICROSOFT INVENTED OPEN SOURCE

Surprised? This interesting, and perhaps made up article, gives an account of Bill Gates' statements during a Microsoft shareholder meeting from way back in 2001. Decide for yourself: http://bit.ly/wv08108

How to make a Windows Time Capsule

- By Sebastian Anthony

The coveted back up solution for the Mac is not out of reach for Windows users. Here's how to replicate it for yourself

PCMAG DIGITAL NETWORK
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Despite its jawdroppingly exorbitant cost, there is no denying that the Apple Time Capsule is one of the best backup solutions available. It's wireless, so multiple computers can easily and conveniently use it, and OS X's Time Machine software makes the entire backup process both easy and foolproof. The only problem, of course, is that Time Capsules are really designed to work with Macs — you can use them with Windows PCs, but then it just becomes a glorified Samba share.

A very expensive Samba share, too: $500 for a 3TB Time Capsule is a lot of money, even for your average Apple zealot — especially when you consider that you're basically buying a pearly-white wireless router with a hard drive inside. Suffice it to say, if you've ever bought a wireless router, you'll know that they can be bought for around $50; and portable 3TB hard drives are only $130. In other words, if you're willing to do a little bit of legwork, you can make your own Time Capsule for about $200 — and if you're a multi-OS household or office, you can even create a DIY Capsule that works equally well with Windows, Mac, and Linux. Having said that, this guide will focus on making a Windows Time Capsule, but there is a section at the end if Mac and Linux users also want to get in on the action.

THE HARDWARE

If you take a look at the back of an Apple Time Capsule, it's basically a 4-port router with a USB port — it doesn't even act as a DSL or Cable modem! To make your own Time Capsule, you need to pick up an 802.11n wireless Belkin or Linksys router with a 4-port switch and one or two USB ports. The latest models (around $60) seem to handle external storage fairly well, but if you opt for an older or cheaper model ($40-50), be sure to check some reviews beforehand. If you want a wireless router with built-in DSL or Cable modem, it'll cost you around $100.

Hard drive-wise, you have two options: you can go the complete DIY route and buy an internal 3.5" drive, a USB enclosure, and turn them into an external hard drive — or you can simply buy a ready-made portable hard drive from Seagate, Western Digital, or whoever your favorite manufacturer is. To be entirely honest, portable hard drives are so cheap that it's almost not worth the hassle of building your own USB enclosure. Empty enclosures cost at least $15 — and today you can get a Western Digital My Book Essential 3TB for $129 from Amazon. You'd be hard pressed to find an internal 3.5" drive for $115, that's for sure. If you want to go a little cheaper, TigerDirect has a 2TB Iomega Select for $79 — and likewise, an internal version can't be found for less than $70.

In most cases, you will want to plug your USB drive into a computer and format it before you continue. Wipe the drive clean, delete any "special" partitions, and format the entire drive as FAT32 — or NTFS if your router supports it.

Once you've got your wireless router and a formatted hard drive, grab a USB cable and connect them up, turn the router on — and then move on to the next step:

NOTEFLIGHT

Wired magazine's GeekDad talks about the latest web toy that has caught his son's fancy - Noteflight - an online music writing application that lets you create, view, print and hear music notation with professional quality, right in your web browser. Sure beats music lessons and it's highly addictive for budding musicians.
http://bit.ly/wv08112

RATINGS WILL RUIN WIKIPEDIA

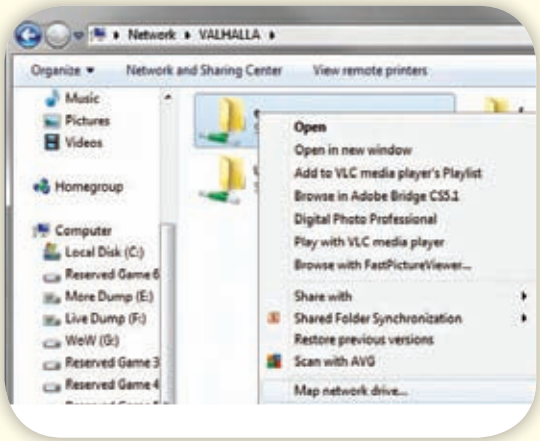
An article on Gizmodo argues that the new and seemingly beneficial system of rating articles on Wikipedia may not work like it's supposed to. Find out what can go wrong.
http://gizmo.do/wv08117

10 GADGET GIFTS FOR GEEKY STUDENTS

ZDnet compiles a picture gallery of everything that a student would desire. From a digital pen that has an inbuilt infrared camera and can do 200 hours of lectures to a piggy bank with an LCD screen and digital counter.
http://zd.net/wv08118

THE SPINNING HEATSINK

A new heat sink is being developed that doesn't require a fan. The entire heatsink itself spins at high speeds to dissipate heat more efficiently. It is immune to dust, and is supposed to save energy too. ExtemeTech did a Q&A with the inventor. Read the interview here:
http://bit.ly/prmAw7



CONFIGURATION

For the most part, configuring your wireless router to share the USB hard drive across the network should be easy. The hard drive should be immediately accessible across the network, but you may need to log into the router's control panel and make sure that the hard drive has been detected. If you're trying to connect to the hard drive using Windows, make sure the router is part of the same workgroup. If you already have a DSL or Cable modem/router acting as DHCP server, disable DHCP on your DIY Time Capsule and assign it a static IP.

Once the router is happily connected to the network and has successfully initialized the hard drive, you should be able to access the drive by opening Explorer and visiting \\Router_IP_address\ — if everything's worked, you should see a folder icon with a label like "FreeAgent" or "FlashDrive" or "Removable". Right click the icon and select "Map network drive..." Pick any drive letter you like, make sure "Reconnect at logon" is selected, and click Finish.

If this method doesn't work (if you don't know the router's IP address), you can also access the drive through Windows 7″s Network panel. Click Start (the Flag button), type Network, and click Network from the list of programs. You should see your drive in the list of network devices — right click it, select "Map network drive..." and voila.

You should now see your network-attached USB hard drive in My Computer. For all intents and purposes, this is a normal hard drive as far as your computer is concerned — which means it's time to set up our backup software.

SOFTWARE

You'll be unsurprised to learn that Windows offers plenty of good solutions that mirror Time Machine's automatic, incremental backup functionality. The easiest solution, though not the most functional, is to actually use Windows 7″s built-in Backup and Restore (http://bit.ly/micbackup), which is more than capable of performing your backups.

If you want a little more control, or if you use Windows XP, Genie Timeline (http://bit.ly/gtimeline) is excellent and provides continuous, in-the-background coverage, like Time Machine — but costs money; ditto Oops! Backup (http://www.altaro.com/) and Acronis True Image (http://bit.ly/atimage). As far as free options go, EASEUS Todo Backup (http://bit.ly/todoback) is probably the best, but it doesn't support continuous backups; you can schedule a backup to run every hour or two, though.

It's also worth noting that if you're only looking to mirror a few directories to mitigate the risk of hard drive failure, Microsoft's SyncToy (http://bit.ly/msynctoy) is an excellent choice — it's not a backup tool, however; there is no magical "Restore" button.

In every case, set up your backup plan as normal — and just be sure to select your network-attached USB drive as the destination.

MAC, LINUX & NETWORK-ATTACHED STORAGE

You may have noticed that this DIY Time Capsule is basically a cheap and not-very-functional network-attached storage (NAS) device — and for a few dollars more, it's probably worth making your own FreeNAS box (http://bit.ly/mfreenas). With a NAS, you inherit the Time Capsulesque functionality, but you gain more security and control, the ability to use more exciting file systems, and ultimately you have a Linux-like server that can be bent into doing just about anything: downloading torrents, streaming media to a PS3 or Xbox, crunching SETI, and so on.

As far as making your own Mac-compatible network-attached USB drive, the process is much the same as above — but you'll need to use a little hack (http://lifehac.kr/timehlh) to force the new drive to appear in Time Machine. Once it appears, however, your cheap-and-cheerful DIY Time Capsule should function in exactly the same way as the real thing.

Linux users: follow the same route as Windows users, but instead of mapping a network drive you'll need to do a little command line mounting (http://bit.ly/dlmount) to make the drive usable. For performing actual backups, scheduled rsync (http://bit.ly/nCIt5x) is pretty darn good.

(worldview)

Many of you may already be aware of Techzilla but for those who don't, this web show brings you hands on reviews of the latest in tech. If that's not reason enough to watch it, there's the lovely Veronica Belmont (drool) who hosts the show
http://revision3.com/tekzilla

DO YOU LIKE THE WORLD VIEW SECTION?

With our new World View section, we're trying to expose you to more international stories and culture. Instead of just a list, we hand-pick the stories we think you'd like. However, in order to ensure that we're doing a good enough job, we'd love to hear your feedback and comments.

Send in your feedback to editor@thinkdigit.com

(QR Code)

For a list of all the links from this section head over to http://bit.ly/wv08all Or point your phone to the QR code alongside

(PRODUCT LAUNCHES)

FUJITSU F-07C

A mobile phone featuring a full PC version of Windows 7 makes us take notice. It's being dubbed as the world's smallest PC. It runs on an Intel Atom Z600 processor with hyper threading support and can dual boot into symbian. The phone is unveiled with a price of $860 and is a Japan only release

OS X LION

Auto Save, version control, application resume, Air drop and other features come with the latest operating system released by Apple. Mac OS X Lion is available as an upgrade to Mac OS X version 10.6.6 Snow Leopard from the Mac App Store for $29.99

PANASONIC LUMIX FZ47

This little superzoom lets you manually select aperture and shutter speed while shooting 1080i video at 30 fps. The 12.1 megapixel compact comes with a 3-inch LCD, 24x Leica zoom lens with a 25mm wide-angle focal length. Priced at $400, it will be on shelves this November.

WORD JUMBLE

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

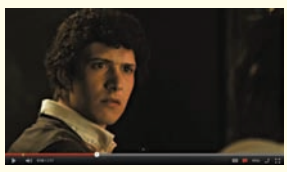
Believe it or not there are 20 tech terms in this word jumble. Try to find all of them all.

ABSOLUTE TIMEPASS

Top 3 YouTube Picks

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

http://bit.ly/wv08109
3 min 27 secs
Scientists are hot on the trail of the elusive Higgs Boson particle which is thought to explain the origins of particle mass. Watch this simple explanation



http://bit.ly/wv08110
2 min 57 secs
In this awesome spoof Mark Zuckerberg reflects on the battle of Google+ vs. Facebook. Will Google+ make Facebook the new Myspace?

http://bit.ly/wv08111
0 mins 56 secs
A strategy game the way such games were always meant to be played - on a huge touch screen wall! This is right out of Ender's Game

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What will Aliens look like?

Are the Sci-fi flicks right in imagining humanoids, or are the fantastic descriptions of the legendary Sci-fi authors if yore more accurate?

Image:sarettal

Siddharth Parwatay
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Any talk of extra terrestrial life invariably brings to mind images of aliens depicted in movies. We've seen everything from friendly little critters like ET, who you would want to take home as pets to evil aliens that usually resemble creepy crawlies from our world; arachnid and reptilian creatures that make you squeal and scream "eeek!".

Being hardcore sci-fi and space nuts, we're too far-gone now to debate whether aliens exist. We'll just assume probabilistically that they do. So when that fateful encounter of the gnarly kind does occur, what would those aliens look like? A cute little asexual ET - like being, or maybe a gruesome predator-esque creature with multiple lines of trapjaws, or perhaps not even a biped; maybe just ooze? Let's look at popular theories, shall we? You'd be surprised with some of the more plausible ones...

THE GREYS

Perhaps the most popular depiction of aliens is this diminutive form of ugly hairless big-headed beings that we're all by now familiar with. Though flawed, the image has roots in pseudo-scientific theory. Apparently, the greys are such because they're so intelligent they no longer have much use of their limbs. Hence the skinny extremities and large heads. So how did such intelligent beings forget to wear knickers, we wonder? The origins of this depiction of alien life can be traced back to descriptions by H.G Wells, the Roswell UFO incident and even the earliest abduction reports. It's lodged itself so firmly in pop culture like a piece of food that refuses to budge from that most difficult-to-reach molar.

THE SENTIENT PUDDLE

One of the other plausible theories revolves around finding organisms who've evolved differently from us. If you ever closely observed the diversity of creatures even in our ecosystem you'd marvel at the forms, shapes, sizes and even their modes of existence. Perhaps all we'll ever find in the great black beyond is pond skum. A great thinker and science fiction writer by the name of Douglas Adams once imagined a sentient puddle who wakes up one morning and thinks, "This is an interesting world I find myself in—an interesting hole I find myself in—fits me rather neatly, doesn't it? In fact it fits

GENESIS 1:27

A group of historians and scientists believe that the figures described as Gods and Goddesses in our ancients texts are actually detailed accounts of aliens coming down from the sky to alter the human DNA and speed up the process of evolution. Watch the video: http://bit.ly/space01

FIRST CONTACT

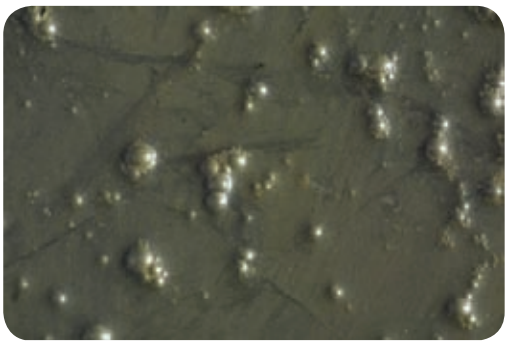
On August 16, 1977 Dr. Jerry Ehman detected a radio signal while working for project SETI. It lasted for the full 72-second duration that the Big Ear radio telescope observed, but hasn't been detected again. Some consider it to be our first alien chat. More: http://bit.ly/space02

INTO THE INKY BLACKNESS

Voyager I and Voyager II launched on September 5, 1977 aimed at deep space research have now travelled for more than 33 years and made unprecedented discoveries passing by the outer Solar System planets making them the only man-made objects that far out in space http://bit.ly/space03

WATER WATER EVERYWHERE

The existence of water, supposedly one of the essential substances for life has been confirmed on the moon by the Indian Chandrayaan I mission making primitive life on the moon a serious possibility. Link: http://bit.ly/space04

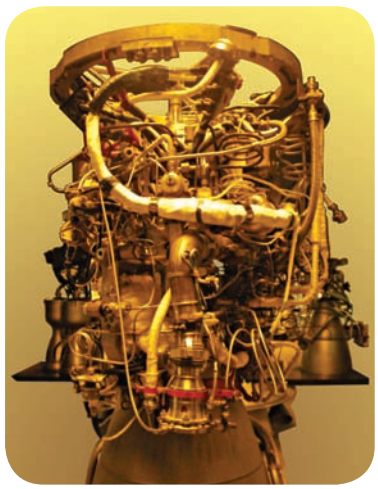


me staggeringly well, must have been made to have me in it!" The key here is the fact that even a puddle of protoplasm can be sentient elsewhere because of the way it evolved to fit that world. Aware, but would it be intelligent? Perhaps. Imagine walking around on an alien planet and stepping into some goop and it shouts back at you "hey watch it, you just stepped on my crotch there!".

Such life may have evolved in such a way that it doesn't need visual perceptory mechanisms we call eyes. Even the inventions of such life and their civilisation may be biological and not like the machines we've created.

CHILDREN OF CONVERGENT EVOLUTION

Most of our fiction-makers conjure up aliens (even the wildly imaginative ones) as anthropomorphic (or ascribing human form). They have a face, legs, arms and maybe even genitalia. We emphasise the last bit as Trekkies would be familiar with half-human hybrids all over the Star Trek universe. All these unholy unions were even plausible to an intelligent viewer because of the anthropomorphic form that most aliens strangely adhered to. So what is it about the hominid form that we like so much or perhaps nature likes so much? The answer lies in the theory of convergent evolution which states that species evolve and develop similar solutions to adapt to certain environmental challenges. The perfect example of convergent evolution is the number of aquatic organisms from different lineages – from fish to dolphins – that developed the teardrop shape for optimal efficiency. The shape makes them streamlined and hence faster to catch prey and escape too. In the same way, scientists postulate that the human form is perhaps the epitome of evolutionary advancement; after all, we're the dominant species. Those large brains, industrious thumbs, stereo vision and long limbs all worked to our advantage over the eons. This makes scientists assume that creatures on other worlds would also share the same characteristics and be much like us. Quite frankly, it sounds like we're vain enough to believe that we're the best way to be. What we don't consider is that alien worlds may not be like ours. Creatures on other worlds may require other evolutionary changes and adaptations. Who knows, maybe on a world where there are high surface pressures a triangular shape may be the perfect way to be. Imagine a bunch of pyramids walking around eating square-shaped hot dogs.



DUES EX MACHINA

The most plausible theory of all though is that we may not meet people at all. Who will we meet then? In all likelihood their creations. The evidence for this lies in the history of our own civilisation. We discovered electricity and radio in the late 1800s and within a span of a hundred years we have computers. This is quite a telescopic progression. Extrapolating on this level of advancement, the next step which is thinking machines, is barely another hundred years away. We would then have, in a way, given birth to our successors. In our last Space Age feature, we looked at how mankind would explore the final frontier. And considering all the hazards of space, we concluded that it would have to be done by proxy through machines. The same would be the case with any technologically advanced civilisation. So, instead of biotic organisms our first encounter might just be with an advanced thinking machine. While hominid Robots are a familiar and perhaps comforting thought, a sentient machine's design will be as per its function. And if a cube is the perfect form, you can forget about meeting Optimus Prime or any of the Autobots.

STEPHEN HAWKING SPEAKS

The respected theoretical physicist has been quite vocal about aliens. He warns that Alien technology may make ours look like the dark ages... Watch the video: http://bit.ly/space06

EVERYONE WAS A STAR

The next time you see yourself in the mirror, remember that you were a part of a star before the star exploded into a supernova. The hydrogen in stars combine to form helium which in turn combines to form heavier elements. http://bit.ly/space05

ALIEN LIFE ON EARTH?

NASA's Dr. Richard B. Hoover, in the Journal of Cosmology, claims to have found alien life in the form of bacteria on a meteorite named CI1 carbonaceous Chondrites. Only nine such meteorites are known to exist on Earth. http://bit.ly/space07

MOST REALISTIC ALIENS

It's been widely accepted that much of the life that we'll come across in space would be of the microbial kind. In our solar system itself there are likely hotbeds such as Ganymede, Europa and IO which could be rich in mico-organisms of all kinds. Perhaps our Moon too.

Driverless Car legislation
Nevada is the first state in the US to have passed a driverless car legislation which means that autonomous cars can be driven on the roads without any restrictions from the Department of Transport

Zero Emission Car?
Nissan's ESFLOW concept car is a 2-seater EV which claims to be a performance oriented sports car that does not give out any emissions

If Cars Could Talk...

Don't start imagining automobiles having conversations while their tanks are being fuelled at the petrol station. But talking cars will be a reality in the near future if research in this field passes the real-life scenario tests. Read on to know more.

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India ranks No.1 in terms of road fatalities, a tag we should surely not be very proud of. According to a World Health Organisation report, the number of accidents per 1,000 vehicles in India is as high as 35 compared to about 4-10 in most developed countries. Even China, which has more vehicles and a higher population has fewer road accidents in comparison.

The reasons for this sorry state of affairs ranges from bad roads to a complete disregard for traffic rules by drivers who are not trained enough to take on the roads. And we're not even talking about drunk driving.

Cars are getting more feature-rich by the day. Safety measures such as air bags, collapsible car material and anti-lock braking systems, among other things are being implemented to reduce accidents. But these features still require the car to be actively controlled by the driver. These technologies are not 'smart' so to speak.

What if your car could interact with other cars on the road? What if your car could anticipate the behaviour of other cars? How about parking your car with your iPod? These might seem like scenarios straight out of a sci-fi novel, but researchers across the world are working on these technologies which are allowing cars to communicate with their surroundings.

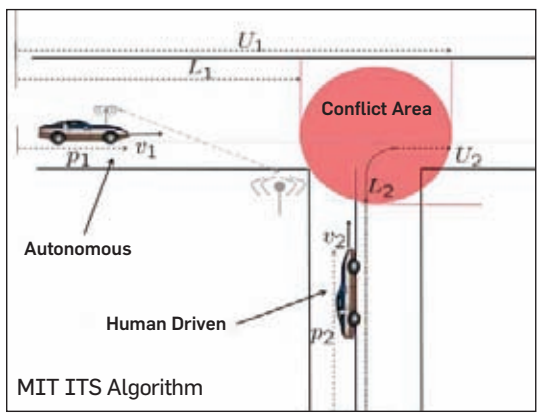
Intelligent collision avoidance system

There have been many developments in accident avoidance systems in cars such as automated cruise control, radar or laser-based sensors, blind-spot warning systems, etc. But these systems are within a car and you still have no control over surrounding cars and how they're being driven, which doesn't make accident avoidance entirely error-free. Mechanical engineers at MIT are working on an intelligent transportation system (ITS) algorithm that takes into account human driving behaviour to warn drivers of potential collisions and takes control of the vehicle to prevent a crash.

The team, comprising Rajeev Varma and Domitilla Del Vecchio, broke down the driving actions of humans to two basic modes: acceleration and braking. Based on the mode the driver is in, there's a finite set of places that the car could be in the next instant or several seconds later. These possibilities, in addition to predictive models of human behaviour, which determine when a driver will slow down or accelerate around an intersection, have been used to make the new algorithm which is being used by the ITS. This algorithm has given rise to a program that can calculate a capture set – a defined area in which two vehicles have a high possibility of a collision. The vehicle which uses this ITS algorithm uses its on-board sensors as well as sensors such as traffic lights to try and predict what the other car (being driven by a human and having no ITS on board) will do and will react accordingly. If both cars are ITS-enabled, then the process becomes quite simple as both the cars can communicate with each other.

The experiment conducted by the team involved two miniature vehicles on two overlapping circles. One vehicle was controlled by a human and the other was autonomous. The human-driven vehicle was controlled by eight different volunteers to simulate different driving behaviours. Out of 100 trials, there were 97 instances of collision avoidance. The vehicles entered the capture set and collided once, thanks to a communication delay between the ITS-enabled vehicles and workstations representing roadside infrastructure that captures and transmits information from non-ITS equipped cars.

In a lab environment it sounds rosy, but



MIT ITS Algorithm

How car design works
Brief video explaining car designing from the sketching stage to the final working model
http://goo.gl/v3xII

Fun Fact
In 1916, 55 percent of the cars in the world were Model T Fords and this record has never been broken since!

the real test will be when this technology has to be brought into practice on the roads, where variables apart from human-driven vehicles such as pedestrians, obstacles or multiple possibly collision-causing cars come into the picture. Also, the system has to be robust enough to work with precision despite communication delays.

Future work includes incorporating driver reaction time data to determine when the system must actively take control of the car and when a passive warning will work. Another aspect being worked upon in the algorithm is including up to eight vehicles to avoid a situation in which speeding up or slowing down to avoid colliding with one car, may lead to collision with another car.

Vehicle-to-vehicle communication

The next frontier for smarter cars would be actual communication with each other. If cars are able to talk to each other, avoiding accidents would be even easier.

Ford, at an event in San Francisco, demoed its intelligent vehicles using Wi-Fi or dedicated short range communication to talk to each other. This vehicle-to-vehicle (V2V) communication takes place on a secured channel allotted by the Federal Communications Commission (FCC) in the US. This way of communication is different from a radar-based system which only identifies hazards that are in front of the vehicle. The technology used by Ford gives the vehicle a 360-degree detection of dangerous situations. Signals from the car's sensors are emitted 10 times a second to provide a 360-degree view around the car. Present demos are being showed using Ford cars, but the car company is working with other automakers, the government as well as local road authorities in the US to create a common communication standard between vehicles across brands.

The technology uses a driver-vehicle interface which sends audible as well as visual prompts to alert the driver of impending dangers. Ford's intelligent vehicles also get advance blind spot warnings, helping the driver anticipate vehicles approaching quickly from behind that will be entering their blind spot.
Video: Ford Intelligent Vehicle Technology video http://goo.gl/RFlt2

Cars parking themselves

The technology we're going to discuss now was developed keeping in mind the elderly as well as physically handicapped populace in mind. For elderly and wheelchair-bound drivers, it's imperative for their car door to completely open to get in and out of the vehicle. In a parking lot, it may be difficult to always find enough space around your vehicle to open the car door completely.

Arne Suppe, Luis Navarro-Serment and Aaron Steinfield from the Robotics Institute of Carnegie Mellon University have developed the Semi-autonomous virtual valet system which allows users to remotely park their cars using the video camera of their iPod touch or iPhone.

The test was conducted on Navlab 11, a Jeep Wrangler, which was fitted with sensors for short-range and mid-range obstacle detection, custom vehicle measurement systems based around GPS, inertial and odometry sensors, and a small array of on-board computers to record and analyse sensor data.

Getting out of the vehicle, the driver scans the parking lot with his/her iPod touch's camera. The laser range detection technology known as LIDAR (Light Detection And Ranging) - using laser scanners mounted on the vehicle - determine an appropriate location to park as well as a path trajectory. The screen has three buttons: Go, Stop and Resume. Using these three commands on their PMP, the driver can control the vehicle. The video is sent to the iPod via a Wi-Fi link for the experiment, but the researchers say that the data link can be selected as per the user's preference (i.e. 3G, 4G wireless, etc.)

Going by the track record of these three researchers - who also developed automatic parallel parking and docking alongside curbs back in the 90s , which is a reality now - a real life commercial rollout of such vehicles can be expected within the next decade.

iPod as a remote control

Videos demonstrating this technology: http://goo.gl/Ve47O

These are just some of the technologies on the verge of being implemented in vehicles in the near future. When we'll get to see them on Indian roads is a matter of debate. But it's an interesting field to explore and one which has a cascading effect on increasing road safety across the country at least at some level.

How TCP and UDP work

Transmission Control Protocol (TCP) forms the backbone of the internet. Every time you send an email your valuable information, in the form of data packets follow rules laid out in TCP. We look at how your information travels from the source (your computer) to your intended destination (the recipient of your message)...

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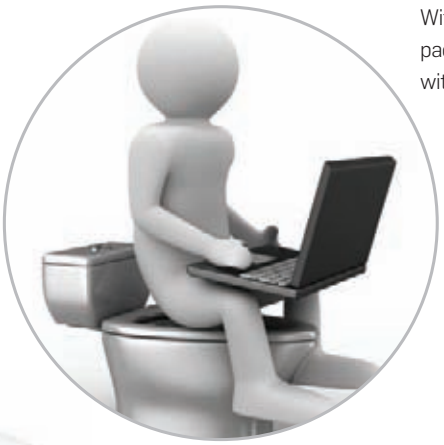
Before www comes *http*

We've overlooked what precedes URLs on the world wide web. HTTP, governs how we view web pages. All these rules form what we know as the Internet Protocol (IP).

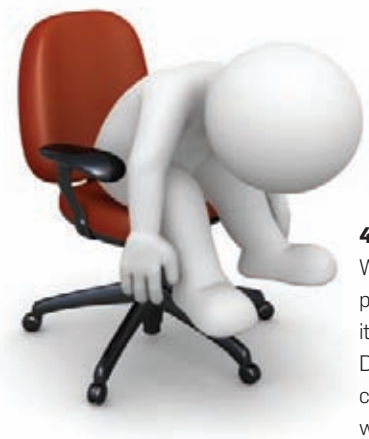


1. Hi, welcome!

With IP, and TCP in particular, all communication at the packet level occurs as handshakes (to and fro communication) with signals and acknowledgements continuously offered

2. Start right away

Just as you enrol with a tutor at home to get personal attention, TCP ensures minimal packet (information) loss by verifying information at every stage



3. First level check passed...

After identifying the correct destination server via domain name servers, there are a series of sync, clock and error correction mechanisms that work towards ensuring zero information loss. This is like your tution teacher giving you mock exams to make sure you know your stuff.

4. Wake up!

With a detailed mechanism in place to minimise data corruption, it's smooth sailing all through. Don't doze though. Unlike in a classroom, a tuition teacher will catch you right away

5. The next step!

There are parity checks in place so that any data losses are compensated by re-sending the packets

6. As per plan...

Think of the previous step as a tutor making you cram, because their reputation depends on your results

7. Chunks of data
After all checks are passed, data transfer begins between the host and destination computers. This is when your web page opens. Think of yourself on your way to an exam, but well prepared.

8. Choosing between TCP and UDP
There are several criteria that govern the choice between TCP and UDP. DNS, for example uses a combination of TCP and UDP, depending on the factors such as response times. If headers are greater than 512 bytes, then TCP is used.

Time is money: UDP

There are applications which are time and bandwidth critical. Since TCP consumes immense bandwidth resources, a new protocol called User Datagram Protocol (UDP) was conceived. UDP does away with the massive overhead count, so that time taken for handover and synchronisation is reduced.

1. One to many, many to one
UDP is used in connection-less applications with the packet headers less than 512 bytes. Since UDP has an advantage of speed, it is preferred in heavy applications such as video. The best example is video chat and VoIP applications such as Skype. Think of it as your teacher in the class, needing to pass on knowledge to a group, instead of an individual like your tutor.

2. Tired of waiting?
After the initial handshake similar to TCP, data communication commences – much like a teacher who gets right down to teaching, regardless of whether anyone is paying attention or not.

3. Begin transmission
After the source and destination ports are transmitted, an additional 16 bits of length and checksum is transmitted. Due to low bandwidth utilisation, transfer is faster, and time is effectively saved... but no one is sure whether everyone got all of the data...

Laptop buying advice

We try to simplify the laptop-buying process for you by identifying the essential specs according to your needs

Agent 001
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More people the world over have been buying laptops than desktops, for a couple of years now. With so many different laptop models and endless hardware configurations to choose from, how do you single out the one worthy of purchase? Whether you're a cash-strapped consumer shopping for a notebook PC on a tight budget or an entertainment junkie looking to replace his aging desktop with a powerful all-purpose laptop, in the next couple of pages, we outline some ground rules to remember and abide by when you're researching for your next laptop buy.

Processor

This is the heart and soul of your PC, an important cog to consider. The budget-conscious customer should remember that shopping on a budget isn't without its compromises. You may well desire but can't have the latest and greatest CPU clocked at 2.8 GHz, for it will surely upset your budget. So don't consider the latest Sandy Bridge Intel CPUs, for instance. Older generation laptop CPUs still abound and laptops selling them are often available for a huge discount to clear

Buying an older generation processor makes perfect sense for a budget laptop to keep its price down

of all older stocks and piling inventories. Keep a close eye on retail store offers published in the daily newspaper for a great deal. And since you aren't trying to do a whole lot with an entry-level budget laptop, a dual-core processor clocked at 2 GHz, either from Intel or AMD, should be just fine. To save money even further, we've found that AMD processors are generally cheaper than Intel's - but Intel processors are generally better performers.

For someone interested in buying an all-purpose home laptop, where price envelops are higher, skip past the latest Intel Core i3-2310M, for instance, and concentrate on purchasing a notebook running on an Intel Core i5-2410M minimum. If you're interested in AMD processors, ignore laptops sporting an AMD Turion X2 and zero in on laptops that have an AMD Phenom II processor, minimum.

RAM

Apart from the processor, the cheapest and best way to get a quick performance boost in any computer is to beef up its system memory or RAM. Most pre-configured laptops these days offer at least 2 GB of RAM - it's pretty much the standard. We recommend upgrading your system memory or RAM from the get-go; don't wait to do so when your system starts getting sluggish a year down the line. If you're having your laptop built to order at a vendor's website, don't hesitate to add extra RAM then and there. If you're buying laptops off the counter at an electronics store, ask for a range that has more than 2 GB of pre-installed RAM. Upgrading to 3 GB or 4 GB may seem like overkill initially, but if you want to hang on to the laptop for a while, that extra memory will be money well spent and keep your system motoring along longer. Budget-conscious buyers should stick with at least 2 GB of RAM on your laptop – any lower and we're talking about netbooks, not laptops. For those desiring an all-purpose laptop, a minimum of 4 GB of RAM should be good enough for handling multimedia, entertainment and casual gaming, apart from everyday tasks.

In case you want to upgrade your laptop's RAM later, ensure that you double-check the maximum clock timings supported on your laptop's RAM. While buying two sticks instead of one, don't buy RAM from different manufacturers; stick with only one manufacturer to save a good amount of troubleshooting time. Ideally, buy two RAM sticks which have the same manufacturer, clock setting, capacity, etc.

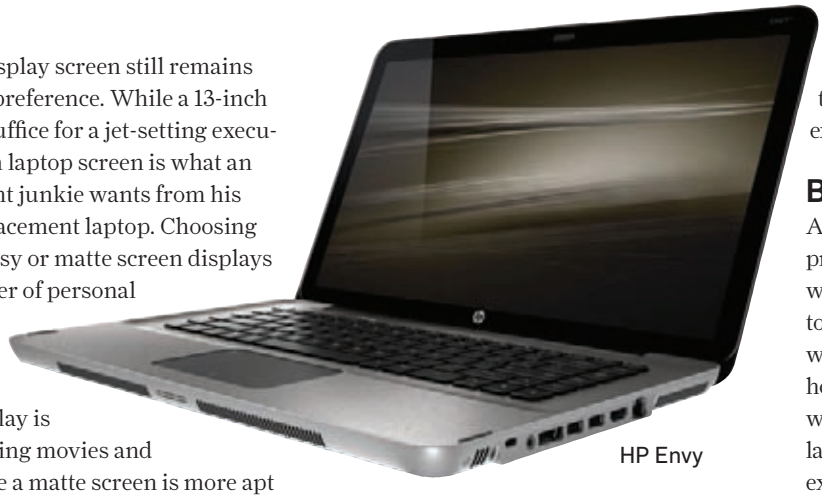
Hard drive

If there's one thing to be glad about personal computing and technology in general today is that storage costs have dropped a lot. Cost per GB is the best it's ever been and is expected to go down even further in the coming months. This is good news for budget-conscious laptop buyers because it eases their woes a bit. Having said that, opting for a fatter, faster hard drive is still going to eat into your budget and be more expensive than buying a slower hard drive with less space. Settle for a 160GB or 250GB hard drive with a 5400RPM spin speed – which is still the de-facto standard on most budget notebooks – instead of lusting for that 320GB drive spinning at 7200 RPM, unless you really require it.

Don't even think about SSDs. They're unfortunately still out-of-range for all budget and most all-purpose laptops even today. Though SSD prices, too, are witnessing significant price drops, they're ideal for high-end performance laptops and premium ultraportable laptops. In a couple of years, SSDs available on a budget laptop selling for ₹30,000 to ₹35,000 should become a tangible dream, going by the massive price drops in existing storage drives.

Screen

A laptop's display screen still remains a subjective preference. While a 13-inch laptop will suffice for a jet-setting executive, a 17-inch laptop screen is what an entertainment junkie wants from his desktop replacement laptop. Choosing between glossy or matte screen displays is still a matter of personal preference, however we think a glossy display is best for viewing movies and gaming while a matte screen is more apt for reading text for extensive hours.



HP Envy

These days it's difficult to get a laptop that comes with a 1280x800 pixel resolution - a norm on notebooks only a few years back in 2008. Nowadays, a laptop, whether it's 13-inch or 15.6-inch wide comes with a standard 1366x768 pixel resolution widescreen display, with a 16:9 aspect ratio – best for fitting in HD videos, whether they're beamed at 720p or 1080p. So, if you're out to buy a budget laptop, you'll be hard-pressed to find one which doesn't have a 1366x768 pixel resolution screen – whatever it's size. But the choices are a little wider for someone with more cash to spend on an all-purpose home laptop for entertainment or multimedia use. Some laptop vendors are known to cram in a higher-resolution display in a small screen size; for example, a full-HD 1920x1080 pixel resolution screen in a 15.6-inch frame size. While there are popular intermediary screen resolutions on offer – 1440x900, 1600x900, and so on – you should choose the best bet within your budget. And remember, don't try to get a 1080p resolution screen in a small frame (15-inch) as it can be difficult to read text on native resolution.

Most laptops, in all price brackets, come equipped with a TN panel screen – none of them let you choose the type of panel on your notebook. As a result, viewing angles of almost all laptops are nearly the same, give or take a few degrees. IPS panel displays are obviously expensive, given their superior quality compared to TN panels.

Another thing to consider while deciding between a 14-inch or 15.6-inch laptop is this: the larger a laptop's screen, larger is its overall weight. So pick wisely.

Graphics

Picking a graphics processing unit on your laptop is bit of a misnomer. Generally, you choose a laptop that has your desired GPU inside, not the other way around. Changing RAM within a laptop is feasible, while GPUs is another matter altogether.

If you're not going to game on your laptop and are content with watching regular DVD movies, then on-board graphics should be enough to cater to your needs. Casual gaming and HD video content opens the door for a discrete graphics card. For someone who's buying a budget laptop with discrete graphics, we recommend looking at laptops with older generation hardware – NVIDIA GeForce GT 400M and ATI Radeon HD 5000M series graphics equipped laptops are still available in the market, so you should be able to find a really good bargain in an electronics store or on eBay.

Lenovo IdeaPad

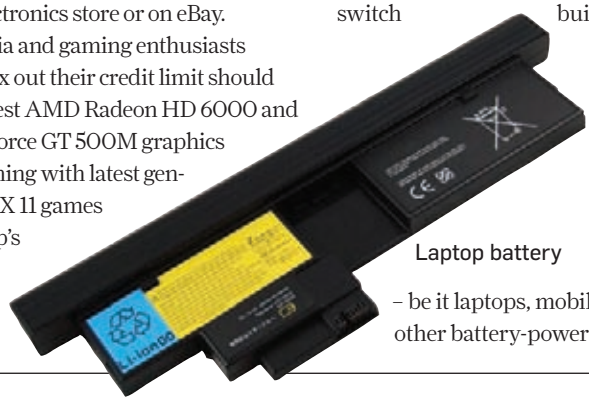
Multimedia and gaming enthusiasts looking to max out their credit limit should look at the latest AMD Radeon HD 6000 and NVIDIA GeForce GT 500M graphics series, for gaming with latest generation DirectX 11 games on your laptop's native resolution. Your minimum benchmark? NVIDIA GeForce GT 555M or AMD Radeon HD 6770M; aim above them for a decent mainstream gaming experience on your all-purpose home laptop.

Battery

A laptop's battery life is a matter of personal preference and a factor of intended usage – which may vary significantly from person to person. On average, a mainstream laptop with a six-cell battery will last for up to 3 to 4 hours on a single charge – laptops powered with ULVs or Ultra Low Voltage processors last longer, netbooks last longest. If you don't expect to go mobile often and intend to use your laptop largely at home, don't bother with a bigger battery and stick with the standard battery bundled with the laptop.

If you'll be taking your machine on the road regularly, start looking at higher-capacity batteries for the next long haul. And don't trust vendors' battery-life specs – many of them quote battery longevity hours for their laptops which have been configured with higher-capacity batteries and with many of the notebook's features turned off (dimming the screen brightness to nothingness and shutting off Wi-Fi, for instance).

Also realize that a laptop configured with a quad-core Core i7 processor, several gigabytes of fast RAM, dedicated graphics and fast-spinning hard drive is going to eat up its battery at a considerable faster pace compared to, say, a netbook which has a single-core low-powered Atom processor, single GB of RAM and a slow-spinning hard drive. Most modern mainstream laptops these days come with automatic graphics switching built-in – NVIDIA GPUs have Optimus, while AMD GPUs have a toggle switch built into Catalyst Control Center.



Laptop battery

But as a rule, you forgo on battery life the minute you start climbing higher up the performance ladder – be it laptops, mobile phones or any other battery-powered gadget.

Android phone below 15k

Suggest a good phone in the ₹10,000-15,000 range. It would be better if it's an Android or a Windows-based phone. It should have Wi-Fi connectivity and 3G capability is a must. I have short-listed Sony Ericsson Xperia Mini Pro and Nokia C6. Any other suggestions are welcome.

Priyan Vaithilingam

The phones you have short-listed are good for your needs and are within your budget. If you're comfortable with touch screen phones, also check out LG Optimus One P500 (Android smart phone ~₹11k) or HTC Wildfire S (Android smart phone~₹13k.)

Bluetooth headset for Dad

I want to buy a Bluetooth headset for my dad's birthday as he uses his wired headsets a lot. He won't get one for himself so I want to get one for him. My budget is ₹5,000. I'm currently looking at Jawbone because I heard that they're the best. Please suggest a good model in this or any other good company. Thanks.

Sai Velmala

You should check out the Plantronics Discovery 975. It looks very good, and the best part is that the case has a battery pack for on-the-move charging. Costs around ₹4,500. Be sure to try it before you buy, just to see if it fits comfortably in the ear.

Core-i5 processor laptop

I'm planning to buy a new laptop for my regular studies and part-time Android app development. Currently I'm a second year Computer Engineering student.
My requirements are:

- Core i5 processor
- Full HD 1080P display
- 500 GB (minimum) hard disk
- Sony VAIO (preferable brand)
- Budget: ₹60,000

Aditya

A laptop that perfectly suits your requirements is the new XPS 15 from Dell. This one retails at around ₹60k, and the basic specs include Intel Core i7-2630QM, 4GB RAM, 500GB 7200RPM HDD, 15.6-inch display (1920x1080) and the NVIDIA GeForce GT540M (2GB) graphics

Alternatively, you can also check out the HP Pavilion DV6-6017tx. This retails for around ₹50k, and the basic specs include an Intel Core i7-2630QM processor, 4GB RAM, 500GB 5400RPM HDD, 15.6-inch display (1366x768) and the ATI Radeon HD6770M (1GB) graphics.

Nokia C6 or Nokia C6-01?

I'm planning to buy a mobile phone early next month and am confused between the Nokia C6 and Nokia C6-01. I'm 32 years old living in Ghaziabad and my budget is ₹15,000-18,000. Please advise which one is better (I usually look for camera, display and high-end features). Some one told me the C6 has a QWERTY keyboard, which is not in C6-01, and the C6-01 would be waste if its touch screen functionality gets damaged. If you have any other options for me, please let me know. Moreover, is Symbian^3 OS worse than Android OS?

Pushp Kumar Dutt

Spec for spec, the C6-01 has a better processor, better camera and much better screen than the C6. Also C6-01 has the Symbian^3 OS and C6 has the older Symbian S60 OS. So unless you're specifically looking to buy a phone with a QWERTY keypad, the C6-01 seems to be a good buy. C6 has a resistive touch screen as opposed to the capacitive touch screen in C6-01 giving a big plus to C6-01. Price-wise there isn't much of a difference between the two and both are available for around ₹13,000.

Within your budget there are great Android phones available. Android OS is great if you're going to use a lot of apps and do a lot of tweaking on the phone. As far as Android phones go, within your range you can check out Motorola Defy which is available for around ₹16,000. But if you've been a hardcore Symbian user, I'd suggest first trying out the Android OS based phones in your nearest mall before making a purchase.

Gaming configuration

I need a bit of help as I want to build a decent configuration, mostly used for frequent gaming, so it must be powerful in that respect. You can suggest anything better and override my preferences, that would be okay. I've formed a basic template. Please give me the product name along with estimated price. The overall budget is 65,000 bucks. I believe that is enough for a strong gaming rig.

Asad Khan

Here is the configuration for your gaming rig. Hope it helps. Since you prefer an Intel processor, you'll have to extend your budget to around ₹69k. If you're considering an AMD processor, I suggest you wait and watch out for the Llano processors which were launched recently. Also you can get a 6-core AMD processor for around ₹9,500. Also 5.1 speaker system is overkill for a gaming rig, you can go for the popular Altec Lansing VS2621 for ₹1,600 to fit the rig within your budget.

- Processor (Intel i5 or i7 preferred): Core i5-2500K (₹10,800)
- Motherboard: Gigabyte GAZ68MA-D2H-B3 (₹9,500)
- RAM: Corsair Vengeance 4GB DDR3 (₹2,600)
- Graphic Card: ZOTAC GTX 560Ti AMP Edition (₹15,750)
- Optical Drive: LG 22x SATA Drive (₹950)
- Hard Drive: Seagate Barracuda 2TB (₹4,700)
- Monitor: BenQ E2420HD (₹12900)
- Speakers: Creative Inspire T6100 (₹3,795)
- Gaming Mouse = Logitech MX518 (₹1,200)
- Gaming Keyboard: Logitech Media Keyboard (₹470)
- TV Tuner Card: PixelPlay TV Pro (₹975)
- SMPS: CM Extreme 500W (₹2,910)
- Cabinet: CM Elite 430 (₹2,620).

XBMC on your HTPC
What's the point of owning an HTPC if your software is not built to operate as one? **http://bit.ly/oLKPEM**

Microsoft still loves Windows
Why Microsoft will never drop the Windows moniker. Follow the link for more... **http://bit.ly/qJSCLZ**

Online filing of complaints

Digitalisation helps quicker redressal of issues

Kapil Rustagi
readersletters@thinkdigit.com

Samar Kachwaha is a tech-savvy corporate consultant, and was upset with the service provided by his mobile company. Although he tried to bring them to book , he couldn't really do anything more than send them a legal notice. After frequent visits to the consumer court, which were taking a heavy toll on his pocket and career, like many other litigants before him, he just gave up the fight mid-way.

The total number of consumer complaints in India have increased by 50 per cent since 2005 – that's about 35 lakh complaints as of April 2011. Quite aptly, the government is now under tremendous pressure to find a solution that will help clear the massive backlog of consumer complaints. Digitilisation is one such solution that promises to bring justice to harried consumers, and transparency to the system.

Soon, if all goes well, you will be able to e-file consumer complaints against brands. The government recently implemented a technology solution to enable this, and soon consumers will be able to file reports online. The very nature of the online medium will also put more pressure on companies to reply online in order to maintain their reputations. It's a ray of hope for petty claim applicants – who feel short-changed by these companies.

This content is brought to you by consumer mate Expert Buying Advice

We can help!

If you're facing a problem with your purchase, write to us at help@consumermate.com

COMPLAINTS RECEIVED

Laptops

Dell executives are not extending the warranty of my dell Inspiron 1464

I bought a Dell Inspiron 1464 laptop a year back. I had paid for a warranty of another year a month back (when it was under warranty). But it's been a month and my warranty status on the web site hasn't been updated yet. On contacting Dell representatives, I was told by an executive that it would be done. Another representative took all my information and apologised saying that they were doing all this quickly.

Before upgrading my warranty, they told me that 10 days after paying for the warranty, the status would be updated. But it's not been done yet. I have all the email sent by the particular representative who was dealing with me.

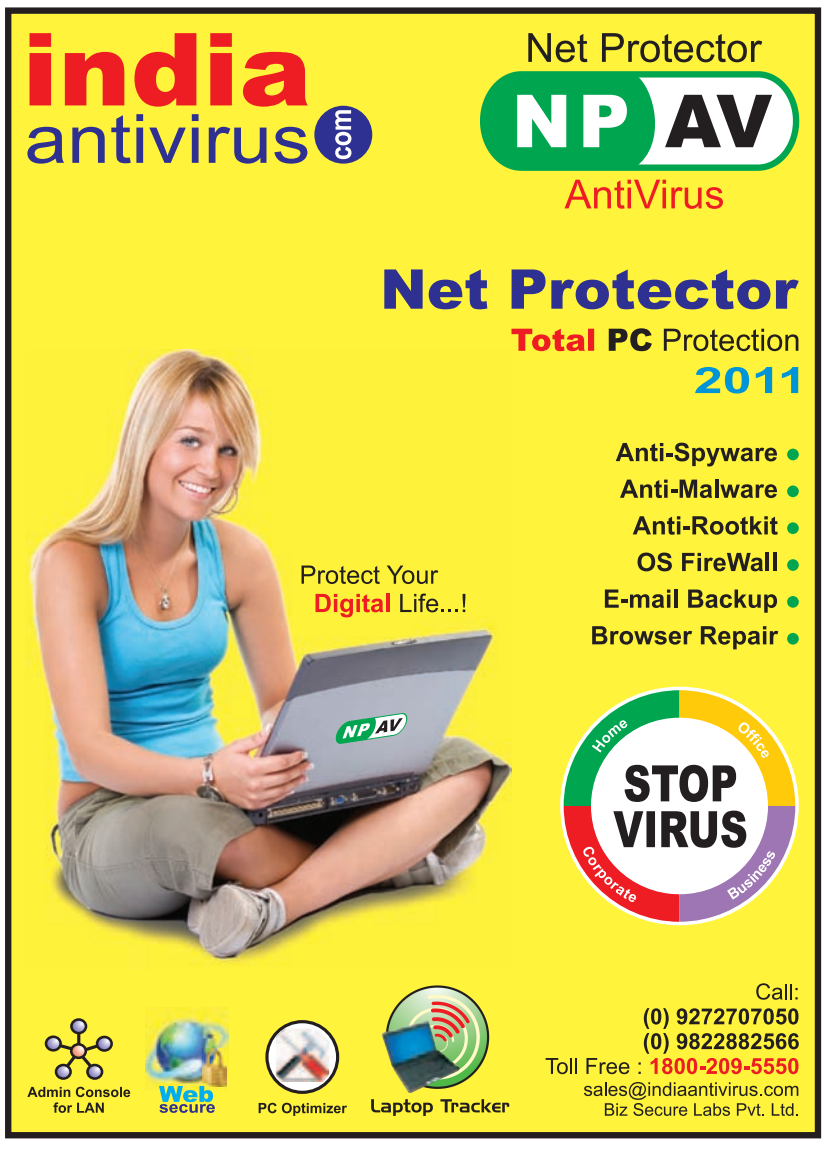
So please kindly suggest what to do.

Contacted by: Soubhagya Ranjan Jena

Answer By Consumermate:

Dear Ranjan,

There's no need to panic as you have indicated that you have all the documents. You just need to push them to do their bit of work. Simply write them an email and a letter sent through registered post giving them a final call to update the required status, failing which consumer case and police complaints would be filed. If they don't do the same, you can then file a consumer complaint. Also try to reach them through social networking sites like Facebook or Twitter.



Time travel is impossible

A study performed by Dr. Du Shengwang of the University of Hong Kong "proves" that nothing can travel faster than the speed of light, thus making time travel impossible, sadly.

After delay, Linux Kernel 3.0 out

Linus Torvalds broke the news of Linux Kernel 3.0's launch on his Google+ page. To know more, visit the link below. http://bit.ly/oRIQ4k

SPEND SMART

Updated prices of top cameras, laptops, HDTVs, smartphones and LCD monitors from Digit Test Labs

GRAPHICS CARDS

Graphics cards	Price (₹)	Memory	Core Clock	Memory Interface	Output Ports
ZOTAC GTX 550Ti AMP! Edition	9,269	1024	1000	192-bit	2xDVI, 1xHDMI, 1xDisplayPort
MSI R6850 Cyclone 1GD5	9,500	1024	775	256-bit	2xDVI, 1xHDMI, 1xDisplayPort
ZOTAC GTX 560Ti AMP! Edition	15,379	1024	950	256-bit	2xDVI, 1xHDMI
Sapphire Radeon HD 6950	15,960	1024	800	256-bit	2xDVI, 1xHDMI, 1xDisplayPort
MSI N570GTX TwinFrozr II	19,700	1280	732	320-bit	2xDVI, 1x mini HDMI
MSI R6970 Lightning	23,100	2048	940	256-bit	2xDVI, 2x mini DisplayPort, 1xHDMI
XFX HD 6970	25,020	2048	880	256-bit	2xDVI, 2x mini DisplayPort, 1xHDMI
ASUS GTX 580	30,500	1536	782	384-bit	2xDVI,1xHDMI, 1xDisplayPort
ASUS HD 6990	44,350	4096	830	256-bit x2	4x mini Display ports, 1xDVI

LAPTOPS

Laptops	Price (₹)	Processor	Screen size	HDD (GB)	Installed OS	Movie resolution (pixels)
Lenovo IdeaPad G565	22,690	AMD Phenom II N850	15.6-inches	500	Windows 7 Home Basic	1366x768
Acer 5742G	29,030	Intel Core i3-380M	15.6-inches	500	Windows 7 Home Basic	1366x768
Dell Inspiron 15R	35,000	Intel Core i3-2310M	15.6-inches	320	Windows 7 Home Basic	1366x768
ASUS X52J	35,500	Intel Core i3-350M	15.6-inches	500	Windows 7 Home Basic	1366x768
Acer Aspire TimelineX 5830TG	40,990	Intel Core i5 2410M	15.6-inches	500	Windows 7 Home Basic	1366x768
HP Envy 3D i7	84,000	Intel Core i5-480M	17-inches	640	Windows 7 Professional 64-bit	1920x1080
Sony Vaio S	54,999	Intel Core i5-2410M	13.3-inches	320	Windows 7 Home Premium	1336x768
Lenovo ThinkPad X1	85,000	Intel Core i5-2520M	13.3-inches	320	Windows 7 Professional	1366x768
Alienware M15x	96,215	Intel Core i7 940XM	15.6-inches	500	Windows 7 Ultimate	1920x1080

Fake Apple stores in China
Not content with aping the latest consumer gadgets, a new trend in China creates fake buildings and exact copies of real Apple stores.

3D hurts your eyes
A recent Journal of Vision article claims that 3D technology actually hurts your eyes. For more info, please visit the link: http://bit.ly/nc88km

SMARTPHONES

Smartphone	Price (₹)	Operating system	Processor	Camera (MP)	Screen size	Resolution
Motorola Quench XT5	11,772	Android 2.1	600 MHz	5	3.2-inches	320 x 480
Samsung Wave II	15,385	bada OS 1.2	1 GHz	5	3.7-inches	480 x 800
BlackBerry Bold 3	21,362	BlackBerry OS 6	624 MHz	5	2.44-inches	480 x 360
Dell Venue Pro	23,999	Windows Phone 7	1 GHz	5	4.1-inches	480 x 800
Sony Ericsson Xperia Arc	27,499	Android 2.3	1 GHz	8	4.2-inches	480 x 854
HTC Incredible S	24,359	Android 2.3	1 GHz	8	4.0-inches	480 x 800

INTERNAL HARD DRIVES

Internal hard drives	Price (₹)	Capacity (GB)	Rotational speed (RPM)	Cache buffer (MB)	Cost per GB (in Rs.)
WD Caviar Green	2,625	1000	5400-7200	64	2.81
WD Caviar Black	4,150	1000	7200	32	4.45
Seagate Barracuda LP	4,250	2000	5900	64	2.28
WD Caviar Green	8,000	3000	5400-7200	32	2.86
WD Velociraptor	11,650	600	10000	32	20.84
Seagate Barracuda XT	14,500	3000	7200	64	5.19
Hitachi DeskStar	16,000	3000	7200	64	5.73

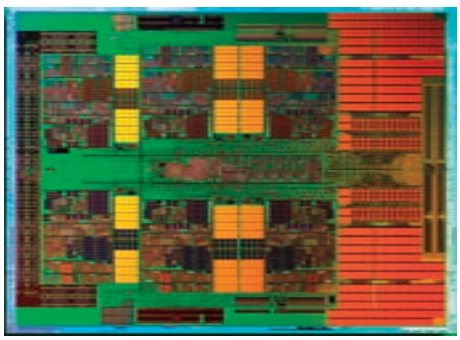
HDTVs

HDTV	Price (₹)	Screen size	HDMI Ports	Spyder3Elite Contrast Ratio	ISO Range	Movie resolution (pixels)
LG 42LV3730	68,490	42-inches	3	346.1:1	100 – 6400	1920 x 1080p
Hitachi LE46T05A	89,900	46-inches	3	569.4:1	100 – 3200	1920 x 1080p
Sony KDL-46EX720	1,03,900	46-inches	4	355.5:1	200 – 12800	1920 x 1080i
Sharp Aquos LE820	1,19,000	40-inches	4	1096.7:1	80 – 3200	1280 x 720p
Samsung UA46D6600WR	1,39,990	46-inches	4	300:01:00	80 – 3200	1280 x 720p
Vu LED-55T28R	1,40,000	55-inches	4	473.6:1	100 – 6400	1280 x 720p

digit KILLER RIGS

everything you will ever need to build your own PC. whatever your budget.

PRIMARY COMPONENTS

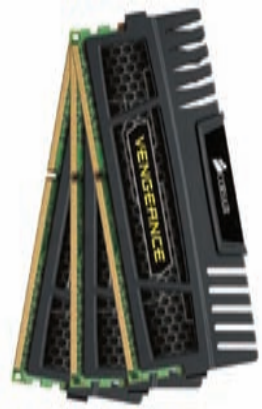


PROCESSOR

- AMD Athlon II X3 445 / ₹3,400
- Intel Core i3 2100 / ₹5,500
- AMD Phenom II X6 1055T / ₹8,300
- Intel Core i5 2500K / ₹10,800
- Intel Core i7 2600K / ₹16,200

MOTHERBOARD

- Gigabyte GA-MA78LMT-S2 / ₹2,450
- MSI H67MA E35 / ₹4,600
- Gigabyte GA-890GPA-UD3H / ₹8,500
- ASUS P8P67 Pro / ₹12,799
- Asus Sabertooth P67 B3 / ₹15,600



RAM

- Corsair 2GB DDR3 1333MHz/ ₹1,000
- 4GB Corsair Vengeance DDR3/ ₹2,500
- Kingston KHX1600C9D3K3-6GX / ₹4,500
- Kingston KHX1600C9D3K3-6GX/ ₹4,500
- 2x4GB Corsair Vengeance 1600 MHz / ₹5,200

GRAPHICS CARD

- Sapphire HD 5670 / ₹4,800
- Sapphire HD 5770 / ₹7,500
- Sapphire Radeon HD 6850 / ₹9,700
- MSI N570 GTX TwinFrozr II / ₹19,700
- 2 x ZOTAC GeForce GTX 570 / ₹40,600

HARD DRIVE

- Seagate 500GB 7200.12 / ₹1,700
- 500GB WD Caviar Blue / ₹1,700
- WD Caviar Black 1TB / ₹4,400
- Seagate Barracuda 2 TB / ₹4,700
- Seagate Barracuda XT 3TB / ₹14,500

MONITOR

- ViewSonic VA1931wma / ₹5,375
- BenQ E2220HD / ₹8,700
- LG E2360 / ₹9,825
- BenQ G2420HD / ₹12,900
- Dell Ultrasharp U2311H / ₹14,000

- **Basic rig = ₹23,165**
- **High-end Multimedia / Gaming rig = ₹54,975**
- **Ultra high-end PC / Gaming rig = ₹1,41,570**
- **Multimedia cum gaming rig = ₹38,300**
- **High-end gaming PC = ₹81,019**

SECONDARY COMPONENTS

CABINET

- Zebronics Bijili w/o SMPS / ₹1,100
- CM Elite 310 / ₹1,500
- CM Elite 430 / ₹2,475
- NZXT Lexa S Mid-Tower / ₹4,695
- Cooler Master HAF912 / ₹5,600

POWER SUPPLY

- VIP 350 Watts / ₹800
- Corsair CX400 / ₹2,800
- Cooler Master eXtreme 500W / ₹2,900
- Corsair X450W / ₹3,980
- Corsair TX850 / ₹7,600

MOUSE

- Microsoft P58 / ₹375
- Microsoft P58 / ₹375
- Logitech MX518 / ₹1,200
- Logitech MX518 / ₹1,200
- Razer Death Adder / ₹2,135

SPEAKER

- Logitech Z313 / ₹1,000
- Altec Lansing V2621 / ₹1,960
- Altec Lansing V2621 / ₹1,960
- Creative Inspire T6100 / ₹3,795
- Creative Inspire T6100 / ₹3,795

OPTICAL DRIVE

- LG 22x SATA DVD Writer / ₹900
- LG 22x SATA DVD Writer / ₹900
- LG 22x SATA DVD Writer / ₹950
- LG 22x SATA DVD Writer / ₹950
- LG 10x Blu ray RW / ₹9,400

SOUND CARD

- None
- None
- None
- None
- ASUS Xonar DX 7.1 / ₹4,740

KEYBOARD

- Logitech K100 / ₹265
- Logitech K100 / ₹265
- Logitech K100 / ₹265
- Microsoft Comfort Curve 2000 / ₹1,000
- Razer Arctosa Gaming Keyboard / ₹2,200

MISCELLANEOUS

HD MEDIA PLAYERS

- ASUS O!Play Mini / ₹3,595
- WD Live TV Hub / ₹10,740
- Iomega ScreenPlay 1TB Director / ₹14,999

GAMING HEADSETS

- Platronics Gamecon 367 / ₹1,700
- Alienware TactX Headset / ₹3,100
- Corsair HS1 / ₹4,050

PORTABLE DRIVES

- Hitachi Touro Mobile Pro 500GB / ₹4,400
- Silicon Power Stream $10 750GB / ₹5,500
- Iomega 3Go 1 TB USB 3.0 drive / ₹6,500

MOUSEPAD

- Razer Goliathus / ₹450
- Cooler Master Storm CS-M / ₹850
- Razer Goliathus Fragged Control Edition / ₹999

GAMING CONSOLES

- Sony PlayStation3 (320GB) with Move / ₹23,490
- Xbox 360 (250GB) with Kinect / ₹30,061
- Nintendo Wii Black / ₹18,990

POWER PROTECTION

- APC (BR600CI-IN) / ₹2,165
- Numeric SB1000 / ₹4,700
- APC (BR-1000IN) / ₹5,500

WEAPONS OF MASS DISTRACTION

We take a look at a very select bunch of laptops aimed at a very select bunch of people – gamers on the go. Whether it's bling you're after or a pure gaming experience, these bad boys aim to please...

Michael Browne, Vinod Yalburgi, Vishal Mathur, Siddharth Chauhan
readersletter@thinkdigit.com

Gaming laptops are a very niche product category, and will perhaps remain so. In recent times, gaming notebooks are being preferred over gaming desktops for a number of reasons. They need less space, can be set up anywhere and are portable. They're also cool, with fancy lights, backlit keyboards and other bling. In India, some consider them status symbols and judging by the number of BMWs on our roads that's all the reason some folks need to buy one.

There are four companies engaged in supplying gaming laptops in India – Alienware (Dell), MSI, HP and ASUS. HP as a policy doesn't participate in comparison tests, and didn't send us units for evaluation.

NOTEBOOKS UNDER A LAKH

Quite surprisingly, there wasn't a huge difference in components inside these notebooks and the ones costing over a lakh. The major difference between these notebooks and the costlier ones is mainly the build quality and bling factor. The costlier notebooks inevitably look a little more upmarket, although not the two MSI lookalikes – the GX660 and GT680R.

MSI GE620

MSI GE620: ₹59,999

The GE620 was the slimmest notebook in this comparison, not that any of them could be called slim. Its lid sports a brushed metal finish, while the inner portion of the lid that forms the bezel is plastic, and not of the best quality, although it looks fairly sturdy. The palmrest and remainder of the body also have a brushed metal finish. There are no flashing lights here.

Unlike the GX780R and GX660 that have more key travel and softer feedback from the keypad, the GE620 has a slightly harder keypad and

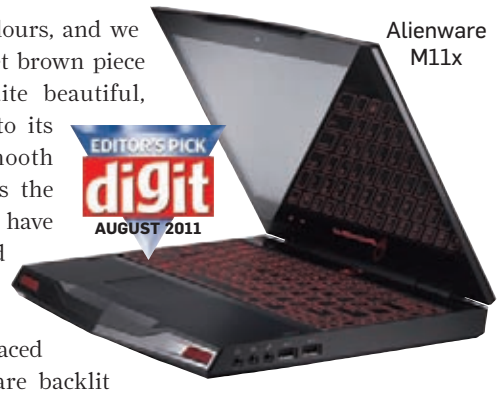
springier keys. There are some shortcut buttons, but not like the touch keys on the GX660, GT680R and GX780R. There's a trackpad on/off switch between the trackpad and the keypad. The GT540M makes the GE620 a reasonably potent gaming package but it's an inconspicuous look that doesn't grab attention like other gaming notebooks. The GE620 was the only notebook that came with just 4 GB of RAM; all the others had at least 8 GB. This was also the only notebook that failed 3D Mark 11, but for unknown reasons – and this had nothing to do with its configuration, which is certainly good enough to run this benchmark properly.

If you're looking for a no-frills gaming notebook, the GE620 is certainly no slouch. With 50.1 fps in *S.T.A.L.K.E.R Call Of Pripyat* at a resolution of 1366x768 pixels at medium settings, the GE620 is definitely capable of handling most current generation games at medium levels. Its price is the main attraction, and makes it appealing for those who don't want to break the bank. However, it's not a beast by any stretch, and if you're looking to play games like *Metro 2033* or *Crysis 2* with eye-candy enabled, you'll need something more potent.

Alienware M11x: ₹64,900

The M11x might have a small display but isn't really compact. This is a chunky little fella, and we don't mean that in a bad way, for the M11x will grab your attention and hold it. The lines are straight, and while the lid curves at the sides, it slopes forward aggressively from the front to meet the body, which also slopes forward. The embedded lights in the front give the impression of a sports car bonnet, much as Alienware (probably) intended. It's easy to appreciate the clean lines and design aesthetics, just as easy as it is to appreciate the rugged exterior and the resilient smooth finish that oozes appeal. There's great attention to detail – heck there are even two memory card slots, one for MS Pro cards and the other for SD cards.

Alienware allows customising surface colours, and we received a russet brown piece that looked quite beautiful, especially due to its rubberised smooth finish. This was the only notebook to have both, HDMI and display port connects, with all ports well spaced out. The keys are backlit but aren't very spaced; and while each key is fairly large, the lack of space around them is counterproductive, and makes typing a bit of a chore. Comparatively, the M17x is much better for typing.



Alienware M11x

Despite its small size, the M11x packs a fair wallop in terms of its under-the-hood components. You get a quad-core Core i7 2720QM clocked at 2.2 GHz – quite a potent CPU even for a gaming notebook. Despite its relatively diminutive form, the M11x also includes 8 GB of DDR3 1333 MHz memory and an NVIDIA GeForce GT555M graphic card. And all this is a package that weighs a mere two kilograms, making the M11x quite portable, though netbook-grade portability is still a distant dream, and understandably so. The quality of the display is commendable – good colour, brightness and contrast; however, most of us found it a little small for gaming.

With 54.2 fps in *Far Cry 2* and 49.7 fps in *S.T.A.L.K.E.R Call Of Pripyat* at 1366x768 pixels with medium levels of detail, the M11x is certainly not for the hardcore gamer who demands utmost visual quality, but for most lesser mortals it will do the job. Still a graphics score of just 805 in 3D Mark 11 will just not do for someone looking to play the latest games at higher levels of detail. Similarly, an average score of 13.2 fps in Unigine 2.5 is mediocre at best.

HOW WE TESTED

We started with a clean install of Windows 7 Ultimate 64 bit. Each of the notebooks was formatted, and two partitions of equal sizes made. The latest drivers available from manufacturers' web sites were used. For graphics drivers, we used the latest ones from the respective GPU makers' web sites. All benchmarks were installed on the secondary partition. Options such as System Restore and Remote Login were disabled.

After an install of all the game benchmarks and copying of whatever files were required for the test, we did a disk clean-up, followed by a defragmentation of both partitions and a scandisk. Within Windows power profiles, all performance-sapping settings were turned off, and we disabled all settings like turning off disks or displays after a set period of time.

While we log all component specifications, we don't assign scores to all these values. Instead, some of these are considered, while others are not. For example, we assigned a weight to hard drive size, but not number of CPU cores. This is because the former affects only storage quantity – a factor we don't test, while the latter affects CPU performance – something we actively test.

The second section consisted of the build and finish of the notebook. These scores were based on observations such as plastic or metal body. We also rated usability – how well laid out the keypad is, how well spaced the keys are, how many shortcut keys are provided and how useful they are – all points were considered and rated. These individual scores are comparative, so if a notebook got a trackpad accuracy score of 8, while another got a score of 6, this means notebook number 1 was better than notebook 2 by this percentile.

Finally, our performance tests consisted of a gamut of synthetic and real world tests. We included three new benchmarks – *Dirt 3*, which is a new game, 3D Mark 11 – the latest from Futuremark Corp. and Unigine Heaven 2.5 – the latest version of Unigine's engine/benchmark. Two popular first person titles – *Far Cry 2* and *Call Of Pripyat* were used. For 3D Mark 11, we used a resolution of 1366x768 pixels, with "professional" preset. For Unigine Heaven 2.5, we used a resolution of 1366x768 while enabling 4x Anisotropic Filtering and DX11 mode. For those notebooks whose displays supported full HD, we ran each game at this setting as well, with eye candy set to maximum. Our file copy test consisted of copying a single .RAR file for the sequential test and a bunch of files for the non-sequential test. In case the notebook had a single HDD, we copied within the primary partition only. In case of two drives, we copied from one drive to another, except in case of RAID, where we copied within the primary partition. Imtec Battery Mark 1.1 was used for the battery test.

	LESS THAN 1 LAKH			MORE THAN 1 LAKH		
Brand	**MSI**	**Alienware**	**MSI**	**MSI**	**MSI**	
Model	**GE620**	**M11x**	**GX660**	**GX780R**	**GT680R**	
Price (Rupees)	**59,999**	**64,900**	**79,999**	**1,19,999**	**1,19,999**	
Warranty (Years)	**2 years**	**1 year**	**2 years**	**2 years**	**2 years**	
Pros (+)	**Slimmer than the others, affordable**	**Amazing build, looks, good performance**	**Good graphics solution**	**Solidly built**	**Great graphics system, very fast HDD**	
Cons (-)	**Weaker config than the rest**	**Display is small for gaming, keypad is cramped**	**Looks garish and overly done**	**GT555 is a letdown**	**Looks a bit tacky**	
Grand Totals (Out of 100)	**50.71**	**54.09**	**64.85**	**59.52**	**69.68**	
Features (Out of 20)	**11.26**	**10.80**	**13.58**	**14.02**	**13.58**	
Build, Usability & Ergonomics (Out of 15)	**9.13**	**8.60**	**9.51**	**10.57**	**9.53**	
Performance (Out of 65)	**30.33**	**34.69**	**41.76**	**34.94**	**46.56**	
Features						
Component Specifications						
Processor Model No	Intel core i5 2410M	Intel Core i7 2720QM	Intel Core i5 460M	Intel Core i7 2630QM	Intel Core i7 2630QM	
Processor Speed (MHz)	2300	2200	2533	2000	2000	
RAM (MB) / Type / Speed (MHz)	4096 / DDR3 / 1333	8192 / DDR3 / 1333	8192 / DDR3 / 1333	16384 / DDR3 / 1333	8192 / DDR3 / 1333	
Graphics Solution	NVIDIA GeForce GT540M	NVIDIA GeForce GT555M	ATI Mobility Radeon HD5870	NVIDIA GeForce GT555M	NVIDIA GeForce GT460M	
Dedicated Video Memory (Y / N) / Size (in MB)	Y / 1024	Y / 1536	Y / 1024	Y / 1024	Y / 1536	
Storage size (in GB)	640GB	500GB	500GB	1.5TB	931GB	
Optical Drive Type / Speed	DVD-RW / Super-Multi	DVD-RW / Super Multi	DVD-RW / 8x	DVD-RW / Super-multi	DVDRAM / Multi	
Bundled OS	Windows 7 Home Premium	Windows 7 Ultimate	Windows 7 Home Premium	Windows 7 Ultimate	Windows 7 Home Premium	
3D Stereovision support (Y / N)	N	N	N	N	N	
Characteristics						
Screen Size (Inches) / Native Resolution	15.6 / 1366 x 768	11.6 / 1366 x 768	15.6 / 1366 x 768	17.3 / 1920 x 1080	15.6 / 1920 x 1080	
Weight (Kg)	2.4 Kg	2.0 Kg	3.5 Kg	3.9 Kg	3.5 Kg	
No. of Ports (USB / FireWire)	3 / None	3 / None	4 / None	5 / None	4 / None	
Connectivity (LAN / Bluetooth / Wi-Fi)	Y/Y/Y	Y/Y/Y	Y/Y/Y	Y/Y/Y	Y/Y/Y	
E-Sata (Y/N)	N	N	Y	Y	Y	
Display output (VGA/DVI/HDMI/Display Port)	Y/N/Y/N	N/N/Y/Y	Y/N/Y/N	Y/N/Y/N	Y/N/Y/N	
Build (So 10)						
Body / Keypad / Lid, movables	7 / 7.25 / 7.5	8.5 / 7.5 / 7.5	6.75 / 7.25 / 7.25	7.5 / 7.25 / 7.5	6.75 / 7.25 / 7.25	
Ergonomics and Usability						
Keypad Tactile Feedback / Layout, spacing & Usability (So 10)	6.75 / 7	6.75 / 6	6 / 6.5	6 / 6.75	6.25 / 6.5	
Shortcut Keys/Switches (So 10)	6	6	7	7	7	
Trackpad ergonomics, size, position / accuracy (So 10)	6.5 / 6	6.5 / 6.5	6.5 / 6.5	6.75 / 6.75	6.5 / 6.5	
Dedicated Wi-Fi / Bluetooth / TouchPad On/Off control (Y/N)	N / N / Y	N / N / N	Y / Y / N	Y / Y / Y	Y / Y / N	
Performance						
Synthetic Scores						
PCMark Vantage Overall Score	6392	6633	6160	8233	8717	
PC Mark Vantage Gaming Score	4910	4795	5457	6624	7643	
3D Mark 11 Graphics / Physics / Combined Score	0 / 0 / 0	805 / 2861 / 777	1766 / 2684 / 1928	1157 / 6092 / 1156	1595 / 6124 / 1562	
Unigine Heaven 2.5 avg / min / max (in fps)	13.3 / 6.1 / 29.4	13.2 / 5.7 / 29.4	24.7 / 8.9 / 62.8	19.5 / 11.9 / 43.8	25.3 / 16.3 / 54.7	
Unigine Heaven 2.5 Score	335	333	622	491	638	
Maxxon CineBench R11.5 CPU score / OpenGL	2.61 / 25.3	2.21 / 36.59	2.2 / 36.27	4.88 / 36.89	4.99 / 40.42	
Real World Tests						
Battery Life Test (in minutes)	124	156	98	55	69	
Speaker Quality (at 50% volume) (So 10)	7	7.5	7.5	7.5	7.5	
Sequential / Non-sequential file transfer (MBps)	31.38 / 24.35	44.37 / 27.23	29.07 / 30.05	48.76 / 15.28	78.03 / 66.68	
Games (frames per second)						
Far Cry 2 (1920 x 1080, max quality)	NA	NA	NA	32.1	41.3	
Far Cry 2 (1366 x 768, max quality / medium quality)	30.51 / 58.29	30.3 / 54.24	45.33 / 65.88	44.48 / 87.81	55.86 / 93.98	
STALKER Call Of Pripyat (1920 x 1080, maximum)	NA	NA	NA	14	36.4	
STALKER Call of Pripyat (1366 x 768, maximum / medium)	36.8 / 50.1	35.8 / 49.7	59.3 / 83.3	24.8 / 54.6	54.8 / 82	
Dirt 3 (1920 x 1080, maximum settings, 4x MSAA)	NA	NA	NA	12.68	12.67	
Dirt 3 (1366 x 768, maximum settings, 4x MSAA) / Dirt 3 (1366 x 768, medium settings, MSAA off)	12.79 / 57.57	12.81 / 48.35	40.24 / 59.87	12.69 / 41.07	12.68 / 34.84	

	ASUS	**Alienware**
	G74SX	**M17x**
	1,24,990	**1,59,000**
	1 year	**1 year**
	Superb build, good performance	**Superb looking, fast**
	Large and bulky, expensive	**Expensive, very bulky**
	70.14	**66.76**
	12.58	**14.96**
	9.35	**10.10**
	48.21	**41.70**
	Intel Core i7-2630QM	Intel Core i7 2630QM
	2000	2000
	16384 / DDR3 / 1333	8192 / DDR3 / 1333
	NVIDIA GeForce GTX 560M	NVIDIA GeForce GT460M
	Y / 3072	Y / 1536
	1TB	2 x 750GB
	Blu-ray drive / 2X	Bluray / DVDRW combo
	Windows 7 Ultimate	Windows 7 Ultimate
	Y	Y
	17.1 / 1920 x 1080	17.3 / 1920 x 1080
	4.28	4.3 Kg
	4/None	4 / None
	Y/Y/Y	Y/Y/Y
	N	Y
	Y/N/Y/N	Y/N/Y/Y
	9 / 7.5 / 8.75	8.75 / 7.5 / 8.5
	7.25 / 7.5	7.5 / 8
	6	7
	7.25 / 6.5	7.25 / 6.75
	N / N / N	Y / N / N
	6950	9043
	10020	8015
	1673 / 6277 / 1689	1364 / 6264 / 1457
	28.1 / 7.6 / 61.1	24.18 / 8.1 / 53.3
	709	628
	4.49 / 40.42	5.24 / 42.61
	115	70
	7.5	8
	45.01 / 37.23	38.86 / 31.93
	46.15	40.4
	67.84 / 108.72	60.48 / 102.6
	45.2	40.2
	72.3 / 95.8	63.4 / 86.3
	22.64	12.55
	22.76 / 59.44	12.58 / 34.65

We received a price of ₹64,900 for the M11x that would make it a superb deal. Unfortunately, this price is for the base version and we got a heavier configuration. The Dell India web site doesn't allow any configuration, but the model we received should be in excess of ₹80,000. Not recommended for hardcore gamers.

MSI GX660: ₹79,999

The MSI GX660 is a little overdone in the looks department. In fact we'd go as far as calling it unappealing, for the design is a little confusing. The lid is plasticy – a mile away from the brushed metal finish on the MSI GT780R. The palmrest feels well built. It has a neat row of backlit touch controls embedded within a transparent bezel on top of the keypad, but the garish orange backlighting isn't as soothing as we'd like. Bluetooth, eco and high power modes and a customisable control are just some of the controls available, aside from a couple of multimedia buttons. Overall, we can't fault the build quality of the GX660 although the materials seem more inclined towards being glossy, and this itself gives the impression of being less upmarket than the matte finishes that Alienware or ASUS impart their notebooks. The GX660 has a nicely spaced out keypad, although this doesn't make it a great one. We feel the keys are a little small, and the cheaper GE620 had better, spongy and softer keys.

The GX660 features the mobile version of the mighty AMD Radeon HD 5870 graphics card, the Radeon 5870M, and this itself puts it in a league above the other two notebooks costing less than a lakh. In fact, the HD 5870M propels it beyond the other notebooks. During the benchmarks, it became clear that AMD's previous generation (Radeon 5xxx series) fizzled out, as the physics score in 3D Mark 11 shows. At 2684, it's much lower than the 6092 points scored by the MSI GX780R. However, a score of 40.24 fps in *Dirt 3*, at maximum settings, with multi-sample anti-aliasing enabled is impressive, as is 59.3 fps in *S.T.A.L.K.E.R Call Of Pripyat* at native resolution and max settings.

BEST BUY digit AUGUST 2011

Although well built, the GX660 looks a little overdone. However, this doesn't stand in the way

MSI GX660

of its performance. For ₹79,999, the GX660 is a good option for those looking at a powerful notebook under a lakh. It will play all the current generation games with ease, although you might need to be a bit frugal on the eye candy. It won our Digit Best Buy pick for the sub-1 lakh category.

NOTEBOOKS OVER A LAKH

Flashing lights, embedded LEDs, faster graphic cards and fancier surface finishes – you can expect all these things from the top-tier gaming notebooks. We have four beauties for you – two from MSI, and one each from ASUS and Alienware.

MSI GX780R: ₹1,19,999

The GX780R is MSI's latest offering and its top-of-the-line gaming series notebook. And it looks the part – large and handsome. It's quite a thick notebook, more so at the lid portion and then it slims out towards the front, giving the impression of a forward sloping design that looks aggressive. The plastic is distinctly more upmarket than on the cheaper-looking GX660. The lid is inset with brushed metal. The palm rest also has a brushed metal finish, and the plastic surrounding the keypad feels better than the GX660 and GT680R. The speaker grilles are placed above the keypad to either side of it and unlike the GX660 and GT680R that have distinctly round grilles, these are rectangular. While the lid seems good quality, one can't compare its mechanism to the Alienware notebooks that are in a league of their own.

Once again, MSI has chosen an isolated keypad design and the GX780R has nicely spaced keys that feel a little better compared to the GX660. It doesn't have the backlit indicators around the trackpad like the GX660, but looks more suave and subtle for it. This was the first gaming notebook we came across that had a massive 16 GB of RAM. The Core i7 2630QM and NVIDIA GeForce GT555M are more mundane, but equally impressive, although, (given its pricing) we were secretly hoping for a more powerful

Terror bombing and MW2
Terror suspect Anders Breivik, who allegedly killed 93 people in the Norway bombing claims to have trained with Modern Warfare 2

3DS sales on hold
Online retailer Amazon has suspended the sales of Nintendo 3DS due to an unknown issue with the flip-screen

GPU, such as GTX560M or at least a GTX460M.

Considering its upmarket looks and the sheer size and presence that the GX780R exudes, its performance was a bit of a let down – the major culprit being the GPU. The 3D Mark 11 GPU score of 1157 is lower than its cheaper sibling, the GX660 and this is a trend that continues throughout the gaming tests with *S.T.A.L.K.E.R Call Of Pripyat* giving a mere 24.8 fps at maximum settings (the GX660

MSI GX780R

scores 59.3 fps at the same settings). *Far Cry 2* is an older game, and not as GPU-intensive. Rather it stresses the CPU and owing to this, the quad core on the GX780R pushes it ahead of the GX660. A Unigine Heaven 2.5 score of 491 is quite low and the GX780R will struggle to play the latest games at higher resolutions. While the GX660 supports a maximum resolution of 1366x768 pixels, the GX780R goes up to 1920x1080 pixels, and here its weaker GPU is even more exposed.

At a price tag of ₹1,19,999, the MSI GX780R is certainly not for the uber gamer. For a notebook with such a high native screen resolution, the GPU should definitely have been better and we'd gladly sacrifice a little build quality to get it.

MSI GT680R: ₹1,19,999

One look at the GT680R and it's obvious that the GX660 is a stable mate – they're identical looking. That's aside from the fact that the GT680R lacks an express card slot that's present on the GX660. However, upon investigating, we found that there are differences in the quality of the construction of both notebooks and this seems to be a function of price. For example, the lid on the GT680R seems to have less flex and the keypad is a bit better built.

The keypad feels springier compared to the GX660 and the keys themselves are nicer to press. Although for such a high-end notebook we have to mention the lack of a backlit keypad – something that gamers and common users alike will find useful.

The GT680R is a high-end gaming machine in MSI's books, and its configuration certainly tries to live up to this. A quad core, Core i7 2630QM, 8 GB of DDR3 1333 MHz RAM and an NVIDIA GeForce GTX460M make it a reasonably potent machine on paper. Once again, we were hoping for a faster graphics solution but that was not to be. Still, the GTX460M is a good part, with 192 stream processors although it's a far cry from its desktop equivalent that has 336 stream processors.

While testing, one thing stood out – the GT680R is a very fast 1TB drive with transfer rates of 78.03 MBps and 66.69 MBps, respectively in sequential and non-sequential tests. And it's pretty good for gamers too, with scores of 54.8 fps in *S.T.A.L.K.E.R Call Of Pripyat* at maximum settings, and 36.4 fps at full HD 1080p with maximum settings. This is quite playable, and if you're willing to sacrifice a bit of eye candy, you'll be rewarded with faster frame rates too. Even in 3D Mark 11, the GT680R scores a respectable 1595 points.

All this performance does come at a price though – at ₹1,19,999 the GT680R is expensive and people spending this much will get turned off by its rather mediocre looks and finish. If you can stand the look though, the GT680R is a decent choice for playing most of the recent games and all older games and edges out the G74SX for a Best Buy award.

MSI GT680R

GAMING NOTEBOOK OR DESKTOP?

For most readers, gaming means a bit of *Far Cry* at a resolution of 1024x768 pixels with medium settings, so a ₹45,000 laptop is our de facto recommendation. However, if you're serious about gaming, want to play *Metro 2033, Call Of Duty: Black Ops* or *Crysis 2* at a resolution say 1600x900 or above, and with DX11, a notebook won't cut it. Unless you can afford to buy a really high-end Alienware from the US, consisting of two GTX580M graphics cards in SLI, a desktop is a better bet. For two reasons, a desktop with a similar configuration will probably cost less than half than a netbook. Secondly, notebook components are seriously cut down versions of their desktop cousins. Take an NVIDIA GTX 460 for example. While this card's GPU typically runs at 775 MHz, the GPU on the GTX460M (laptop equivalent) runs at a much lower 550 MHz. Where the desktop version has 336 stream processors, the portable version only has 192. Why does this happen? Notebooks have drastically less space in which to fit components, and heat is a perennial issue. It's also costlier to shrink these components, so a GTX460M will be costlier to manufacture than a GTX460.

It may be shocking that we're advocating a desktop in the midst of a laptop comparison, but a desktop will always be much better performer. That being said, there are many reasons to buy a notebook over a desktop – portability, space constraints, a quick carry for the next LAN party, style and the show-off factor. If you need one, get one, but do match your GPU with the games you play.

ASUS G74SX: ₹1,24,990

ASUS has just launched its ROG series of gaming notebooks in India, and the G74SX is its top dog. This is a monster of a notebook that even dwarfs the massive Alienware M17x, and is built like a tank. Seriously, if you were ever to be the victim of an attempted mugging with the G74SX in your possession you could simply use it as a weapon and bludgeon your opponent senseless. The ASUS moniker and ROG logo are boldly embossed on it, but there's no fancy backlighting like on the Alienware notebooks. The notebook is massively thick towards

the hinge and then tapers off to a slimmer front. The hinge itself is made of metal and feels solid. The body is made of quality plastic and has a top quality rubberised finish. To the rear, behind the hinge, is a neatly designed scoop in the body that display huge vents with heatsink fins visible for cooling down its innards.

ASUS G74SX

Flip open the heavy-duty lid and the inside is made of sturdy plastic. The bezel around the keypad and keys is brushed metal, while the raised palm rest also sports the same rubberised finish. The G74SX has a huge trackpad that is quite accurate but not precise enough for discerning first-person-shooter gamers. The mouse keys are soft and have deep travel. There are no shortcut keys on the G74SX, other than an ROG button for auto overclocking. The keypad is backlit – a huge help for gaming in dim lighting. The backlighting isn't as good as Alienware's M17x. The G74SX supports 3D stereovision with a 120 Hz display, but glasses were not bundled.

The G74SX features the same Core i7 2630QM that we've seen on a majority of the other notebooks here. This is paired with 16 GB of RAM, and an NVIDIA GeForce GTX560M – the first time we've seen this GPU and it features 384 stream processors, making it a little more potent than the others we've seen. A 1TB hard drive and Blu-Ray drive is also part of the package. The display is quite crisp and offers good colour and contrast – definitely better than the MSI notebooks, but about at par with the Alienware M11x. *S.T.A.L.K.E.R Call Of Pripyat* saw the biggest improvement over other notebooks with the GTX460M GPU – 72.3 fps at 1366x768 pixels at maximum settings and everything set to ultra high, and 45.2 fps at 1920x1080 pixels at the same settings. Similarly, *Far Cry 2* was very playable at 46.15 fps at 1920x1080 pixels, with everything set to maximum. With 709 points in Unigine Heaven 2.5, the G74SX is the fastest gaming notebook here.

So what's the flipside? It's very expensive at ₹1,24,990. But it offers a lot too with a 3D-ready display, and a Blu-Ray drive as well as more hard drive space and four times the system RAM. To top that, it's a good performer, though nothing that a sensibly assembled ₹60,000 desktop can't outpace. Still, as far as gaming notebooks go, if you're looking for an extremely upmarket looking, rugged beast with great performance and don't sweat spending top dollar, the ASUS G74SX is a very good option and wins the Digit Best Performer award.

Alienware M17x: ₹1,59,000

Alienware's M17x is a colossal laptop outweighing even the prodigious G74SX. Large is lovely in this case, and the M17x looks like the result of laborious designing. The outer shape is similar to the M11x. The rubberised finish is extremely well done and looks slick and upmarket. The body inside also has the rubberised finish, except for the bezel around the keypad that is brushed aluminium burnished to a darker hue. The keys are well spaced, and there is just the right amount of feedback from each key. The M17x includes a slightly raised portion on the centre of each key and this extra bit makes typing out long documents a breeze. However, the piece we received had a slight bulge in the centre of the keypad, where the keys seemed a bit more raised – this is definitely due to improper fitment and should be a one-off flaw. Large vents have been provided on the rear to dissipate heat. This is the same chassis that holds an NVIDIA GTX580M, and in lieu of this, such measures for cooling are expected.

Alienware M17x

The keys are beautifully backlit and so is the trackpad – it has a backlit rim around it. Trackpad accuracy is good, but a dedicated mouse is called for. On the top of the keypad, there's a neatly arranged row of backlit buttons for various multimedia functions and to enable or disable Wi-Fi. These are a bit hard to press however. The M17x has a very nice display – good colours, contrast and quite bright. Text appears a bit crisper on the ASUS G74SX's display, but the difference is small. A Blu-Ray drive is included and expected at this price.

With a GTX460M at the graphics helm we didn't expect the M17x to be a scorcher, and it wasn't. It does score 40.4 fps in *Far Cry 2* at maximum settings and full HD resolution, and 40.2 fps in *S.T.A.L.K.E.R Call Of Pripyat* at the same settings. This is 10 per cent or so less than the GTX560M on the ASUS G74SX, and this means the M17x isn'tas impressive at running games. And this performance difference continues throughout the benchmarks, where we find the cheaper ASUS outpacing it. Even the MSI GT680R outpaces it at times. Priced at a whopping ₹1,59,000, the M17x is a bit too expensive for the performance it delivers, and the ASUS G74SX trounces it by a decent margin, while costing ₹35,000 less. We recommend you avoid the M17x unless you have really deep pockets and can't resist the appeal of all that backlighting and bling.

Contact sheet

Brand	Phone	Email	Website
MSI	1800 200000 4	technicalindia@msi.in.com	http://in.msi.com
Alienware	1800 425 4026	NA	www.dell.co.in
Asus	1800-2090-365	Helpline_west@asus.com	www.asus.in

Acer Cloud
After acquiring iGware, a company offering cloud software and infrastructure tools, Acer has announced Acer Cloud which will begin operations in late September

LaCie Rugged Mini
LaCie Rugged Mini is a USB 3 portable drive with five layers of protection that makes it scratch, rain and water resistant

What's in Store?

With portable drives becoming the preferred mode of carrying around your data, we decided to pit the best against each other to help you select the best one for your needs.

Nimish Sawant
nimish.sawant.thinkdigit.com

Last year when we had done the External Hard drive comparison test, we noticed two trends. Companies were raising the capacities along with affordable pricing. Second was that most of the drives had impressive designs. This year has seen a new technology emerge, which should comfortably become mainstream by the next time we have a comparison test.

We are talking about the USB 3.0 technology which has a theoretical transfer rate of 5 Gbps as opposed to the theoretical speeds of 480 Mbps offered by USB 2.0. Where we had just one USB 3.0 drive in our last comparison, this one has over 15 drives which are USB 3.0 compatible. Another thing we noticed is that you no longer need to use your power supply if you are using a 1TB portable drive. Designs are getting impressive but at the same time companies are offering backup and encryption utilties to differentiate their offerings. So let's just start off with the drives.

USB 3.0 drives

Last year we had received just one USB 3.0 drive for the comparison test and it had come with a USB 3.0 adapter. Now almost every other motherboard has a USB 3.0 port. Also the prices of these drives are becoming affordable. We received 14 drives from nine different brands, which were more than the USB 2.0 drives

Silicon Power sent us three drives namely the Diamond D10 (750 GB), Armor A80 (640GB) and Stream S10 (750 GB). Design wise, they were as different as chalk and cheese, with the Stream S10 looking the smartest with its race-car like form factor and bright colors. The Armor A80 as the name suggests is a rugged drive which seems bulky when compared to the other two, but it is waterproof and shockproof. It comes with two USB 3.0 cables, one is an extremely short one, ideal for laptops and the other is a longer cable. The Diamond D10 has compact form factor and a glossy chequered design. The Silicon Power drives offer you the SP Widget which is a utility which can be downloaded from their website that offers data encryption, data and email backup and backup of your My Favorites folder, etc.

Seagate's GoFlex Slim is one drive that left us quite impressed with its slim profile and great transfer speeds thanks to the 7200 RPM drive within it. Although at 320GB it was the lowest capacity portable drive in this category. The other USB 3.0 drive from Seagate was the highest capacity portable drive at 1.5TB which came in a piano black glossy finish. Though it may not win any slim awards,

you will not bother with that if you can carry 1.5TB of data in your pocket.

Western Digital, the only competitor Seagate has in the internal HDD market, had the maximum capacity drive amongst all the participants with its My Book Essential 3 TB drive. It requires additional power supply, but you can easily access all 3 TB of data unlike the use of a host bus adaptor in its internal drive avataar. The drive has good ventilation across the top and rear edge which helps keep the drive cool under operation. The other two drives from WD were the standard My Passport Essential drives with capacities such as 500GB and 1TB. Both the drives look identical. WD SmartWare utility is bundled in each of these drives which allows you to password protect your data and back up your data. On installation of the SmartWare utility, it will scan your system and segregate your data into System, Pictures, Other, Music, Movies, and Documents in a graphical format. You can can then either backup entire categories or pick and choose folders the next time you connect your drive and Run Backup to instantly backup data.

WD My Book Essential 3 TB

Hitachi Touro Mobile Pro 500GB drive looks exactly like an iPhone4 thanks to its black body and silver lining on the edge with curved edges and flat surfaces. It was the only drive that offered 3GB of cloud storage facility. This in addition to the Hitachi Backup utility allows you to backup your data locally as well as on the cloud. Data on the cloud can be accessed from anywhere as long as you have a net connection. You have an upgrade option to 250 GB at $49 (approx ₹2,000). The Touro houses a fast 7200 RPM drive.

Hitachi Touro Mobile Pro 500GB

Iomega eGo 500GB portable drive has a smart x-shaped rubber covering which protects it from drops or pressure. Buffalo Mini Station 500GB and Apacer AC230 were simple looking drives with glowing lights. Buffalo Mini Station comes with a variety of utilities such as backup utility, secure lock manager, RAMDISK utility and TurboPC with Turbo Copy for speedy transfer.

ADATA sent us two USB 3.0 drives, one portable and one requiring an external power supply. ADATA Classic CH11 is the 1TB portable drive coming in an all white body. It does not come with any pre-installed softwares. The Nobility NH03 is also a 1TB drive which comes with a power supply and more than makes up for the plain jane looks of the Classic CH11. It has a piano black glossy finish and is rectangular in shape with concave edges. There are enough grooves around the edges to keep the drive cool. On the front portion it has a button for backup, which is a nice touch as opposed to going through a wizard to back up your data.

HOW WE TESTED

We divided the external drives into four categories. For Portable Drives we had a) Drives less than or equal to 750 GB and b) Drives greater than 750 GB. Drives that required an external power supply were clubbed together. Finally Flash drives were divided into a) Drives with capacity under 32 GB and b) Drives with a capacity of 32 GB and up. We did not demarcate between USB 2.0 drives and USB 3.0 drives as the cost per GB is not significantly different in either cases and USB 3.0 drives are backward compatible.

The test bed was made up of following components:

Processor: Intel Core i7-2600K @ 3.4GHz

Memory: 2 x 2GB Corsair Dominator DDR3 RAM @ 1333MHz and timing of 9-9-9-24

Motherboard: Intel DP67BG

OS: Windows 7 Ultimate (64-bit)

OS Drive: Intel SSDSA2SH080GIGN (80 GB SSD)

RAID 0 combination: 2 x 300GB WD Velociraptor (SATA 2, 10000 RPM)

Graphics Card: AMD Radeon HD 6850

Power Supply: Corsair HX620W

We installed a clean copy of Windows 7 Ultimate on the Intel 80 GB SSD and installed the synthetic benchmarks such as HD Tune Pro 4.0 and SiSoftware Sandra 2011 on the SSD. Two partitions were created on the WD Velociraptor RAID 0 array and we used it for real life data transfer tests.

We used HD Tune Pro 4.0.1 for testing the Average Read / Write and Read Burst speeds as well as SiSoft Sandra 2011. Both these benchmarks require unformatted drives to perform write testing.

For our Real World tests we used a 4 GB RAR File and a 4GB Assorted file, to simulate a sequential and assorted file transfer scenario. These files were copied to and from the RAID 0 array to the external drives under test. We also performed file transfer tests within the two partitions of the external drives. Finally, we used Adobe Photoshop CS2 to test the amount of time taken to load a 1GB file. Both the image and the scratch disk were kept on the test drives on the same partition, effectively stimulating file access. We did not perform intra-drive file transfer and Photoshop file access on Flash drives.

Performance

We had around four drives crossing the 100 MB/s barrier as far as sequential read and write was concerned. ADATA Nobility NH03 gave very impressive read and write speeds of over 120 MB/s. Seagate GoFlex Slim was another drive that left us impressed with its performance. When it came to Assorted file read, only WD My Book and Nobility NH03 crossed the 100 MB/s. Both these drives are powered, whereas GoFlex Slim and Hitachi Touro were the only portable drives to reach within a breathing distance of 100 MB/s in assorted read tests.

EDITOR'S PICK digit AUGUST 2011

BEST BUY digit AUGUST 2011

Portable Drives — Less than or equal to 750GB

Brand	Hitachi	Iomega	Silicon Power	Seagate	WD	Silicon Power	Silicon Power	Buffalo
Model Name	Touro Mobile Pro	eGo	Armour A80	GoFlex Slim	My Passport Essential	Diamond D10	Stream S10	Mini Station
Capacity	500	500	640	320	500	750	750	500
Cost Per GB (₹)	9.44	8.599	5.820	15.096	9.230	5.239	5.354	7.515
Price (₹)	4,400	3,999	3,470	4,500	4,299	3,660	3,740	3,500
Features (Out of 10)	5.5	3	6.5	6.5	6.5	8	8	6.5
Performance (Out of 90)	66.97	48.378	60.53	57.26	47.746	54.47	53.083	47.911
Grand Total (Out Of 100)	72.47	51.37	67.03	63.76	54.24	62.47	61.08	54.41
Specifications								
HDD capacity (unformatted) (GB)	465.76	465.07	596.17	298.09	465.75	698.64	698.54	465.73
Interface	USB 3.0	USB 3.0	USB 3.0	USB 3.0	USB 3.0	USB 3.0	USB 3.0	USB 3.0
Weight (gms)	155	200	270	160	139	155	145	175
Features (Y/N)								
Backup Utility	Y	N	Y	Y	Y	Y	Y	Y
Encryption Utility	N	Y	Y	Y	Y	Y	Y	Y
Cloud Storage	Y	N	N	N	N	N	N	N
Cover	N	N	N	N	N	Y	Y	N
Performance								
HD Tune Pro 4.01								
Average Read (MBps)	109.8	82.2	93.1	108.4	74.7	92.1	89.8	74.4
Average Write (MBps)	108.9	81.7	96.9	103.1	71.1	86.5	83.2	71.3
Access Time (Read, ms)	8.01	9.95	10.1	8.74	10.1	11.4	10.7	10
Access Time (Write, ms)	4.79	4.06	4.1	14.1	14.4	14.3	14.4	6.1
Read Burst Speed (MBps)	182.1	174.7	180.4	176.5	149.7	150.6	152.4	104.1
CPU Usage (In %)	2.3	1.6	2	2.4	1.6	2.3	2.1	1.8
Random Access (Read 1 MB)								
Operations per sec (IOPS)	34	27	31	31	28	30	29	27
Average Access Time (ms)	28.72	36.45	31.07	31.51	35	32.92	33.5	36.37
Random Access (Write 1 MB)								
Operations per sec (IOPS)	36	19	28	26	33	39	38	22
Average Access Time (ms)	27.53	54.55	34.55	37.8	29.85	25.16	26.2	44.9
SiSoft Sandra 2011								
Drive Index, Read (MBps)	86.46	65.55	75.33	86.73	60.5	75.55	72.66	62
Access Time, read (ms)	17	19	17	18.8	18.25	18.3	18	18.27
Drive Index, Write (MBps)	86.23	78.46	74.53	87.1	61	75.26	72.5	61.13
Access time, write (ms)	1.8	5.58	1.3	9.13	12.8	11.36	12.16	1.18
Real World Tests (higher is better)								
File Write 4 GB Single File (MB/s)	108.33	82.5	96.06	108.9	75.5	91.2	87.27	74.01
File Write Test Assorted 4 GB File (MB/s)	73.85	48.63	74.67	55.35	54.17	56.04	56.52	51.37
Read Test Single 4 GB File (MB/s)	104.83	51.63	90.02	105.14	72.7	88.1	89.74	71.91
Read Test Assorted 4 GB File (MB/s)	98.03	77.11	85.47	94.85	69.61	85.13	82.39	68.28
Intra Drive Test (Read/Write) Sequential	38.53	24.26	26.08	21.16	24.52	28.44	28.05	18.34
Intra Drive Test (Read/Write) Assorted	37.23	23.54	31.75	28.49	27.95	31.26	30.61	25.76
PhotoShop CS2 (secs, lower is better)	31.85	42.05	40.62	37.76	44.86	30.93	42.47	54.11

							Over 750 GB				
	Apacer	**WD**	**ADATA**	**Apacer**	**Seagate**	**WD**	**Seagate**	**WD**	**ADATA**	**Transcend**	**Seagate**
	AC230	My Passport for Mac	Nobility NH92	AC203	GoFlex Pro	My Pass-port Studio	FreeAgent GoFlex	My Passport Essential SE	Classic CH11	StoreJet	FreeAgent GoFlex
	500	500	750	750	500	500	1500	1000	1000	1000	1000
	12.665	10.103	5.725	5.740	12.880	11.823	8.94	6.97	5.42	9.55	9.66
	5,899	4,699	4,000	4,010	5,999	5,499	12,500	6,499	5,050	8,900	9,000
	3.5	6.5	6.5	5	6.5	6.5	6.5	6.5	0	6.5	6.5
	47.113	25.291	25.139	24.629	26.565	24.68	52.34	45.83	48.08	26.61	21.38
	50.61	31.79	31.63	29.62	33.06	31.18	58.84	52.33	48.08	33.11	27.88
	465.76	465.11	698.64	698.64	465.76	465.11	1397.26	931.48	931.51	931.51	931.51
	USB 3.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 3.0	USB 3.0	USB 3.0	USB 2.0	USB 2.0
	143	200	152	143	160	180	280	200	225	256	440
	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
	N	Y	Y	N	Y	Y	Y	Y	N	Y	Y
	N	N	N	N	N	N	N	N	N	N	N
	N	N	N	Y	N	N	N	N	N	N	N
	76.8	32.1	31.2	31.3	32.1	32.2	92.1	81.3	86.2	32.8	33.1
	75.8	24.5	25.3	25.5	25.89	24.5	87.8	76.2	82..9	26.2	24.9
	9.86	10.1	10.2	10.1	8.51	10.1	7.97	10.6	9.94	10.8	9.8
	17.5	3.7	17.9	17.5	4.02	4.05	1.9	16.2	19.2	10.2	17.1
	175.4	33.3	33.8	33.3	34.3	32.9	184.4	142.9	101.7	33.3	33.3
	1.6	1.5	1.8	1.6	1.8	1.8	1	1.8	1.8	2.3	1.5
	30	18	20	20	20	19	25	28	30	21	18
	32.28	52.69	49.11	48.85	49.54	51.54	39.69	34.12	32.3	47.57	53.17
	26	21	28	25	18	22	20	19	27	24	11
	38.36	45.84	38.58	38.5	53.64	43.83	48.42	50.69	36.3	40.1	87.78
	67.64	32.56	31	31	32.85	32.31	74.22	66.53	69.42	32.75	33
	15.87	18.3	13.8	17.8	14.12	18	24.24	20.49	12	13.52	23.39
	68	26	28.72	28.88	28.8	26	74.73	66.38	69.37	28.87	28.5
	17	3.57	18.72	16	3.27	5.16	28.25	16	23.27	3.53	29
	73.92	27.54	28.44	28.56	26.25	27.58	87.48	78.11	80.15	30.34	28.44
	38.24	22.5	23.93	23.85	24.52	22.7	50.58	52.23	42.22	24.99	20.89
	75.51	32.25	31.95	32.25	32.35	31.75	89.68	78.22	83.75	31.48	31.75
	71.25	30.43	31.69	31.5	31.2	30.34	83.77	71.96	76.79	31.08	30.11
	21.91	11.53	13.29	13.42	11.69	8.56	16.85	16.65	21.67	12.92	8.35
	23.67	12.31	11.54	12.13	13.6	10.31	23.27	23.01	24.23	13.93	10.01
	34.24	85.9	81.97	81.21	80.11	53.97	30.17	43.12	41.02	78.81	131

WD Scorpio Blue 1TB
Western digital has launched a 1 TB iteration of its value Scorpion Blue. Coming in a 2.5-inch form factor with 5400 RPM and 8MB buffer

Google buys PittPatt
Google recently acquired PittPatt, a company that specializes in facial recognition in still photos and videos

USB 2.0 DRIVES

Verbatim sent us their 500GB external drive which features an eSATA port alongwith a USB 2.0 port. The eSATA port gave impressive speeds as expected. But 500 GB with an external power supply seems a bit much.

Seagate sent us three drives: GoFlex Home (1TB), GoFlex Desk (2TB) and GoFlex Pro (500GB). Both the GoFlex Home and GoFlex Pro drives have a similar form factor, but the Pro has a 7200 RPM drive inside it, coming with two connector option. One is the proprietary Seagate connector which allows these drives to be USB 3.0 upgradeable and the other is a stand which has the male joint which fits in the groove of the Seagate drive's base. This of course comes at a premium. The GoFlex Home is the drive which requires an external power supply. It has a sturdy build and comes with a stand to mount the hard drive on.

ADATA Nobility NH03

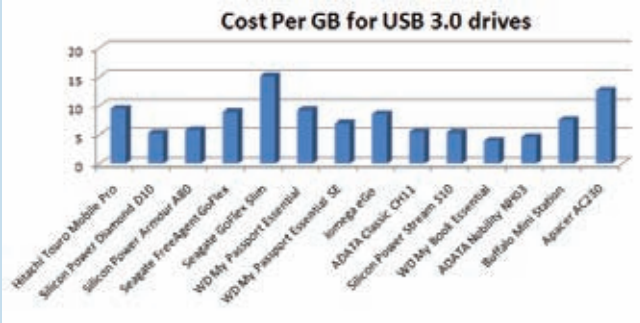
Western Digital had the My Passport for Mac and My Passport Studio, both 500 GB. My Passport for Mac has a matte black finish and is Time Machine ready. We tested it on the same testbed as the others, as we were primarily interested in the transfer speeds. The My Passport Studio looks interesting thanks to the e-ink display it has on which gives a memory status bar and allows you to name the hard drive which is visible even on disconnecting the drive. Along with the USB 2.0 interface it also has a FireWire 800 support.

Transcend StoreJet 1 TB drive has a rubberised finish which makes the drive bulky but quite rugged. It has protection from all three sides. Like the ADATA Nobility NH03, the StoreJet also has a one button backup option. Iomega eGo desktop drive was one with a power supply. It comes with a stand and is quite bulky in appearance. It also comes with an online backup utility. Buffalo Drive Station is a comparitively less bulky drive and has a lovely black glossy finish. When using TurboCopy here, we did get impressive improvement in data transfer speeds. It comes bundled with all the utilities seen in the Buffalo Mini Station.

Apacer AC203 looks aesthetically very similar to its USB 3.0 cousin - AC230. ADATA Nobility NH92 has a shiny blue plastic finish with the mini-USB port lodged at one edge. A blue light glows at the other edge when the drive is in operation. It comes with a backup as well as an encryption utility.

COST PER GIGABYTE

The cost per gigabyte for USB 3.0 drives is not drastically high when compared with the USB 2.0 counterparts. In fact WD My Book Essential 3 TB drive has a cost/GB of ₹3.9 which is just 20 paise higher than the cheapest cost/GB found on the Buffalo Drive station in the USB 2.0 drives category.



Performance

In the USB 2.0 drives, the performance was plateauing between 25-30 MB/s so it was a very closely fought battle. Only Verbatim's eSATA port gave impressive scores in this category of drives, but with just 500 GB on offer, it's not really much. The intra drive transfers in the USB 2.0 drives is painfully slow. Seagate GoFlex Pro and Transcend StoreJet were portable drives that gave impressive overall speeds across various test scenarios.

Winners

Drives requiring an external power supply: There were only six drives in this category. ADATA Nobility NH03 won the Best Performer for its high scores across most of the benchmarks. It touched as high as 120MB/s in the Read tests. Best Buy in this segment went to the maximum capacity drive i.e. the WD My Book Essential 3 TB. Not only did this drive give a lower cost per GB at ₹3.9 but it also performed 90 per cent as well as the Best Performer. You can find the table online: http://bit.ly/digit_HDD

Portable Drives under than or equal to 750GB: Silicon Power Diamond D10 drive was awarded as the Best Buy. It was competing against its own cousins the

Contact sheet

Brand	Phone	Email	Website
ADATA	NA	adata@adata.com.tw	www.adata.com
Apacer	011-46072400	vishaal.tandon@gmail.com	www.apacer.com
Buffalo	011-41538059	info-india@melcoinc.co.jp	www.buffalo-asia.com
Hitachi	+91 80 4126 6808	lalit.sudrik@cyberstarindia.com	www.hitachigst.com
Iomega	18001802237	indiasales@iomega.com	www.iomega.com
Kingston	NA	Rex_Liang@kingston.com.tw	www.kingston.com
Seagate	011 - 2641 4468	Sales@fortune-it.com	www.seagate.com
Silicon Power	NA	ashok_singh@silicon-power.com	www.silicon-power.com
Transcend	22-43441111	sales@mediamangroup.com	www.mediamangroup.com
Verbatim	11 - 46525661 / 62	ramesh.tuli@verbatim.co.in	www.verbatim.com
Western Digital	9769955175	anil.kukreja@wdc.com	www.wdc.com
Zipmem	91-120-2460008	marketing@om-nanotech.com	www.om-nanotech.com

iPerform 3D

Shell out $19.95 for the iPerform 3D that lets you play the song from any angle, zooming into the action, slowing down and speeding up pace without affecting the pitch of the song

OCZ Revo Drive 3 x2

Anandtech has done an in-depth preview of this monster 960GB SSD. Check it out at http://goo.gl/zhi4h

FLASH DRIVES

BEST BUY digit AUGUST 2011

BEST BUY digit AUGUST 2011

BEST PERFORMER digit AUGUST 2011

	Under 32 GB							32 GB and above			
Brand	Kingston	ADATA	Transcend	Silicon Power	Apacer	ADATA	ZipMem	Kingston	Silicon Power	Apacer	Kingston
Model Name	Data Traveller	Superior S102	JF 700	Luxmini 920	AH 130	Superior S101	-	Data Traveller	Blaze B10	AH 552	Data Traveller 410
Price (₹)	3,500	1,240	1,300	1,050	1,250	560	600	7,599	2,850	5,345	3,379
Capacity	16	16	8	16	8	8	10	64	32	32	32
Cost Per GB (₹)	234.742	84.354	176.630	70.423	167.560	74.468	62.176	127.436	92.293	181.494	112.296
Grand Total (Out Of 100)	64.93	42.77	34.74	26.21	20.58	21.56	19.63	69.55	41.61	81.52	25.37
Specifications											
HDD capacity (unformatted) (GB)	14.91	14.7	7.36	14.91	7.46	7.52	9.65	59.63	30.88	29.45	30.09
Interface	USB 3.0	USB 3.0	USB 3.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 3.0	USB 3.0	USB 3.0	USB 2.0
Performance											
HD Tune Pro 4.01											
Average Read (MBps)	82.3	66.7	51.8	30.9	21.8	29.7	18.8	83.1	67.9	121.1	31.1
Access Time (Read, ms)	0.712	0.404	0.511	0.737	0.607	0.664	0.706	0.692	0.428	0.742	0.774
Read Burst Speed (MBps)	46.2	56	45.9	31.2	23.8	20.8	19.8	46.8	55.8	69.3	31.8
CPU Usage (In %)	1.6	1.5	1.3	1.9	1.3	1.5	1.4	2	1.5	2.4	1.8
Random Access (Read 1 MB)											
Operations per sec (IOPS)	76	64	50	30	22	23	18	77	65	107	29
Average Access Time (ms)	13.04	15.4	19.76	32.42	45.16	42.66	52.65	12.95	15.24	9.33	33.53
SiSoft Sandra 2010											
Drive Index, Read (MBps)	84.33	66.65	51.75	30.26	22	23.67	18.85	85.63	67.87	116.7	31.2
Access Time, read (microsecs)	695	94	101	190	107	42	180	688	256	474	337
Real World Tests (Higher is better)											
File Write 4 GB Single File (MB/s)	62.77	19.41	14.37	16.71	9.52	8.69	12.88	48.76	20.68	71.17	18.81
File Write Test Assorted 4 GB File (MB/s)	39.38	8.25	7.08	13.17	6.81	5.12	9.66	53.19	6.18	42.3	9.86
Read Test Single 4 GB File (MB/s)	83.03	65.01	50.19	31.03	22.61	21.67	18.78	84.34	66.06	115.51	31.03
Read Test Assorted 4 GB File (MB/s)	72.68	61.13	48.76	29.46	21.78	20.96	18.7	74.47	62.06	100.98	29.92

We decided to call in for pen drives which were 8 GB and above as anything below that just does not cut it with us. Here too we got a lot of participating USB 3.0 drives. There were lots of interesting form factors on display here. The bulky rugged Kingston Data Traveller Ultimate drives to the tiny Apacer AH 130 which is almost inconspicuous if it weren't for the bright orange colour. Silicon Power Blaze B10 has a heat resistant paint on its outer cover, which changes colour when the drive heats up. Kingston Data Traveller 410 has an interesting swivel design along with the classy rubberised finish on the drive.

Stream S10 and Armor A80 but the Diamond D10 had the lowest cost per GB amongst them all. We also awarded the Editor's Pick to Hitachi Touro Mobile Pro for its superlative performance in this segment. It gave a performance that was 90 per cent that of the Best Performer. It also has an additional cloud storage option which gave it an edge over the others.

Portable Drives over 750GB: The ADATA Classic CH11 won the Best Buy here thanks to its lower cost per GB. Seagate GoFlex 1.5TB drive performed better but lost out on the pricing.

Flash Drives of capacity 32GB and over: Apacer AH 552 won the Best Performer across all the pen drives that we got. It gave impressive scores of over 100 MB/s for read tests. Kingston Data Traveller 64GB drive won the Best Buy for its superior price to performance ratio as compared to the other two drives. If you are not looking at best performance for your price, the Silicon Power Blaze B10 makes for an economical buy.

Flash drives under 32 GB: ADATA Superior S102 won the Best Buy in the under 32GB flash drive category for its good performance and comparitively cheaper cost per GB.

Final Words

The mere fact that all the awards were swept by USB 3.0 drives points to an important conlusion - investing in a USB 2.0 drive now is pointless. Of course the prices will keep dropping, but as was seen above, the price per GB difference between the USB 2.0 drives and USB 3.0 drives was not very high. The fact that USB 3.0 drives are backward compatible with USB 2.0 ports means that you can future proof your investment if you do not have a USB 3 drive on your board just yet.

Spin the sink
Researchers at Sandia National Laboratories have developed spinning heat sinks for better cooling and ultimately faster computers

Who wrote the Bible?
We might get the answer to this age old question via an algorithm proposed by a team of Israeli scientists led by Moshe Koppel

Lenovo ThinkPad X1

A sleek business ultraportable

The Lenovo ThinkPad X1 has a lacklustre greyish-black color all over, which makes it an ideal fit around boardrooms and conference tables. The laptop's screen lid has a smooth but tough rubber coating.

Like previous X-series ultraportables, the X1 is quite rugged and built like a tank. It survived three drops from heights ranging from 3-4 feet, with lid closed, without smashing its innards, thanks to a reinforced metal roll-cage designed chassis and metal hinges. It would resume its session instantaneously within seconds of picking it up - no scratches on screen or loose hinges.

The ThinkPad X1 is 0.65-inches thin and weighs 1.72-kg. Considering its 13-inch form factor, it's an ultraportable laptop to rival the likes of the 13-inch Apple MacBook Air and the recently reviewed Sony VAIO S. It may not be thinner or lighter compared to the two, but the Lenovo ThinkPad X1 is definitely the most rugged and solidly built laptop of them all.

The X1 comes equipped with an edge-to-edge Corning Gorilla Glass display screen, and it does work - we tried scratching the ThinkPad X1's surface with coins and keys and it was impervious to damage. However, the ThinkPad X1's 13.3-inch LED backlit LCD display is glossy, which may not go down too well with ThinkPad loyalists. We're also miffed by the fact that the X1 only has a 1366x768 resolution screen compared to the X300/X301's 1440x900 pixel screen.

The glossy screen of the Lenovo ThinkPad X1 is very bright - 350 nits, brighter than the Sony VAIO S - and displays sharp and crisp text and video. Its 2MP webcam works well with Skype and we like its web conferencing control panel which lets you exert fine control over the mic and camera.

The laptop has one of the best keyboards we've seen on a laptop. The island-styled, isolated keys have a slight dip or scooped/scalloped design helping your fingers nestle on top of the keys perfectly while typing on them. It has an Intel Core i5-2520M 2.5-GHz processor with a turbo boost speed of 2.93 Ghz. It also has vPro support for advanced IT management. There's also 4 GB of DDR3 RAM, 320GB hard drive and Intel HD 3000 graphics to complete its core hardware components - quite good for an ultraportable business notebook. Needless to say, the ThinkPad X1 packs a lot more firepower than its predecessors and can match the performance of most current-gen 14 or 15-inch mainstream laptops.

Despite being touted primarily as a premium business ultraportable laptop, the Lenovo ThinkPad X1 is quite the performance machine. In our synthetic benchmarks – including PC Mark Vantage - the X1 scored pretty high, better than average in fact. Its high-speed turbo boost enabled processor and 4GB of fast-paced RAM paid rich dividends, letting us multitask with a multitude of apps simultaneously without feeling any performance bottlenecks. The laptop handled tasks like video encoding and file transfer pretty well. With the Lenovo ThinkPad X1, you can be sure that you can do a lot more than just work with spreadsheets and presentation slideshows.

The Lenovo ThinkPad X1 falls short in one department - battery life. Its battery lasted just over an hour in our synthetic test which is below average; definitely less compared to the MacBook Air and Sony VAIO S. On a conservative power plan, you can barely reach three hours. If you can overlook the ThinkPad X1's underwhelming battery performance, it's exactly the kind of business ultraportable for frequent flying executives - slim, sturdy and easy to tuck away.

Read the detailed review here: http://goo.gl/02CzV.

Jayesh Shinde

Specifications

Screen: 13.3-inch Gorilla Glass display; **Resolution:** 1366x768; **Camera:** 2MP webcam; **Connectivity:** USB 3.0, Wi-Fi 802.11n, Bluetooth, SD Card reader, mini Display port, HDMI, eSATA, 3G SIM card slot; **Misc:** Fingerprint sensor

Contact

Lenovo India
Phone: 080-30533000
Web site: www.lenovo.com/in
Price: ₹85,000

9.0/10

Features	8.0
Performance	7.0
Build Quality	9.5
Value for Money	7.0

HTC Flyer

Losing altitude

The Flyer carries design elements from both the Legend and the Desire smartphones. The aluminum unibody build has an uncanny resemblance to the Legend, while the sim card access slot resembles part of the back panel of the Desire.

The slimness of the Flyer is along with the solid build, a real eye catcher- it is just 13.2mm thick. The 7-inch screen is flanked by 4 touchscreen- home, menu, return and stylus mode. The front facing camera is placed above the screen, if you look at it in the landscape mode. The sides are even slimmer than the entire thickness of the tablet, which makes the rear panel bulge a bit along the sides before it settles into a flat form. The camera on the rear panel is towards the top, and falls right in the middle of the slider that needs to be removed to access the sim card slot. We had a tough time opening this one, and were paralytically worried all this while that the panel might get damaged. The top panel has the 3.5mm audio jack, and the power button. The bottom panel has the proprietary USB port.

The biggest, and most unique feature on the HTC Flyer is the pen feature. The magic pen is also made from aluminum. It feels pretty much like a traditional pen, but relies on pressure and precision for successful utilization. There are very few apps that can utilize the pen feature on their own. The Notes application is one that utilizes this to the fullest. You can scribble, mark or highlight text within the notes application. For any other apps, you will need to take a screenshot of the screen before the scribbling can begin. Touch the display with the pen, and press any button on the pen to take a snapshot. You may scribble now and save the pic, or save and scribble. However, to work this successfully, the pressure you apply on the pen's tip needs to remain constant, and uniform. Secondly, if the hand touches the screen before the tip of the pen, the on-screen keypad may show up, since the tablet may recognize that as an intent to use touch to type.

It is a bit of a surprise to find a single-core processor, albeit a 1.5GHz one, in the day and age of dual core power. The limitation thrown up immediately is that th Flyer cannot play back 1080p HD videos. The lack of an HDMI out port also explains this. While the tablet isn't slow per se, but could have done with the extra grunt offered by a dual core processor. HTC could have easily used the dual core 1.2GHz processor they launched the Sensation smartphone with, and made the Flyer more in tune with the times.

The 7-inch display is very good. Colours are reasonably vivid, but don't pop out uncomfortably. The black levels seen on this display are much better than what we saw on the Sensation smartphone. Sharpness is quite decent when browsing through the menu, but there is a distinct lack of it when watching videos. Legibility on sunlight is pretty okay, as long as the brightness is set to auto mode, or is set at 50% or above.

The 5MP camera is, simply put, a bit of a disappointment. Still images are very noisy, irrespective of the lighting conditions. Videos have a good colour depth, but the movements are jerky and not very smooth.

Android 2.3, just like the single core processor, is something we do not understand the logic behind. Despite the 'optimized for tablets' Android 3.0 OS available for deployment, HTC still decided to roll out the Flyer with Android 2.3. The simple reason behind this is that HTC didn't want to leave out the Sense UI. We aren't impressed. While the HTC Sense does well visually and with certain apps, it definitely isn't worthy enough to attempt at replacing the missing elements from Android 3.0. First off, you wont get the tablet display optimized versions of many apps. For example, no Gmail tablet app for you. Secondly, the Flyer will be stuck with apps essentially made for smartphone displays. Some will not render properly, inevitably, causing more heartburn. Hopefully, HTC will become less possessive about the Sense UI, and upgrade the Flyer to Android 3.0 in the near future.

The HTC Flyer is a disappointment. No Android 3.0, single core processor in the age of dual core ones and no HDMI out. The price tag of ₹40k magnifies the fact that the Flyer misses out on some crucial elements. You might be better off waiting for the Motorola Xoom. Or just get the Apple iPad 2, if you aren't hell bent on buying an Android tablet anyway. Read more: http://bit.ly/dhtcflyer

Vishal Mathur

Specifications

Processor: 1.GHz single core; **Storage:** 1GB, sim-card slot for mobile data, , microSD slot (up to 32GB); **Screen:** 7-inch LCD display; **Resolution:** 1024x600; **Camera:** 5MP, 1.3MP video call camera; **OS:** Android 2.3 with HTC Sense UI 2.1 for tablet; **Battery:** 4000 mAh

Contact

HTC India
Phone: 1800-1033-566
Email: http://www.htc.com/in/CS_Mail.aspx
Price: ₹39,890

6.0/10

Features	5.0
Performance	6.0
Build Quality	7.5
Value for Money	5.0

India's slimmest all-in-one PC
Lenovo IdeaCentre A320 has a 21.5" LED screen powered by 2nd Generation Intel Core i3/i5 processors and a 750GB HDD at a price of ₹50,990/-

Antec launches new PSUs
Antec has added to its Basiq Line series with the launch of VP350P, VP450P and VP550P at prices starting at ₹2,500

Acer Iconia 6120

Dual screen laptop, but what to use it for?

Acer Iconia 6120 boasts of two 14-inch screens on both sides of the hinge, like a laptop. A one-of-a-kind product, the Dual Screen laptop has quite a bulky form factor as compared to other laptops and tablets.

It houses the older generation Intel Core i5-480M, 4GB DDR3 RAM and comes with Windows 7 Home Premium. The virtual keyboard on the base screen can be activated by resting your 10 fingers on the screen. Keys make an audible clicking sound without haptic feedback. Also the mouse trackpad has a very small area to manoeuvre in. The glass surface is a finger-print magnet. Placing five fingers on the screen activates what Acer calls the Acer Ring. It's a quick way to access your photos, videos or the Touch Browser, in which the webpage extends across both the pages. You can also assign gestures to launch a website, launch program, searching windows among other things.

Considering most laptops nowadays come armed with Sandy Bridge processors, the Acer Iconia 6210 took a hit in performance. Its PC Mark Vantage score was 3544 – lower than a Core i3-2310M processor based laptop. Cinebench R11.5 scored 2.26 whereas 3D Mark 06 GPU score was around 1129 marks.

HD videos play without a hitch, and you can use one screen to play an HD video while the other screen to surf the web or even play another HD video. Sound is loud enough for casual listening.

At ₹69,999 this dual screen laptop is meant as a consumption device and targetted at lifestyle audience. It's definitely not meant for productivity. But we would have surely liked an optical drive and an SD card slot.

Nimish Sawant

Specifications

Processor: Intel Core i5 480M; **Screen resolution:** 1366x768 pixels; **USB 3.0 ports:** 1; Virtual keyboard and mouse trackpad; **Webcam:** 1.3 MP

Contact

Acer India Pvt Ltd
Phone: +91 80 3940 8700
Email: ailenquiries@acer.co.in
Website: www.acer.co.in
Price: ₹69,999

6.0/10

Features	7.0
Performance	5.0
Build Quality	6.5
Value for Money	5.0

TDK WR 700

High fidelity over the air

TDK WR700 uses Kleer technology to give the listener lossless audio quality without the clutter of wires. Despite their simplistic design, the headphones look like a product to be taken seriously. The construction is mostly plastic but the dull grey matte finish gives them that slightly industrial look. The plastic used is of fairly decent quality and there are no noticeable chinks even with the folding mechanism. While the headphone itself feels light and comfortable (despite housing two AAA batteries), the transmitter is bulkier than we would've liked.

As for performance they provide good isolation, and apart from being wireless, they're competent in their right as decent headphones. A little bass heavy, they handled all frequency ranges surprisingly well - right from the deep 30 Hz to the ear-splitting 15,000 Hz samples. Chris Rea's smooth voice comes nicely layered, retaining it's husky timbre over the bass riff in *Call On Me*. The bass kick and reverb on the heavy drum at the beginning of Brutal Hearts was lovely too.

While instrument separation is very good for a compact portable, soundstaging is perhaps one of the only areas in which this set of headphones falls short. Music appears to be playing from a source very close to you; somewhere above. Still, overall this is one of the better sounding headphones we've laid our hands on, and probably the best wireless pair till date. As for range and battery life it gave what is promised - about 30 feet and 30-plus hours. There are no pops or crackle in sound quality while pushing the range envelope. They just stop streaming after a point.

At ₹6,900, they're a little expensive, but if you're looking for a wireless solution without compromising on sound quality, it makes for a decent purchase. Read more here: http://bit.ly/tdkw700

Siddharth Parwatay

Specifications

Frequency response: 20-20,000 Hz; **Driver size:** 34mm; **Impedance:** 32 ohms (+/-5%) **Sensitivity:** 106 dB (+/- 5 dB) **Range:** 10M (33ft)

Contact

Imation India Pvt Ltd
Phone: 22-67215161/2/3/4/5
Email: sphalak@imation.com
Web site: www.imation-southasia.com
Warranty: 1 year
Price: ₹6,900

7.0/10

Features	7.0
Performance	7.5
Build Quality	7.0
Value for Money	6.5

Denon DHT-1311XP Home Theater

Fallen photo frames and shattered paint!

This "home theater out of the box" package consists of an AVR-1311 receiver and the SYS-391HT 5.1 channel speaker system. The AVR-1311 has a completely black-coloured finish. The volume control is a retro-styled dial. The SYS-391HT speaker system is a 5.1 channel configuration. The five speakers are all housed in black coloured wooden cabinets. The front and centre channel speakers have dual 8cm drivers, while the rear ones have a single 8cm driver each. Denon is quite big, and packs quite a powerful punch.

The AVR-1311 is 3D pass through capable. Configuring the sound takes a bit of hard work, since it is a multi-layered menu. However, after a couple of trips, you'll be able to work out which setting is where, and configure accordingly. The AVR remembers all settings like sound volume, surround setting and speaker config for each input source, that you set the last time that input was used. Only one optical input is a bit of a limitation.

The clarity on offer with these speakers is absolutely delightful. The center channel speaker, which is essentially for dialogue delivery, does its job extremely well, both in terms of clarity and audibility. If you like a lot of bass, set the subwoofer to +2dB, and there's enough punch to throw things off shelves. The bass adjustment dial is on the subwoofer itself.

The AVR-1311 is "one level above the basic" receiver, and only falls behind only with the no HD upscale and just one optical audio input. The SYS-391HT speakers pack in a very powerful punch. Combined, the DHT-1311XP is a very good option, if this falls in your budget.

Vishal Mathur

Specifications

Denon AVR-1311 receiver
4 HDMI 1.4a inputs; 1 HDMI out; 3D pass-through 1 optical and 1 coaxial audio input; iPod dock port
Denon SYS-391HT speakers
5.1 channel speaker system

Contact

ProFX Indiax
Phone: 1800-4252221
Email: divakar@profx.com
Price: ₹42,000

7.0/10

Features	6.5
Performance	8.0
Build Quality	7.5
Value for Money	7.0

LG Optimus Black

Dark disappointment

Straight out of the box, two things catch your eye. First, the lack of weight. At less than 110 grams, this phone glides squarely in the featherweight category. Second is the sense of compactness despite the 4-inch display.

The 4-inch IPS LCD display is touted as the "best display in the world". While it isn't the best, it's actually very good. The brightness levels are quite high, which makes setting the level at 30-40 per cent more than enough. The auto brightness also has two modes - best battery and best performance. Enough legibility in bright sunlight, but you will have to put in an effort to read some of the text.

The 1GHz processor is the Cortex A8- the single core type. Interface remains slick, and apps open up quite quickly.

Weirdly though, there is a lag in the time the screen unlock button (power key) is pressed, and the display actually comes on. Same problem persists with the proximity sensor. Remove the phone from the ear, and it again takes a couple of seconds before the display lights up again.

While there's a lot of real estate on the screen, the typing isn't very precise. While you may feel that you're typing the correct word/alphabet, it may mostly turn out to be wrong. This problem remains, whatever keyboard layout you may be using. No such problem in the landscape mode.

The 5MP camera isn't as good. This one faces a huge shutter lag issue. Result- heavily blurred images! The clarity is okay, if you have clicked a stationary object, in good lighting conditions. Good points for the lack of noise.

If you are about to spend ₹20k on a phone, the Samsung Galaxy S feels faster in terms of raw performance. Or check out the Samsung Nexus S with the latest Android 2.3 OS. Read more: http://bit.ly/lgoptblack

Vishal Mathur

Specifications

OS: Android 2.2; **Processor:** 1 GHz Cortex-A8; **Display:** 4-inch display, IPS LCD with Gorilla Glass, 480x800 resolution; **Storage:** 2GB built-in storage, microSD slot (up to 32GB); **Camera:** 5MP; **Battery:** 1500 mAh

Contact

LG India
Phone: 1800-1809999
Web site: www.htc.com
Price: ₹21,990

6.0/10

Features	7.0
Performance	6.0
Build Quality	7.0
Value for Money	6.0

Living Billboard
Coca-Cola Philippines and the WWF unveiled a billboard that features thousands of Fukien tea plants capable of absorbing 46,800 pounds of carbon dioxide

Thinkdigit review
Read the web review of Acer Aspire Timelinex 5830TG, the affordable Sandy Bridge laptop : http://bit.ly/tdacer

Olympus PEN E-P3

A street photographer's dream camera

Olympus has refreshed its PEN line of mirrorless DSLRs with the new E-P3. This model has the same 12.3MP Live MOS sensor found on its predecessor, the E-P2. The E-P3 houses a new TruePic VI image processor and the 3-inch LCD screen on the E-P2's been replaced by a 610k dot OLED touch sensitive screen.

You have around 35 AF points to choose from. Creative Art filters go beyond your traditional sepia mode, vivid mode, etc. You have some fascinating filters such as Grainy film (noisy BW filter), Dramatic Tone (adding mood to the sky), Diorama (simulates tilt-shift lens photography), among others. There are as many as 23 SCN modes with options to even select individual eyes in a portrait shot or even take a 3D shot. It has a newer user interface and learning to navigate through will require a learning curve for a first time Olympus user.

We shot using the kit lens - 14-42mm (f3.5 - f5.6). Image quality was good with crisp colours. Finer details start deteriorating only after ISO 1600 while shooting outdoors. We did notice a slight amount of colour cast around the sharper edges while shooting in the macro mode. Indoor shots started showing noise even on lower ISOs. Single shot auto focus is blazingly fast and is one of the major plus points for street photography enthusiasts. Movie mode supports continuous AF and were no jerks even at highest resolution.

At ₹39,900 this is certainly priced higher than most entry level DSLRs but we feel it makes for a great entry level DSLR.

Nimish Sawant

Specifications

Sensor: 12.3MP Live MOS; **Max Resolution:** 4032 x 3024; **ISO Range:** 200 - 12800; **SCN Modes:** 23; **ART Filters:** 10; **WB Modes:** 11; **Aspect Ratio:** 4:3, 6:6, 3:2, 16:9; **File formats:** RAW, RAW+JPEG, JPEG, MPO (3D Still)

Contact

Olympus Imaging India Pvt. Ltd.
Phone: +91 22 6142 0400
Email: inquiry@olympus.in
Website: www.olympus-imaging.co.in
Price: 39,999

7.0/10

Features	8.0
Performance	7.0
Build Quality	6.5
Value for Money	6.5

Nokia E6

Means business, completely

The E6 is similar to the E72. The phone feels solid, yet very light. The size of the phone is kept well in check, ensuring that the keypad is usable even with the same hand holding the phone. The 2.46-inch display is a very competent touchscreen in itself. The display quality is quite good, and the resolution of 640x480 pixels seems more than needed for a display of this size! However, the font size does remain quite small. Blackberry smartphones allow you to set the font size, but Nokia still carries forward the small, medium, large setting. This might annoy people.

Symbian Anna has made its way on to this device, and we can see a lot of performance improvements when compared to the Symbian 3 OS. The interface is slicker, apps respond better, and the phone doesn't slow down often. However, the Social networking app and widget are a huge disappointment, and you still need to download the Chat application to get access to Gtalk, Windows Live and Yahoo messengers.

The 8MP camera is very good, and works very well even in low light conditions. Now that is a serious surprise!

The hardware keypad is a delight to use. The keys have a slight bulge on them, making typing easier and precise. The only thing that takes some getting used to be the number keys those are in the middle, and not towards one side of the keypad. The battery life is very good, and the phone will last a couple of days, even after being constantly connected.

We have seen this phone retailing for about ₹17.5k, and the E6 is in the middle of the prices of the Blackberry Curve 3G and the Blackberry Bold 9700. If you are willing to spend about ₹14k on a Curve 3G, then spend a bit more and get the E6 instead. However, the Bold 9700 is still a better deal, if you're spending more than ₹17.5k. Read more: http://bit.ly/dnokia_e6

Vishal Mathur

Specifications

Network: Quad Band GSM, 3G; **Processor:** ARM 11 680MHz; **Display:** 2.46-inch TFT, capacitive touchscreen; **Resolution:** 640x480 pixels; **Memory:** 8GB internal storage, microSD up to 32GB; **Camera:** 8MP camera with 720p HD video; **OS:** Symbian Anna; **Battery:** 1500 mAh

Contact

Nokia India
Phone: +91 30303838
Web: http://www.nokia.co.in/
Price: ₹18,679

7.0/10

Features	7.5
Performance	7.0
Build Quality	7.5
Value for Money	7.0

Iomega ScreenPlay DX

Finally some competition for the WD Live Hub

The HD media players with internal storage just offer an extremely good value for money package. It is basically two devices in one- an HD media upscaler and an external drive to store movies on. The chunky design holds a 1TB hard drive in it. Glossy black coloured finish throughout, that makes the DX a dust and scratch magnet. The front panel has 2 USB ports, while the rear panel is the business end, with the HDMI out, optical audio out, composite and component video and another USB port.

The remote is extremely interesting! The square-ish form factor and the unique key layout are definitely like something you wouldn't have seen before.

Key layout may take some time getting used to, but once you do, using it is a delight. The DX handled all video formats without any problem- avi, mkv, mp4, m2ts and even avchd. The already HD videos were smooth and the media player didn't add any artifacts. SD videos were treated well, and looked very crisp.

The DX (1TB) is retailing in the market for about ₹13k, while the WD Live Hub (1TB) is available for about ₹10k-10.5k. Weirdly, this is more than the ₹12,999 box price of the DX! While the DX performs very well, and offers a Wi-Fi adapter and an HDMI cable as a part of the package, it still doesn't justify the ₹3k (approx.) price difference to the WD Live Hub. We would slightly prefer the WD Live Hub, primarily because of the lower price tag and the excellent UI on offer. Read more: http://bit.ly/iomscree

Vishal Mathur

Specifications

High Definition media player, 1080p HD video upscale, HDMI 1.4 input, component and composite video, Ethernet port, internal storage

Contact

Iomega Corporation
Phone: 1800-1802237 ;
Email: indiasales@iomega.com;
Web site: https://iomega-ap-en.custhelp.com/app/answers/detail/a_id/18138
Price: ₹12,999 (1TB), ₹14,999 (2TB)

6.0/10

Features	7.0
Performance	7.0
Build Quality	8.0
Value for Money	6.0

Dell Inspiron 15R (N5110)

An everyday use contender

Specifications

Screen size: 15.6-inch glossy screen, 1366x768; **Processor:** Intel Core i3-2310M 2.1-GHz; **RAM:** 4GB; **HDD:** 320GB; **Connectivity:** USB 3.0, HDMI, eSATA, DVD RW, 8-in-1 card reader; **Weight:** 2.4-kg

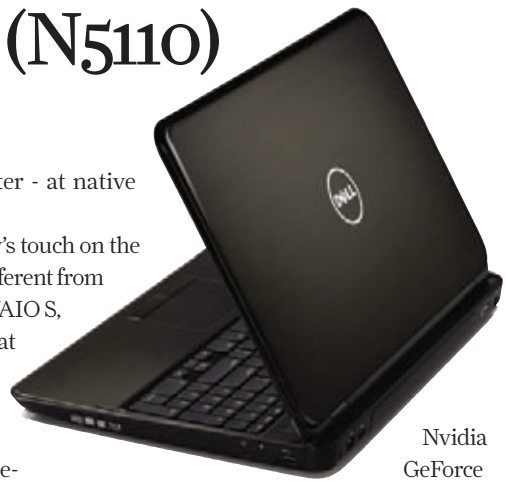
Contact

Dell India
Phone: 1800-425-4026 / 080-2510-8980
Web site: www.dell.co.in
Price: ₹41,000

6.0/10

Features	6.0
Performance	6.0
Build Quality	7.0
Value for Money	7.0

The Dell Inspiron 15R isn't drastically different looking in terms of design compared to the previous generation of Dell Inspiron 15R. The laptop sports a shiny black surface on its screen bezel, while the palm rest and the strip above the keyboard have slightly muted gloss. The Inspiron 15R's build quality is fine, given that it's Dell's value-for-money laptop segment. The laptop's screen is quite bright and evenly lit. Colours are washed out though, they don't seem optimally saturated. The Dell Inspiron 15R's viewing angles are ordinary, with noticeable colour shift. But watching movies and videos is a good experience due to the screen's glossy layer - gaming too, for that matter - at native resolution.



The chiclet key's touch on the Inspiron 15R is different from that on the Sony VAIO S, and it isn't as great as the Lenovo ThinkPad X1's keyboard, but good to use nonetheless. The dedicated number pad on the right is a life-saver if you're used to entering numbers in a spreadsheet. The Dell Inspiron 15R's touchpad is nice and wide - it sits slightly shallower than the rest of the palm rest. Its smooth surface feels good to touch and the touchpad is quite sensitive.

For day-to-day home use, the Inspiron 15R's Core i3 processor will suffice for basic multitasking. Nvidia GeForce GT 525M bundled with the Inspiron 15R makes a good case for casual gaming on the laptop. Battery life lasted 2 hours 11 minutes in our test. As long as you're not buying the Inspiron 15R primarily for video / graphics editing or 3D animation, you should be fine.

Read the detailed review online: http://goo.gl/N7LQB

Jayesh Shinde

Bazaar mini

QUICK INSIGHTS FROM INDEPTH TESTS

The Digit Test Centre receives hundreds of products every month. Each of these products is put through a series of tests, and are finally given a verdict. The final score is arrived at after considering a number of factors and evaluating them in terms of features, performance, value for money, build quality, and in the case of software even ease of use.

For better understanding of our ratings, here's a quick guide to our overall score

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

Apple kills White MacBook

That's right. Apple's entry-level, white polycarbonate 13-inch MacBook is no more. It was missing from Apple's MacBook update earlier last month.

HEADSET

Plantronics E240 Bluetooth Headset

Price: ₹2,100

SPECIFICATIONS

Connection ..... Bluetooth 2.1
Range ..... 30 feet
Weight ..... 11 grams
Audio ..... Mono

TEST CENTRE RATINGS (All Scores out of 10)

Features 6.5
Good feature set – noise cancellation, re-dial last call, volume up-down, quick pair and comfortable fit.

Performance 6.0
No connectivity issues. Worked well in windy conditions but suffered from low call volume.

Build quality 6.5
Firm earloop locks into place and rotates for comfortable fit. Looks stylish as well.

Value for money 5.5
Expensive for its features and performance.

WE SAY

6.0

The Plantronics Explorer 240 is a compact, stylish bluetooth headset to use with your phone. It's a mono type headset that can be fitted on either the left or right ear, with a flexible plastic earloop. The headset itself is quite small and has a rubber-coated eartip that sits well. Pairing the headset is quick and easy. You only need to turn it on to instantly reconnect with your phone within a couple of seconds. Voice clarity is very good but the overall audio volume is low in noisy conditions. Has some interesting features like DSP, one-click call receive and decline, and is easy to use while on the go.

PMP

Cowon C2

Price: ₹6,750

SPECIFICATIONS

Screen size ..... 2.6-inch LCD (320x240)
Audio Formats ... MP3, MP2, WMA, OGG, FLAC, APE, WAV
Video Formats ..... AVI, DIVX, ASF
Capacity ..... 4 GB

TEST CENTRE RATINGS (All Scores out of 10)

Features 7.0
It has a resistive touch screen. Supports audio, video, has a voice recorder, supports FM and houses a flash player.

Performance 6.5
Vocals and instruments sounded crisp and it has a whole range of equaliser options. Refkective screen not good for video.

Build quality 6.0
The plastic body is quite sturdy. Charging port flap is poorly designed.

Value for money 6.0
Economical for its features and the expansion slot option.

WE SAY

6.5

The C2 tries to pack in much in the tiny form factor which is good, but some things like documents, notepad, etc., seem unnecessary. The resistive touch screen feels sluggish. Support for a microSD card is a big plus. Sound quality is really good but it's not as loud as the iPod Nano. The earphone provides good sound isolation, though we feel that investing in an aftermarket IEM will bring out the best from this PMP. At its price, C2 has very little competition, but we would like to see the product under ₹6,000.

New competitor in the market

HP tries to carve out a slice in the tablet market with its new HP Touchpad and the WebOS it works on

App store a big hit

Apple's revolutionary app store crosses the 15 billion downloads mark

LAPTOP

Lenovo IdeaPad U260
Price: ₹44,990

SPECIFICATIONS

Screen.....12.5-inch matte, 1366x768
CPU.....1.3-GHz Intel Core i3-380UM
RAM..... 4GB DDR3
HDD..... 320GB

TEST CENTRE RATINGS (All Scores out of 10)

Features.....5.5
Lacking in terms of connectivity ports. Has a low-power processor.

Performance.....6.0
Basic hardware helps it deliver better performance than a netbook, but not quite close to an average laptop. Two-hour battery.

Build quality.....6.0
Built well despite being thin. Feels like a premium ultraportable with its finish.

Value for money.....5.5
Priced steeply for a compact laptop with not-so-great performance.

WE SAY

This is a thin laptop with a unique form factor - it comes with a 12.5-inch widescreen. It's also extremely light at 1.35 kg and has a stylish, premium, matte screen lid - definitely eye-catching. But the IdeaPad U260 comes with a ULV processor and performs better than a netbook but lower than a mainstream laptop. The laptop does have some useful proprietary software such as VeriFace, OneKey Recovery and YouCam. It offers standard battery performance but overall fails to impress. If only Lenovo improves performance of the U260 with better hardware, it will be an attractive proposition for all.

MOBILE PHONE

Huawei Ideos X2
Price: ₹8,990

SPECIFICATIONS

Quad band GSM, 3G, 3.2-inch TFT display, 320x480 pixel resolution, microSD card slot (up to 32GB), Android 2.1

TEST CENTRE RATINGS (All Scores out of 10)

Features.....5.5
Still works on Android 2.1 and lacks WiFi connectivity option. Has a 3.15MP camera.

Performance.....7.0
Good battery life, the touchscreen responds well and feels solid to hold. QWERTY keypad layout is cramped.

Build quality.....7.5
Solid build, and looks more expensive than it actually is. Has a slide-out mechanism for battery.

Value for money.....6.5
Price of ₹8.9k is slightly too high for a device that isn't Froyo based.

WE SAY

At a price of ₹8.9k, the Ideos X2 offers a pretty good display. Offers a combination of good battery life, sure touchscreen response and a solid build quality. However, the device is still stuck in the Android 2.1 ages. And that is a big problem, since there are a lot of rivals out there who will offer the Android 2.2 (Froyo) package for a similar price. And we are pointing specifically at the likes of the Samsung Galaxy Pop, LG Optimus One and HTC Wildfire.

MOBILE PHONE

Samsung Galaxy Pro
Price : ₹14,120

SPECIFICATIONS

Quad band GSM, 3G capable, 2.8-inch display, 320x240 pixel resolution, 800MHz processor, Android 2.2, 3.15MP camera, microSD card slot, Android 2.2

TEST CENTRE RATINGS (All Scores out of 10)

Features.....7.5
Powerful processor, Android 2.2, touchscreen+ QWERTY combo- this phone is pretty loaded!

Performance.....7.0
Never assume with the price tag. This one doesn't slow down under the load of multiple apps. Good display as well.

Build quality.....7.0
Looks plasticky from far, but feels pretty solid to hold. No rough edges as well.

Value for money.....7.5
Touchscreen + QWERTY combo, Android 2.2 and a phone that doesn't slow down.

WE SAY

The Samsung Galaxy Pro is a rare kind of Android phone with a QWERTY keypad. This phone will definitely appeal to those who text/IM/email a lot, and aren't very comfortable with a touchscreen only phone. The Galaxy Pro has a pretty sleek form factor, and the keypad is extremely comfortable to use. But be advised, the display is a bit of a disappointment. If watching a lot of videos is included in your smartphone usage diet, this one isn't for that. At this price, we would recommend this as an alternative for the Blackberry Curve 8520.

LAPTOP

ASUS N53Jn
Price : ₹68,999

SPECIFICATIONS

Processor: Intel Core i5 M540; Memory: 3GB DDR3 1066MHz; Chipset: Intel HM55 Express; Hard drive: 640GB; Display: 15.6-inch 720p HD

TEST CENTRE RATINGS (All Scores out of 10)

Features.....7.5
Switchable graphics functionality, a dedicated Wi-Fi on/off switch enhance usability.

Performance.....7.0
Excellent speaker sound quality. Average display and poor battery-life. Doom 3 and FarCry2 gave favourable scores.

Build quality.....8.0
Great build quality and appealing design justify expensive price tag.

Value for money.....6.5
Dell XPS 15 in this price range has better display quality.

WE SAY

The ASUS N53Jn partly justifies its price tag of ₹68,999 by offering you excellent speaker sound reproduction and great build quality. However, its poor battery-life and an average display will make you look at alternative choices like Dell's XPS 15. So, if you are on a tight budget and yet want the best configuration at the expense of build quality, then the Dell XPS 15 is your best bet. But, if you can afford its steep price, then you may get the ASUS N53Jn.

ALSO SEE:
1) **Dell Vostro V130**
June 2011

Cloud computing party!
IBM, DELL and HP promise huge sums for cloud research

R.I.P
Sony stops its MiniDisc Walkman, a product in the market since 1992

MOBILE PHONE

Karbonn K1414
Price: ₹3,990

SPECIFICATIONS

Tri-band GSM, dual sim, 3.2-inch display, WQVGA type, 320x400 pixels, 3.15MP, microSD slot

TEST CENTRE RATINGS (All Scores out of 10)

Features	7.0
Performance	5.5
Build Quality	7.0
Value for money	6.0

WE SAY

For a price of just below ₹4k, the K1414 appeals to someone who wants a touchscreen phone on a tight budget, with dual sim capabilities to boot. And with good looks to boot, the K1414 looks more expensive than it actually is. However, the touchscreen response can become a bit temperamental.

6.0

APP

WhatsApp Messenger App
Price: Free

SPECIFICATIONS

Compatible with Android/ Blackberry/ iOS/ Symbian, links with contact book

TEST CENTRE RATINGS (All Scores out of 10)

Features	7.0
Performance	7.5
Ease of use	5.0
Value for money	8.0

WE SAY

Android, iPhone, Symbian and even Blackberry users can use the WhatsApp messenger. This one is cross platform. If you have a lot of friends who have smartphones (well, who doesn't these days?), get them all to install WhatsApp. You'll save on SMS costs.

7.5

MyNino
Price: ₹450 per month

SPECIFICATIONS

Child-tracking mobile app, compatible with Android and BlackBerry smartphones

TEST CENTRE RATINGS (All Scores out of 10)

Features	6.0
Performance	5.5
Ease of use	6.5
Value for money	4.5

WE SAY

MyNino's installation is easy and the interface is really simple. The app is camouflaged in your child's phone and does what it claims – sends call and SMS reports from your child's phone. GPS tracking isn't great though. Plus. it charges a high premium.

5.0

SysTools OST Recovery
Price: ₹4,500 (approx)

SPECIFICATIONS

Recovery Software / OS – Windows 7, XP, 2000, Vista / MS Outlook 2000, 02, 03, 07 and 10

TEST CENTRE RATINGS (All Scores out of 10)

Features	5.0
Performance	6.5
Ease of use	7.0
Value for money	4.5

WE SAY

OST Recovery from SysTools focuses on recovering your corrupted Exchange Server emails and convert them into .pst, .eml and .msg files. After installation, the software checks for various Outlook pre-requisites. The software does what it claims to do, but comes at a steep price.

5.5

MOBILE PHONE

Spice Mi-310
Price: ₹7,500

SPECIFICATIONS

SIM (GSM+WCDMA); display 480 x 320; Dimensions: 116 x 60 x 11.9; Weight: 114 grams

TEST CENTRE RATINGS (All Scores out of 10)

Features	7.5
Performance	6.5
Build Quality	6.5
Value for money	8.0

WE SAY

Wi-Fi tethering and a superior Android platform make the Mi-310 much more desirable than its big brother, Mi-300. At a price tag of ₹7,500, this packs a cool configuration with a bigger capacitive touchscreen and superior build quality than its rivals Micromax Andro A60 and Huawei Ideos X2.

7.0

Wynncom OGO - O77 Konnect
Price: ₹4,499

SPECIFICATIONS

SIM (GSM x 2); Display: 2.4-inch, Resolution: 240x320; Memory: microSD expandable up to 8GB;

TEST CENTRE RATINGS (All Scores out of 10)

Features	7.0
Performance	6.0
Build Quality	6.0
Value for money	7.5

WE SAY

Adds an integrated platform to bring the social-networking apps - Facebook, Twitter under one roof. Throwing a good optical trackpad, display and a decent camera into the mix, the O-77 Konnect makes a worthy smartphone. At a price point of ₹4,499, we have very little to complain about..

6.5

WEBCAM

Zicom Qube
Price: ₹13,990

SPECIFICATIONS

CMOS 1.3 MP, Resolution 1024x768, Lens 4.3mm, Ports-LAN, line out for external audio.

TEST CENTRE RATINGS (All Scores out of 10)

Features	6.0
Performance	6.0
Interface	7.0
Value for money	5.5

WE SAY

Zicom Qube has sturdy build quality. The UI can be administered from a browser within the network once the camera's IP goes online. Authority levels can be assigned to control the UI, however we could still fiddle around with the settings. Given its performance it's expensive on the pocket.

6.0

Compro IP70
Price: ₹7,500

SPECIFICATIONS

Sensor CMOS 1.3 MP, Resolution 1280 x 1024, Digital zoom 10X, Ports-LAN, audio, mic, USB

TEST CENTRE RATINGS (All Scores out of 10)

Features	7.0
Performance	7.0
Interface	7.0
Value for money	7.5

WE SAY

Compro IP70 is pretty heavy on features. Setup is easy as the wizard auto detects the IP settings. Upto 32 cameras can be controlled using its software. A microSD card slot is provided to store the recording on the camera. Video recording is smooth without flickering. All in all a good camera for its price.

7.0

Chrome for Developers

We spoke to Nikhil Rungta, Country Marketing Head, Google India. He shared his insights on Chrome as a product, the innovation that drives it, and more...

How does Google Chrome differ from other browsers?

NR: We're not in the business of making comparisons with other browsers. There are already great options out there today and users will decide which browser is best for them. But here are a few things we'd like you to remember about Google Chrome. It's simple and easy to use: we've designed Google Chrome to be as unobtrusive as possible, taking up the minimum amount of space on your screen, allowing you to search and browse all from the address bar. Its sophisticated technology also makes Google Chrome fast and stable. For example, we've designed each tab to act as a stand-alone browser. So if you have lots of tabs open at once, and one crashes, they don't all go down. And its powerful new JavaScript engine, V8, helps speed up your web applications.

How fast is Chrome growing?

NR: Chrome has real momentum. Browser share has increased rapidly to 30.2% as of July 2011 (source: Weekly, StatCounter). At Google I/O in 2010, Chrome had 70M active users, at this year's I/O we announced we more than doubled to 160M (May 2011).

Why did you launch the Chrome Web Store?

NR: Google launched its Chrome Web Store in Dec 2010 and to date, we're seeing 100s of thousands of app installs a day (June 2011). We believe it should be really simple and easy for users to discover web apps and for developers to reach a large audience. The Chrome Web Store is an open marketplace to help users search, find and use the best apps around the web - including those for education, entertainment, gaming, news, productivity and more. For developers, they are already seeing some great results.

What about your relationship with Mozilla/Firefox?

NR: We remain great supporters of Firefox. After all it was Mozilla that kicked off most of the innovation we have seen in browsers over the last few years and proved that you can build a mass market software product using open source technology and through collaboration. Competitive open source projects, like Chrome or Firefox, are good for the industry because they allow developers to make advances and share them quickly. We continue to have a valuable partnership with Mozilla. Mozilla disclosed in September 2008 that we had just closed a three-year deal with them and we were pleased about that then and remain so now.

Do you think Chrome Frame is still useful on Internet Explorer?

NR: We welcome innovation in the browser space that provides richer features for users and greater support of standards like HTML5. Having great competitors makes us all work harder and at the end of the day our users benefit from that. With that said, non-admin Chrome Frame runs a helper process at startup to assist with loading the Chrome Frame plug-in into Internet Explorer.

The helper process is designed to consume almost no system resources while running. Once installed, non-admin users will have the same no-friction experience that admin users of Chrome Frame have today. You can try it yourself by installing the new non-admin version of Chrome Frame – this is now available in our developer channel and is coming to stable channel very soon.

> "The Chrome team will continue to aim to provide the best web experience for our users and will continue to focus on our core three tenets – speed, simplicity and security. The Chrome team has also always been focused on spurring innovation and pushing the web forward for all"

Where will Chrome be in five years?

NR: The Chrome team will continue to aim to provide the best web experience for our users and will continue to focus on our core 3 tenets - speed, simplicity and security. Beyond that, the Chrome team has also always been focused on spurring innovation and pushing the web forward for all (eg., our Chrome experiments and the nature of us being open source). With the recent launch of Chrome OS, we're also pushing a new model of computing, which is a long-term endeavour.

Regex in JavaScript
Regular expressions are supported in JavaScript, and can be quite useful in ensuring that the data entered by the user is in the correct format

Grep on Windows
grep can be installed on Windows as a part of Cygwin or MSYS. A standalone Windows port is also available.

Regular Expressions

"Regular Expressions" are a way of describing patterns of text that can be useful for processing text documents or when looking for a pattern and possibly replacing it with another.

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Imagine you have a rather long document with a single repetitive misspelling. Imagine a Mr. Verma is displeased that his surname has been misspelled as "Varma". It's simple enough to remedy; even a text editor such as notepad can perform a search and replace operation for something as simple as this.

However, if we start making it even a little more complicated, say we're searching for a pattern instead of a mispelling, such simple measures start to fail. Imagine having to replace every occurrence of a pattern of URLs with another pattern. For example, if due to restructuring on a website, URLs that had the pattern:

http://www.website.com/[day]/[month]/[year]/articlename.html

have been changed to:

http://www.website.com/[year]/[month]/[day]/articlename.html

What can one do? Searching and replacing won't do the trick here, and unless you are dealing with very few URLS, this is just too much to do manually. Alternatively, imagine wanting to look for a sequence of two words, while being able to count the number of times they occur in some text, the catch here being that these two words could be separated by any kind of whitespace, a tab, a space, a line break, etc. These situations are easily handled by Regular Expressions.

What are Regular Expressions?

Regular Expressions (Regex) are a way of defining a pattern to be extracted / replaced / processed in a body of text. Many programming languages support regular expressions, either as part of that language or as part of a library.

The exact syntax and usage of Regex in different programs differs, however, the basic principles remain the same. Many applications, such as Notepad++, TextPad and even LibreOffice / OpenOffice include support for regular expressions. Linux users might be aware of the grep command, which is a Regex search engine tool for your text files or input. The Linux grep command is powerful enough to let you search through the files on your system digesting data, looking for the pattern you provide.

The Basics

Since it is patterns that we need to match rather that text sequences, regular expressions give special meanings to standard characters so that they can match multiple sequences.

For example, if we want to match any double-digit number, we do that using the regular expression `"\d\d"`

Here \d stands for any numeric digit.

What if we had to match any double-digit even number though? Here we could use `\d[02468]`

Here the contents inside the square brackets define a character set, and will match any enclosed character. This also means that we could have used [0123456789] instead of \d, but there's an even better way, by using these ranges [1-4][3-7]

The above will match any double-digit number that begins with 1, 2, 3 or 4, and has 3, 4, 5, 6, or 7 as the second digit. These kinds of ranges can be used even with alphabets; [a-z] matches any small-case alphabet.

Similarly, it's possible to invert a character set; [^1-5] would mean any character other than the ones between 1 and 5. Note that any character other than 1 to 5 would include alphabets as well!

The pipe character "|" can be used to provide alternatives. For example if you're looking for occurrences of both "June" and "July" you could use `Ju(ne|ly)`

For convenience sake, most regular expression implementations have easy-to-use character classes, such as the previously mentioned "\d" for matching any digit. One of the most important ones is the period character or "." that matches any character other than a newline. Refer to the table Regex reference provided for your help.

Matching repetitions

So far, we've looked for double-digit numbers; what about patterns of arbitrary length? For those too, Regex has a way. If we need to match any number, i.e. any uninterrupted sequence of digits, we can use

`\d+`

The "\d" matches any digit, and the plus sign (+) signifies that the previous expression should occur once or more. Decimal numbers are a more interesting example. Decimals can have any number of digits before the decimal point (including no number, as .23), and at least one number after the decimal point. This could be matched with \d*\.\d+

This can be divided into three parts:

- `\d*` – Here the * matches zero or more occurrences of the previous expression i.e. \d or any numeric character.
- `\.` – We need to match a period / dot character, however that already has a different purpose, which is to match any character. To match the period / dot character itself, we need to use it with the backslash.

- `\d+` – As mentioned before, this matches one or more digit character in the pattern.

Let's say we have a text document, and we want to match the phone numbers mentioned in that document. Here we have a specific pattern with a specific number of digits. We wish to match Indian mobile numbers that take to pattern "+91xxxxxxxxxx" where each x stands for a digit. Here is a pattern match:

```
\+91\d{10}
```

Again, we had to use "\+" instead of "+" since the latter already has a special meaning in Regex. Curly braces can be used to specify the number of times the previous expression can be repeated. Here we specify 10, but we're also free to specify a range as {3,7} which would match if the pattern is repeated between 3 and 7 times. Leaving it as {3,} would enable matching three or more times.

Finally, we have the "?" character that can be used to specify that the preceding character may or may not be present. We could, for example, use this to match both the American and British spellings of the word "colour" as such

```
colou?r
```

This will match both "color" (American spelling), and "colour" (British spelling), since the "?" specifies that the "u" is optional.

Table: Regex reference

Character	Function
.	Match all characters except newline
[abc]	Match all characters inside brackets
[^abc]	Match all characters except those inside the brackets
[n-q]	Match all characters in range
\d	Match all digits
\D	Match all nondigits
\n	Match newline character
\s	Match all whitespace characters
\S	Match all non-whitespace characters
\t	Match tab character
\w	Match any word character [A-Za-z0-9_]
\W	Match any non-word character
\b	Match word boundary i.e. match between word ending and space
\B	Match non-word boundary i.e. match inside word
\	For use with special characters \\, \+, \(, etc.
*	Match preceding expression zero or more times
+	Match preceding expression one or more times
?	Preceding expression is optional, i.e. match zero or one time
{n}	Match preceding expression n times
{n,}	Match preceding expression n or more times
{n,m}	Match preceding expression between n and m times
()	Substring or capturing group

Groups

To apply "*", "+", "?" etc. to a group of multiple characters, we can use regular brackets to group them together. To match both "child" and "children" we could use Child(ren)?

Brackets also let you capture parts of an expression. Let's go back to the example we began with: URLs. We now know how to match the input URL:

http://www.example.com/\d{2}/\d{2}/\d{4}/articlename.html

The day and month are two-digit numbers, while the year is a four-digit number. But now what? We have matched the URLs we wanted to replace, but that's not enough; we need the day, month and the year matched separately so we can create a new URL. For this, we can put each of the day, month and year in separate brackets, as this will instruct the Regex engine to record each sub-match separately.

http://www.example.com/(\d{2})/(\d{2})/(\d{4})/articlename.html

Now when the Regex engine matches the whole text, it will also store the three subsets of the match separately so that we can use them later on. Each language has its own way of dealing with this, and often there is a simple way to replace all matches of a regular expression with text containing captured bits from the original string.

In this case, to perform the operation we desire, we would have to use the JavaScript replace function, and replace occurrences of the above Regex pattern with:

http://www.example.com/$3/$2/$1/articlename.html

Here the Regex engine automatically substitutes the $1 for the first captured group, $2 for the second captured group and so on.

If you find yourself using Notepad++ to play around with Regex, the above example will not work, since Notepad++ uses a different syntax. In Notepad++ you will need to use "\1" for the first captured group, "\2" for the second and so on. Consult the documentation of whatever software you are using to find out the syntax it uses.

Conclusion

As you may have come to realize, Regular Expressions are a very powerful tool indeed, and the best thing is that they go beyond just one programming language or tool. You'll find Regex-enabled applications everywhere. File renaming tools might use Regex to allow complex renaming operations, most IDEs support it, search tools as well. Once you master regular expressions, you'll find tons of applications.

What we've covered here are some of the basic principles of regular expressions. Many advanced features still remain out there for you to learn. Regex is an intricate tool, and many of its intricacies only become clearer as one begins using it.

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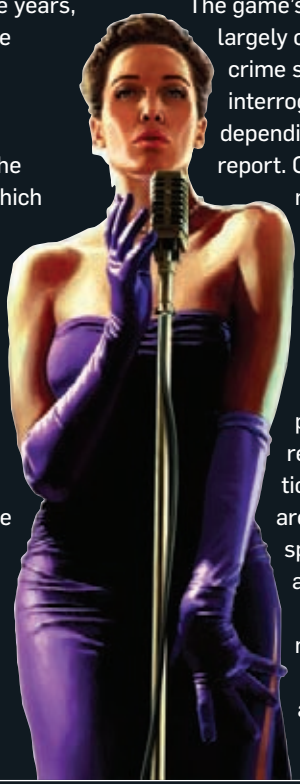
L.A. Noire marks the debut of Australia-based Team Bondi studio that was formed in 2003, which seems to indicate that the game has been in development for more than half a decade.

Since the founder of the studio is an ex-Sony employee, the game was originally conceived as a PlayStation 3 exclusive. Over the years, the industry has seen the decline of third-party exclusive games, and L.A. Noire was released on the PS3 and Xbox 360, with PC version to follow. We reviewed the Xbox 360 version of the game which comes on a set of three discs to accommodate Team Bondi's adaptation of mid-1950's Los Angeles and its denizens.

ARMED WITH INTUITION

The game starts right after the end of WWII, with player's taking control of Cole Phelps who is a decorated war hero. The game's main storyline follows the rise and fall of Phelps' career with the Los Angeles police department, and the city's seedy underbelly provides essential fodder for game-play. The game picks up pace once Phelps takes on the mantle of a detective after cracking a case as a patrolman.



The game's investigation system largely comprises of three parts: crime scene investigation, interrogation and sometimes depending on the coroner's report. Central to this mechanism is the interrogation system, while the other two provide ammunition in getting the suspects to spill their guts.

During these interrogations it is up to the player to study suspects' reactions to a question and decide if they are hiding some facts, speaking the truth or are just flat-out lying.

This is the central mechanism of the game which can make or break a case for Phelps.

BREAKTHROUGH TECH

For this the developers have used the impressive 'Depth Analysis' technology which captures the expressions of actors by 32 cameras simultaneously. The game tracks the player's progress as a detective by way of experience points and character level. Each level-up is rewarded with an 'intuition point' which can be used if and when the players find themselves in a tight-spot during an interrogation.

IT'S JUST POLICE WORK

Breaking the drudgery of routine police work are missions (or cases if you will) that involve foot-chases, car chases and all out gun fights. Other than this, there are several side-missions that are more action oriented and can be initiated by responding to a call over the police radio.

These side-missions are also a good source of racking up experience points and subsequently earning intuition points that can be extremely handy in cracking tricky cases in the main storyline.

While L.A. Noire deserves commendation for impressively realizing the game-world and solid facial animation, the game has the potential to drag at times. Ardent fans of old-fashioned adventure or puzzle game may not feel this way, but for me a few of L.A. Noire went a long way.

I found the game enjoyable in smaller doses, with longer sessions starting to feel tedious. While the game has little to no replay value, the game length runs into 20 hours with the main storyline and about equal hours of side-missions.

WHAT WE THINK

Even though the game's cover art and the Rockstar Games label may give that impression, L.A. Noire is nothing like the Mafia series when it comes to game-play. If you love sleuthing around and the idea of putting the rich and the powerful gets you excited, then L.A. Noire should be a pleasant experience.

THE SKOAR ! 9

Duke Nukem Forever

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Nukem Forever is a seriously underwhelming experience. The sequel has failed to find a respectable balance between the new and the old, and ultimately ending up in limbo.

It is hard to have a discussion about Duke Nukem Forever and not talk about the game's long and less than illustrious development history. This game was announced by 3D Realm almost immediately after the success of Duke Nukem 3D and its less popular sibling, Shadow Warrior. During the years following this announcement, Duke Nukem Forever had become something of a myth in the computer games circle, while some had simply dismissed the game as vaporware. One began to wonder if 'Forever' in the game's moniker was wishing the game's leads character longevity or was it simply a recognition of the time the game was going to take to be completed. Then sometime in 2009, financial woes forced 3D Realms to yield and the game's development was handed over to Gearbox Software by the Take Two Interactive, who had signed on as the game's publisher.

In Limbo

It is somewhat important to know a little bit about this game's development history, since it is quite evident in the final product. Over the last 14 years or so that the game has been in development, the game industry and the shooter genre has seen significant changes, especially since console has been overshadowing PC as a gaming platform. Duke Nukem Forever feels like a compilation of FPS Greatest Hits of the last decade, along with a desperate attempt to retain its classic shooter identity. Duke Nukem 3D's fame can be attributed to a mix of a memorable character, high-level of player interactions with the game-world and innovative weapon's design. In comparison, which may or may not be fair, Duke

The Duke and the King

This game picks-up after the events of Duke Nukem 3D, during a time when Duke is largely hailed as a hero for rescuing Earth from an alien invasion. Now, Duke Nukem has a palatial abode, twin female pop-stars as his personal 'aide' and his own casino. The effect this has had on Duke is that he now relies on his ego, instead of his health, to shrug-off enemy fire. On the other hand, his capacity to carry an arsenal of destruction has been significantly truncated. It seem like in an attempt to fit in with the console crowd, Duke Nukem can carry only two weapons at a time; while some weapons have taken the form of collectible inventory items, alongside stat boosting items like beer and steroids. Health pick-ups have been eliminated and instead the game employs regenerative health system, which in this case is called ego bar.

Gun battle set-pieces are a mixture of good, mediocre and down-right frustrating with spiking difficulty levels. Furthermore, for a shooter game, there are a bit too many annoying platforming sequences. Renegade attitude of Duke Nukem, along with trademark crass humor has found home in the sequel. However, depending on one's threshold for such things, some attempts at humor in this game may seem tasteless. Looking at Duke Nukem Forever as a game in itself, rather than a sequel, it comes out as a half-decent game. If you do feel like playing this game just to part of this industry's history, then we highly recommend doing it on the PC.

THE SKOAR ! 4

Top 5 Google circle names

People I'm ashamed of,People I stalk,Disturbing large noses,Have restraining orders on,Aliens inhabiting humans

Heart with no beat

Texas Heart Institute have developed a heart that does not beat, the person is dead by all external medical tests

Mind benders

Robo Rats

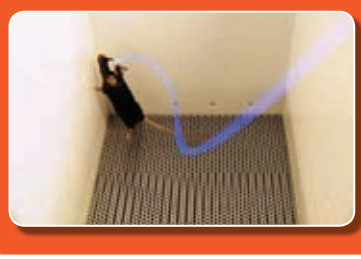
Researchers at the university of New York created remote control rats that can be steered wirelessly to reach quake victims. A receiver is strapped to the rat's back and commands are sent directly to its brain: one to the pleasure centre and the other to the cerebral region that controls direction.

Project Pandora

As part of a CIA project Dr. Jose Delgado developed ways for two-way transdermal communication with the brain (on humans)! He used microwaves to remotely affect mood and behaviour.

Optogenetics

The fusing of optics and genetics makes neurons in the brain respond to light. Scientists have been able to insert genes taken from photosensitive algae and fuse them with those of a rat, making the creature literally dance to their tunes at a flash of light.



The web's most annoying

Badger badger badger

An animation that will leave you in splits is that of the badgers doing a weird dance/exercise routine. There's something about this video with the mushroom and snake. Until it gets annoying. Really, really annoying. http://www.badgerbadgerbadger.com/

The web's most annoying Cat

When you watch this video, you'll find yourself nodding along to the initially catchy tune. Then you begin to wonder why you're looking at a cat that's through space while farting a rainbow. And why in hell is the kitty's body a pop tart ! Before you pull out your hair switch the damn thing off! http://bit.ly/np371z

Charlie the unicorn

Charlie the unicorn makes for a great prank. Show it to a bunch of friends and you'll laugh your guts out looking at their confused expressions. It's annoying as hell and tells the story of Charlie the unicorn as he is conned by two other smaller unicorns. http://bit.ly/nXHBcU

Top three idiotic trends

Planking

Planking is an activity in which people lie down face down in the weirdest of places; from city streets to escalators to historical monuments. Why? No clue.

Owling

If anything can be more useless and idiotic than Planking, it has to be Owling. Essentially a variant of Planking, in this activity, instead of lying face down, morons sit hunched up like owls. Hence the name. Innovative innit? Not.

Extreme Ironing

Extreme ironing is apparently an adventure sport that combines the thrills of extreme sports with the satisfaction of having a crisply pressed shirt. People take an iron and an ironing board to the most weirdest of places to press clothes.

Hacktivists strike again

Around 8GB of "secret documents" have been stolen from an Italian cybercrime unit under the CNAIPIC by Anonymous

Killing the code killer

Corey Starliper claims to have broken the 41 year old mystery of the Zodiac Killer who preyed on couples in Northern California

How we unwind

The Adventures Of Rain Dance Maggie

The first song from Red Hot Chili Peppers since the departure of beloved guitarist John Frusciante. This song from their upcoming album 'I'm With You,' had us pumped up all month.

Game of thrones

We've been so fascinated by this Fantasy series about Kings, Knights and Dragons that we've been giving each other cer-emonious titles. Nimish is now "Nimish the brave, Warden of the Testing Realm"

Beavis and Butt-head

Call it nostalgia or an insane desire to be moronic. Whatever the reason we can't stop LOLing at this old favourite and cult series that most of us remember from the by gone MTV era. Do tune in for a dose of mindless humour

digit DIARY

On one of those rainy nights, when test PCs are quietly humming away to the tune of the hour long PC Mark benchmark, we engage in an act that can almost be called deplorable. Before your imaginations run wild, we'll cut the buildup. What we do is engage in some serious bouts of trolling on a certain anonymous video chat website! Its oodles of fun. Nimish discovered his inner rapper with his "ayo man" and "yo yo wazzup", while Sambhav found his talent for faking a Jack Johnson song on the acoustic guitar. Watch out, you might run into us soon...

ENJAY

Powering Desktops with Linux

Migrating Desktop Users to Linux

Free Site Analysis

- To Know the **%** of Migration Possible in an organisation
- To Know the estimated cost of Migration
- To Know about approximate savings on Software Licensing
- To Know the Process of Migration
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facebook : enjaylinux

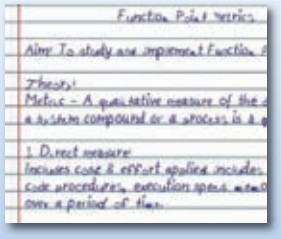
The flight dream
Filght Gear is an open source simulation software that lets you fly a plane the way professionals do

Community designed Cars
Toyota has joined hands with The Linux Foundation as a gold member to provide better dashboard computing and infotainment

Software from the Digit Community

This time around we feature two applications built by members of our community. Keep sending us more of your software creations!

Automatic Assignment Writer



Writing by hand is so last century right? We think so too, and probably so does Digit Reader Pritesh Desai, who has come up with his own Assignment Writing Application. "Simply paste or write the answers and this baby will spit out pages with real handwriting in blue/black ink". He's having a bit of trouble making the prints look like real pen ink and is seeking the help of the Digit community. Any solutions? For more info: http://bit.ly/aawriter

Eagle Eye: Gesture Recognition Software

This neat little software designed by Digit reader Ashish Kapoor, is built in .NET. Using the software he has been able to control mouse movement and clicks, change volume, change PowerPoint slides, zooming in and out of images, and even playing simple flash games, etc. all via gestures. More info: http://krunchd.com/eagleeye1

A dark future

Captain Atul Bhatia, pilot and Digit reader wrote a modified version of our Future of Technology stories from the Anniversary issue.

For Monica Dutta this has been a demanding day, but nothing that she could not was away in a warm bubble bath. She flipped a switch as she entered the bathroom, thankful that she had insisted on having at least one point working off the old manual system - she'd been after the electrician for the past week to get the automated lighting fixed, but he seemed to be perpetually busy handling problems of 'more important' people in the society. As she stepped into the water she nearly shrieked - it was freezing cold! Must have been the load shedding extending into the later part of the evening. Sighing, she dipped her immersion rod and settled down to read the newspaper. Yikes; her tablet's battery was low since she'd lapsed on her credit for recharging-on-the-move.

A few kilometers away, Agent 001 chafed in the front seat of his Smart Car. The traffic stretched away to infinity - he'd been stuck in a jam for the past two hours. Information streaming in over his reading screen had told him an hour ago that the traffic police' TRACON system had malfunctioned yet again - the fifth event in the past four days - and that there was no information on how long it would take to clear up. He'd heard on the grapevine that the police had not yet renewed their AMC for TRACON maintenance as a result of allegations of corruption in the e-tendering process and that the maintenance company had walked out after a month of maintaining the system gratis. Since then, his screen had dimmed and gone into power saving mode and the temperature inside the car had risen a few degrees - the nearby power tower had failed and power was being supplied in reduced mode from a tower further away that was operating at peak load. He had tried getting out of the car but the onboard computer had deemed it unsafe and locked the doors.

In Navi Mumbai, Baiju anticipated the weekend ahead cheerily. He'd called his friends over for a movie. As he switched to pixel cloud mode he got nothing! A glance at the WiMax meter confirmed what he'd been dreading - there was no internet2 connection! Impatiently, he picked up his 3-D cellphone and dialled the company's helpline number, only to hear a voice say "all lines on this route are busy". As Baiju put the phone down, his doorbell rang; it was the first of many friends Baiju had to inform that instead of the QLED/Hologram movie they were intending to see, they would have to make do with what was running on the old LED lying in the corner.

Monica's dad on the other hand had dropped off the electronic grid voluntarily a long time ago. His needs were few - cellphones and laptops had left his life; the house ran on a personal windmill he had installed. His bank account remained at minimum balance since he withdrew all his pension from the ATM on the first of each month.

Far fetched tale? Methinks, not. Concessions to futurisms aside, all of this has happened to me in some form or the other in the recent past. I find that technology has thrown in more problems than it has solved. Interestingly, the problem lies not with the technology itself - it is but a tool - rather, it lies in the way that we are wielding that tool. This is a human problem, and unless we humans see how best that technology can be exploited, rather than in terms of how much money that technology can 'make for me', I see a dark future ahead.

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Types of cameras

We all have a photographer somewhere inside of us. With the advent of camera mobile phones, any one of us can be a trigger happy photographer making leisure photography prevalent. Phone cameras still do not match up to a professional grade camera and this is where we come in.

You might have heard a few terms often used in photography conversations. If you can't make head or tail of what's going on, then the guide below is for you..

dSLR: It stands for Digital Single Reflex Camera, which means that it has single lens for both viewing and taking pictures. Reflex refers to the mirror which makes the use of a single lens possible to take and view images. You can attach interchangeable lenses, add on flashes and other accessories to a dSLR. While using a dSLR, there is minimum chance of parallax error which is generally experienced in TLRs and rangefiders.

TLR: TLR is an acronym for Twin Reflex Camera, it uses two equal sized lenses for taking and viewing pictures. TLRs are twin eyed cameras, it uses a film larger than 35mm. The lower lens of the camera focuses directly on the film while the upper lens produces the image which is reflected through ninety degrees by a mirror.

Point and shoot: A point and shoot camera does exactly what its name says - it points and shoots. Abbreviated as P&S, they started out with a fixed lens which pointed up to four feet in front. It had a fixed aperture and shutter speed. P&S cameras have come a long way since then today they are digital. P&S cameras are fully automatic and can be used without any concern for settings.

Rangefinder: Cameras falling under the rangefinder category are high end cameras and are used by photography professionals. As these cameras are professional grade they offer a variety of settings to tweak and play with. However these cameras have a limited

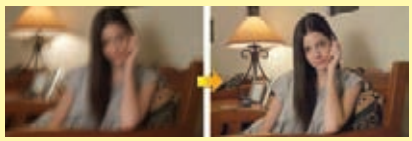
focal length which ranges from 21 mm to 135 mm they also suffer from parallax issues with nearby objects. Rangefinder cameras are expensive to own and maintain.

Mirrorless inter-changeable lens camera: These cameras are fall between the point and shoot cameras and high end dSLRs. As the name suggests, Mirrorless camera's do not have

the mirro, which helps in reducing the camera's footprint. They house larger sensors than the traditional point and shoot compact cameras. They are also known as Compact System Camera or Electronic Viewfinder with Interchangeable Lens (EVIL) cameras.

Camera terminology

Image stabilization: Cameras today



offer all kinds of powerful features like image stabilization. It basically reduces or removes the blur which occurs due to jerk while clicking. Image stabilization makes the picture less blurry. Some SLRs offer mechanical image stabilization which can be used with any lens.

Face detection: Almost all the cameras today have the face detection feature which clicks the picture after focusing on the face, to set exposure and colour balance. This results in a clearer, well focused face in the image. Some cameras have this feature activated by default while in others one can turn it on.

ISO: ISO setting expresses how sensitive the sensor is to light. ISO settings are available from ISO 100 to ISO 3200 and some ranges are greater particularly in dSLRs. With a higher ISO you have more control over the aperture and shutter speed. High ISO on point and shoot cameras suffer from image noise as they have a smaller sensor than a SLR.

3D capable cameras: 3D cameras capture two different images each having a different perspective to the right and the left eye. This gives the images the necessary depth required for a 3D still.

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