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# The new you



Robert Sovereign-Smith  
Editor

**"Just like you did with Crack the Code, you're going to have to experiment, evolve and think out of the box if you're going to succeed at our latest challenge."**

Last month's Crack the Code contest was a lot of fun for all of us at Digit. To be honest, we expected the fun, but we were quite pleasantly surprised by the way you reacted to the game, and some stories of how the game impacted you were really touching.

It was heartening to see thousands playing the game, writing in to ask for clarifications, getting stuck and expressing frustrations at times, and then watching, as you had light bulb moments and finally got the answers. I saw forum posts that complained about my tardiness at uploading clues, and answered heartfelt pleas of help with the "DVD clue", from those whose subscription plans didn't include the DVDs.

There were father and son duos putting their heads together, collaborating to try and crack the code and as a result, spending quality time together – how often does that happen these days? It was fun watching you interact with each other on Facebook, Twitter and our forum, helping each other out with clues, and sometimes even taunting each other for not being able to solve a step. Some of you even bunked work or college just to play the game (not something I condone, by the way), but I would be lying if I said that it didn't make me smile from ear-to-ear.


This was a contest that required everything from common sense and search proficiency, to basic coding skills and some general knowledge, and all of you who participated did a wonderful job. The winner will be announced next month, but I am most pleased to see so many requests to run similar games in the future, regardless of whether we give away prizes, or not. Overall, the feedback we got was that a lot of people had a lot of fun – some learnt to stop over-thinking things, and started looking at the obvious solutions first, but everyone learnt something new.

We're glad that you like a challenge, because we've got quite a few more challenges lined up

for you in the months to come, and not just with games like Crack the Code. This was just a good way to start, but we're going to steadily make the challenges a lot harder. In fact, we're starting this month off with one of the toughest challenges you will ever face...

This month, we challenge you to improve yourself.

Just as you've seen Digit change avatars over the years, we've noticed the same about you. You're buying more technology products than ever before, and you're using tech almost every waking minute of your life. However, it's not like any of us have a choice. Whether in school, in college or at work, the prerequisites in terms of technology skills have skyrocketed, and a lot of us are forced to adapt. Based on years of feedback from you, it's become apparent that although technology is impacting all our lives, not all of us are using it as optimally as we could. Technology can play both Jekyll and Hyde, and which avatar it dons is often up to you. Use it correctly, and it can propel you to success; and if you don't, you're likely to stagnate – which in this day and age is as good as failing.

This issue will try to point you in the right direction, with some ideas on how technology can help you improve yourself. However, these are by no means exhaustive, or some sort of magic pill to solve all your problems. Just like you did with Crack the Code, you're going to have to experiment, evolve and think out of the box if you're going to succeed at our latest challenge. There's no Rs 10,000 prize, but I'm still pretty confident that all of you will participate, because there's no reward more valuable than You 2.0. 

  
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**Cover design**  
**PC Anoop and Anil T**

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

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## PRODUCTS REVIEWED THIS MONTH

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Ricoh Aficio SP C232SF  
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MARCH 2010

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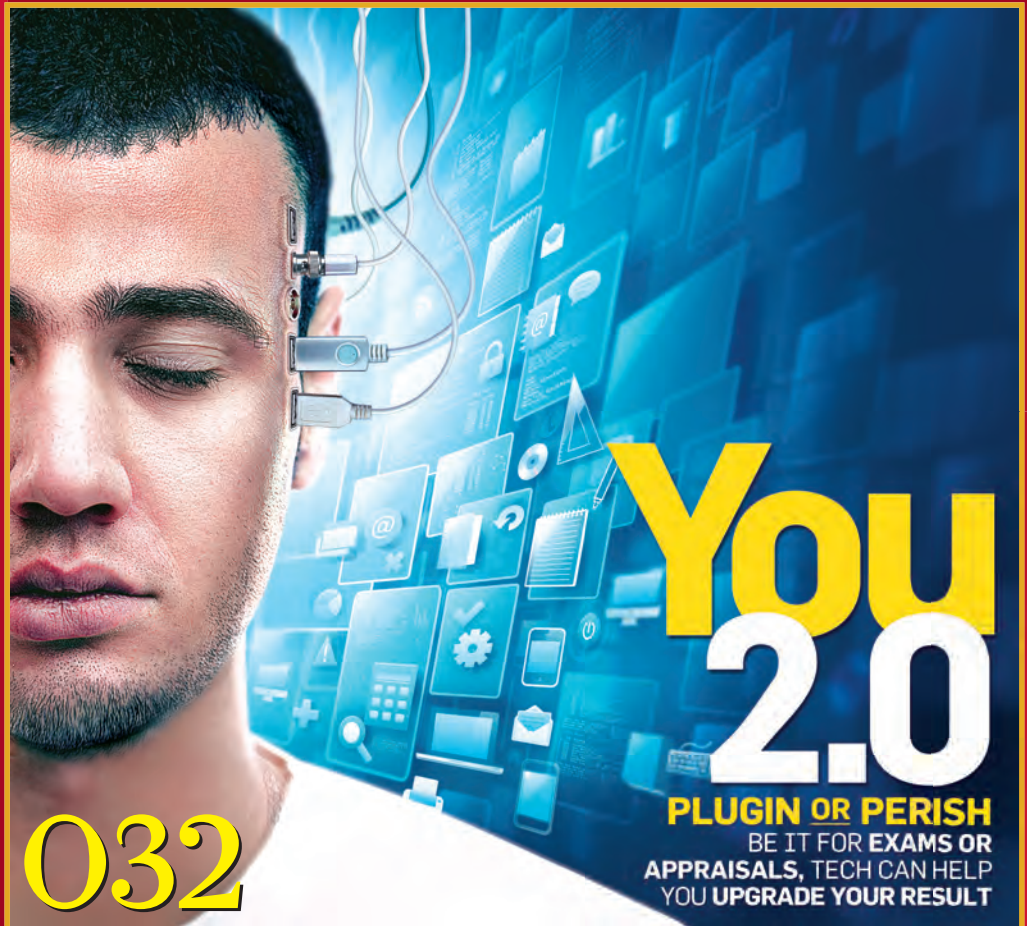
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As tough as it gets



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**READ THE FAST TRACK FOR DIRECTIONS**

- Bevy
- DictionaryCleaner
- Notify
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- Slife
- Tangerine
- USB Overdrive
- VideoDrive

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## Mobile watch Mass Effect 2

Read up on the Samsung Wave, the HTC Legend and more

We get our hands (finally!) on the long awaited sequel to Mass Effect.

**digit**  
DVD  
OPERATING SYSTEMS, FREEWARE, VIDEOS, MUSIC, GAMES AND DIGIT TV EPISODE 5

**CONTENTS LISTED**  
ALONG THE SIDE

**India's Fastest  
Wireless Internet**

Turn over to page 37



## My sunny balcony

An enterprising group of friends cash in on designing small urban gardens for busy professionals.

✉ I have become a big fan of Digit over the years. I just completed reading your feature on credit card security. I have got my credit card two years ago from the Bank of India. I was never informed that I needed to sign on the back of the card, and did not know about it till I read your article. It wasn't even mentioned on the papers I received with it. I have used it almost all over the country. The only security measure suggested by the Bank was to change the pin number. Thanks to Digit, I have signed at the back now. I contacted my bank, but even the representative was unaware of signature requirement.

This is the best edition of Digit I have purchased. I think you should start the movie section like you did a couple of months ago with the article on Batman & Iron man. Also you should improve your game section.

My parents don't allow me to subscribe. I have to buy the magazine from stands every month by saving pocket money. But for the past few months your distributor doesn't send Digit to my city. I live in Sawantwadi in Sindhudurg dist. I am hoping you will look into this matter, since I only get to buy Digit when I visit Ratnagiri or Mumbai.

I like the Fast Track, and anything written by Agent 001. I also like the info you give in the upper and lower margins. So, my best wishes are with your team for your future work.

Chetan Rawool

**d** Checking the signature on the back of the card is just one of the elementary security measures that we hope to see everyone do. Thank you for your valuable feedback, and we will work on our gaming section, as well as our distributors.

Robert

✉ To receive RSS (Robert Sovereign-Smith) feed as an e-mail was a real surprise. Spending almost 10 years with Digit seems to be a very wise decision indeed. If I look at the first issue (yes I still have it) and then look at the latest one there is one striking similarity. The unmatched, absolutely top class quality of the contents. Other than that everything has changed. It has changed



so subtly that I noticed it only when I saw your letter today. What has Digit done to me:

1. It has made me experiment with my desktop. I put in Linux which had come with one of the issues in 3 CD pack.
2. It has made me ask questions of my system assembler that leave him gasping for air
3. It has made me want more and more... What I am really looking forward to is some details on

1. Data room concept and its downsides if any
2. Different security options for a service or knowledge based company to ensure that data theft is prevented. Like some companies use RSA tokens for employees login in from outside office
3. Cloud and how to use it. Not the concept. Actual use.
4. GPS (india) shoot out

PS: I am about to use Open solaris.....

Chirag Bakshi

**d** Thanks for writing in with detailed feedback. Glad you enjoy our content.

Nash

✉ I have been reading Digit for quite a while now — about 8 or 9 years. To be honest, the first computer I purchased was just me trying to be cool and to be

## Industry Connect

We speak to Hari Krishnan, Country Manager of LinkedIn, on the newly opened India office.

able to boast to my friends that I have one! It was only after I started reading your magazine that I really got deep into computers. I read the editorial last month about how you got into Digit and technology in general. It was really fascinating to read something so true and coming from the heart. Not very common these days is it? I would like to commend you on the fabulous work you and your team has been doing, and I wish you and Digit a very happy and prosperous future. Keep up the good work guys.

I have a question, I have a pc running intel dg35ec motherboard, Intel core2 duo 2.8 processor, 2 gb kingston ddr2 800 ram running in dual channel mode. I don't have a graphics card installed and use the onboard graphics. I am an avid fan of fps games, could you kindly suggest which games I could play on my configuration with decent frame rates. Could you also suggest a decent graphics card for my system? Maybe in the coming months I may be able to own one.

Keep it up guys. You guys are doing great, don't let anyone tell you any different!

Vivek

**d** Thanks for your words of encouragement! You will be able to play a lot of games on your existing system, albeit older ones. Some of the games we

## Industry Connect

We speak to Chris Chelliah, of Oracle India on the new range of Exadata flash servers

enjoy playing are Serious Sam, Deus Ex, Quake 3, Unreal Tournament, Portal and Torok 2. Pick up some of the older games, and you should be just fine.

The HD4770 is a great buy, or try the costlier HD4850 as your graphics solution.

Robert

✉ I was a regular Digit reader from 2004 to 2007 but stopped buying after I got a broadband connection. Now I have started buying Digit again from January, and I am happy to say that February issue was brilliant even without the game reviews. Also the cover was just so awesome. Kudos to whoever made it. Thank you Digit for the superb issue. Keep going!

Satpal Singh

✉ I am extremely glad to be one of Digit's oldest readers. I have been an avid Digit follower since 2004. I just happened to glance at the cover of the magazine, when my cousin took it to his friend's place. By the look of it, it was tempting to steal a look inside the magazine. But, I wouldn't do that in front of my cousin and his friend. The curiosity to read this magazine grew bigger, as I tried to hide from it. Without my own knowledge, growing curiosity changed into a craving thirst and lead me to the news stand to get my first copy of Digit! That was the day I became a die-hard fan of Digit. Very soon, I found myself frequenting the news stands and buying copies of Digit. Finally, this arduous task of running around lead me to be a regular subscriber and I got myself a 5 year subscription without thinking twice! Someone might have thought I was crazy — but, that wouldn't stop me.

I just want to thank Digit for their amazing work over the years and also their perseverance for excellence. The work on 'Digit TV' is really shaping out well. I truly enjoyed Episode 3 in the Jan 2010 edition. It turned out to be the best episode I have seen so far. As a word of suggestion, I would like to see more tech-gadget reviews and PC game reviews on DIGIT TV. Also, please try to include at least one happening innovative

✉ When I first saw the cover of this months issue I was very impressed. I had written to you some time back on how bad the cover designs were! This was simply the best cover I had seen on any tech magazine for a long time. The creative team of Digit seem to have got promotions!

After I bought the issue I was even more surprised to see how you had used that cover in an interactive way in crack the code sections. That was a stroke of

technology review on Digit TV. In addition, kindly include more game demos on DVD, for the most anticipated games like Bioshock 2 - Sea of Dreams, Dark Void, Half-life II - Episode 3 Etc. Of late, there is a dearth for good game demos on Digit DVD. I hope Digit will continue to deliver top of the line technology content and game content to its avid fans all over the world. Wishing all the best to team 'Digit'!

Vinod Yalburgi

✉ Thanks for your loyalty. PC Demos of the games you mentioned are not out yet. We keep an eagle eye on new demo releases, and rest assured that you will get the best of them on our DVDs.

Aditya

✉ I have been reading Digit for the last 5 years. Since I joined college a year back, I haven't been with Digit all the time. The price was a deadlock. But my love for the magazine has not lessened a bit. The reason for this is that Digit was one of the magazines in a set of magazines that I was gifted on my birthday. I have two suggestions for Digit:

Cover news online. There is no point of having detailed news in print. I don't want to see what happened in CES or the latest device rumor in Digit. Sites like Techcrunch, GigaOM, Engadget, etc. do that for free. I want Digit's analysis - one where the Indian context is kept in mind.

Second, when you publish an article, give links to all the photographs that you publish. For example on Pg 26 of Jan 2010 issue where you are showing Pranav Mistry, or Nokia Morph, give links to these things if you can't accommodate their names in print. Maybe make

sheer genius! Hats off to whoever came up with this idea. I am having a adventurous time reading your magazine and cracking the code. keep up this fantastic work. If I start writing adjectives for how exciting your new style is then I will fall short of words.

Great Work guys!

Hope to see much more fun in the same lines in the coming issues!

Rizwan Mujawar

bit.ly/digit as standard and then only print the remaining part with every pic. I want to know what all those pics are showing. And unless Goggles go mainstream, links have to be there.

Hope you find the suggestions useful.

Rohit Mishra

✉ We do cover news online at thinkdigit.com, and it's one of our most important online strategies. However, not covering news at all in the magazine is not really a luxury I have. Like you, I too felt that news wasn't important in a magazine, and thus when we re-designed, I reduced news to a minimum. Digit is filled with analysis, as often as possible. However, based on reader feedback, we know that the majority of Digit readers are not blessed with the bandwidth you and I may take for granted.

Besides, when talking about lakhs of readers, demographics go for a toss. It's almost impossible to nail down our readership to a nice neat little definition — no matter how hard we try. From 9-year olds to 90 year olds, those working in tech to those absolutely not affiliated with tech at all, and from CEOs of companies to housewives, we have Digit readers as varied as those that read daily newspapers.

In short, the magazine will always have some news element, but it's already reduced from over 10-12 pages before the re-design to a mere 3 or 4 now.

As for the images, we're trying to improve our printing quality and trying to ensure that images are as large as possible. Most often we shoot our own images, or get them from PR firms (if from abroad). Linking every image might not be possible, but we'll try and find ways to make digital versions available more often. Perhaps on the DVDs! We'll continue to try and improve the printing quality.

Robert



**50 million tweets**

Popular microblogging site Twitter has crossed the 50 million tweets per day mark which works out to 600 tweets being sent each second.

**A tablet with Core i7**

Toshiba's Portege M780 hybrid tablet PC has a 2.66GHz Core i7 processor.

# My Sunny Balcony: Green thumb grows into a fruitful business

## Planting their way to success

Shreyasi Singh

readersletter@thinkdigit.com

When friends meet for coffee, big plans and even bigger dreams often brew. And sometimes, the caffeine kick may last long enough to change lives and cities. Ask 31-year-old Reena Chengappa and her band of boys, Shailesh Deshpande, Sriram Aravamudan and Athreya Chidambi. In December 2008, the four friends, all from Bangalore, nurtured one such session to grow an idea into a business venture.

Nature lovers and spirited eco-travellers all, they founded My Sunny Balcony, a garden consultancy, to design dream gardens for busy, urban professionals, and create little patches of green in concrete balconies across Bangalore's expanding high-rise suburbs.

"With so much construction you see felled trees everywhere here... This was once a city of bungalows with front lawns and backyards. We wanted to bring that back, to supplant our loss. It's a simple idea really. We have moved the front garden up the elevator to the balcony," explains 40-year-old Deshpande, also an environmental consultant.

The idea quickly bore fruit. Within a year, My Sunny Balcony has done over 30 concept balcony and terrace gardens in themes as varied as Zen, European and traditional Indian. An impressed customer base and an effective digital viral marketing strategy have ensured a steady stream of future projects. "This is not what we visualised. We began My Sunny Balcony as a weekend enterprise, a hobby. But, the response has surprised us. And now we mean business," says Chengappa who quit her Infosys content design job to work

full-time here. She says they broke even with the first project and are now "minimally profitable".

Thirty-three-year-old Aravamudan, a former software techie tries to decode their success. "We have been extremely lucky because we have hit the market at a time when there is a huge consciousness to go green. Our work ties in with that ethos." He too works full-time in the business now. The other two founder members, Deshpande and Chidambi, a web designer, have kept their day jobs and pitch in part time.

And, it's already time for reinforcements. My Sunny Balcony gets up to 20-30 enquiries a week but can manage only two or three client visits and two garden executions every week. It's also looking out for an intern garden designer who can independently execute projects.

None of this is surprising considering how no-fuss it really is to get your dream garden without once leaving home. The team begins with a site visit to analyse a client's needs, assess the area and understand their aesthetic sensibilities. Within a day or two, a garden design, which takes into account which plants to choose, what materials to source and custom made elements, is sent to the client. Fifty per cent of the project cost is taken in advance to buy raw material and the garden then typically takes a day for execution.

"We have done gardens in two



The Floral Four (L to R) Shailesh Deshpande, Athreya Chidambi, Sriram Aravamudan and Reena Chengappa get 20-30 enquiries every week.

days flat. All our gardens have been finished within two weeks of first meeting the customer," says Chengappa. A garden from them can cost anywhere between Rs 9,000-20,000 for a small balcony and Rs 50,000-Rs 60,000 for a terrace garden.

Now, plans are afoot to launch an online store that sells modular gardens. "We want people to come to our website, see our various theme garden design tips and order bamboo fencing, pots, wrought iron parapets to install their own gardens," says Deshpande.

A Gift-a-Garden option is also being worked out as is the vertical of annual maintenance contracts for the upkeep of gardens. They would like to expand to other cities but Aravamudan admits it's going to be tough with their existing skill set.

All you garden lovers outside Bangalore can rest assured because the wait is unlikely to be long. With what they have achieved so far, greening base patches is barely a challenge for this team. **d**

**144 PB storage**

Compact Flash Association has unveiled the Compact Flash 5.0 specification which has a theoretical maximum capacity of 144 peta bytes

**Transcend StoreJet 35T**

Transcend launches StoreJet 35T capable of transferring at 42MB/s at Rs. 14,000 for the 1.5TB drive.

# The Shoe Spa

## Shining the world, one pair at a time

Shreyasi Singh

readersletter@thinkdigit.com

It's easy to take a shine to Tabish Ahsan and Saral Budhiraja. They are young, ambitious and have a definite spring in their step. The happy feet aren't surprising considering Ahsan and Budhiraja run The Shoe Spa, a specialised shoe cleaning and shoe repair service they founded in July 2009.

The Shoe Spa claims to transform old shoes into a shining new pair. The process, which the young promoters guard zealously, includes several steps like conditioning, massaging and moisturising to keep your soles soaring. Little wonder then that the company tagline reads, "We don't just clean your shoes, we give them a spa".

Management graduates from the Indian Institute of Planning and Management, Delhi, Ahsan and Budhiraja, were not groomed to fill these shoes. When they passed out together in April 2009, they were buffed up for lucrative corporate careers. Through campus placements, 22-year-old Ahsan bagged a job with a tourism and retail management company, while 23-year-old Budhiraja was set to join a market research firm. But, both their employers kept deferring joining dates.

The idle time allowed innovative rethink. Budhiraja had been toying with the idea of setting up a shoe cleaning business and felt this was a good time to step in. "Shoes aren't a necessity item now. They are about luxury, indulgence and making a style statement. I was sure people would pay to preserve their favourite pair." The spa, he believes, caters to this loophole in the market. One evening, he called Ahsan, a close friend from business school, to pitch his idea. "He asked me if I would pay Rs 50 to get my sneakers cleaned. I said no way. And told him nobody else would either," laughs Ahsan.

Budhiraja's prodding soon converted

him, and the duo began an interesting journey of experimentation. They trawled through upmarket shopping streets and dingy, crowded wholesale markets in Karol Bagh to discover the best cleansing items.

Equipped with some of their find, they used their family for market research and pleaded with them to pass up their shoes. They charged Rs 50 at first but quickly hiked that to Rs 80 and then to Rs 100 as they got better.

Convinced they could give old pairs a new lease, Ahsan and Budhiraja once again turned to family, this time for seed fund, to set up a workshop in Noida.

They began operations with Rs 3.5 lakh to buy equipment, get a website up, and print branded flyers and shopping bags. The first 15,000 flyers were distributed in Noida's posh Sector 15A. "Nothing happened the first two or three days. There were no calls. But, suddenly we started getting customers," says Ahsan.

Nearly two lakh flyers later and a service that has expanded to Delhi, The Shoe Spa now gets 15-20 pairs of shoes daily. In fact, in October 2009, the duo got more than 50 shoe orders in a single day.

A basic shoe spa is the signature treatment. Shoe moisturising, shoe waterproofing and shoe repair services are also on offer.

Customers can call them or leave a message on their website ([www.theshoespa.in](http://www.theshoespa.in)) to buy these services. A delivery boy brings the shoes to the workshop, which was shifted to Civil Lines in September to serve Delhi neighbourhoods better. A diagnosis is arrived at.

"We call the customer to tell them

what's needed," Budhiraja explains. A basic shoe spa costs between Rs 150 and Rs 225. Each add-on service is additionally priced. Ahsan and Budhiraja now employ around five people, mainly cobblers and a supervisor, to run the workshop.

Over the last six months, Ahsan and Budhiraja have put in around Rs 5 lakh into the business. But, recovery and profit maximisation are not a big concern for now. "We don't charge our customers if they are not satisfied. We want to deliver the best quality. We learn every day and we improve every day," says Ahsan.

On the heels of that sentiment though is a quiet confidence. "The Shoe Spa is going to be a big brand if we can survive the next couple of years. We want it to



Sporting Happy Feet Tabish Ahsan (L) and Saral Budhiraja hope to improve their online order system in the next three months.

be all over India. The expansion will happen," Budhiraja asserts.

A bigger workshop, more new machinery and an improved online order system are the definite goal posts for the next three months. Ahsan and Budhiraja think they can manage much of this with little outside help.

They are wary of "doing PR" and want to grow as organically as possible. Although they have started talking about a bank loan recently, they haven't worked on a business plan geared to seek organised funding. **d**





### Vodafone 150 at Rs.700

Vodafone is all set to launch the world's most cheapest handset at Rs.700 named Vodafone 150 which supports voice calling, SMS and mobile payment option.

### Lian Li USB 3.0 Cabinet

Lian Li launched the world's first USB 3.0 cabinet named PC-A77F Full Tower Chassis which has 4 USB 3.0 ports.



Deepesh Agarwal wants to spread his cab-pooling service to Delhi and Bangalore

#### Shreyasi Singh

Last summer, when most students were preparing to leave the landscaped campus of Indian School of Business (ISB), Hyderabad in pursuit of high-flying corporate careers, Deepesh Agarwal and Amit Gupta were getting ready to test their "cabpooling" idea on the incoming batch.

Agarwal, who majored in entrepreneurship at ISB, was not willing to accept that shared transportation as a concept had failed in India. It was just not presented correctly, he believed. The hammer hit the nail bang on. "Our shared cab service was a hit. We had 120 students sharing 60 cabs, saving Rs 36,000 and 200 litres of petrol in a single day," he recounts. A quick market research carried out by the duo on 200 people in Delhi, Bangalore and Hyderabad, showed that the idea was worth pursuing in terms of business. The survey found that nearly 65 per cent of the people were willing to share a ride.

After some tweaking of the initial model, RideInSync was launched in September 2009. The service packaged the basic virtues of carpooling — dip in transport costs, congestion on the road and carbon footprints — along with the option of choosing co-passengers to and from a common destination. The entire service can be accessed through a mobile phone or laptop.

## RideInSync

### Share a cab, choose a partner, choke the jam

For instance, an ISB student taking a cab from the airport could send a text message to RideInSync to check whether any one else wanted to share the ride to the campus. It will match the flight and city details, and provide a list of passengers headed the same way.

The student can choose

a co-passenger, and a cab is arranged.

Making business out of a virtue is not easy and Agarwal knows that pretty well. But the numbers he throws up are pretty interesting. A shared ride from the airport to the city costs Rs. 250 between 5am and 11pm; and Rs. 300 from 11pm to 5am. A regular Meru cab or Radio Taxi would typically run up a bill of Rs 550 for the same trip.

"Our survey showed us that 50% of the cabs carry single passengers. Often, there are colleagues, neighbours or friends who live near each other and are going to the airport at the same time. If finding out who was heading which way was easily possible on a laptop or a mobile phone, wouldn't these people be interested in sharing cabs to save money, and to meet up with other like-minded people?" Agarwal asks.

Currently, RideInSync offers this service on a single route — to and from Hyderabad and its twin city Secunderabad to the Rajiv Gandhi International Airport.

"I knew this service had to be launched in Hyderabad or Bangalore. Since both these airports are so far from the city centre, the service offers immediate returns to our users," explains Agarwal.

While Bangalore and Delhi are the next expansion points, Agarwal wants to add to his list of destinations covered within the City of the Nizams. In fact, bringing the Hyderabad railway station

under his service radar is high on the priority list.

But before anything else, he knows he has to pull up the numbers on the airport pilot route. "We have 730 registered users right now, but the critical mass is around 5,000 members. This increases the probability of finding a partner to share a cab with. Currently, only 15% of the cabs booked on our platform are shared cabs because of the small user base. We also give our passengers the option to book a non-shared cab with us, if they are not able to find a partner," he says.

Agarwal, whose partner has since moved on to a job in Mumbai, is now thinking of tying up with big companies, such as Infosys and others to get more people to warm up to the idea of "cab pooling". "That should be a quick way to increase our strength," adds the first-generation entrepreneur, who worked with Motorola India as an engineering manager before deciding to join ISB in 2008.

The B-school network has helped tremendously. RideInSync works out of the Wadhvani Center of Entrepreneurship Development, ISB's Incubation Centre, with two other full-time employees — a master's graduate from IIIT Hyderabad and a software engineer from BITS Pilani.

So far, 80% of the Rs 5 lakh that Agarwal had put together from personal savings and borrowings from family has gone into developing the software platform. "I don't worry about this. It cannot stop me from realising what I want. Moreover, I am not looking for immediate funding. I don't want to sell my equity for cheap. I want to work on a stable cash flow," he says.

Whether RideInSync will become a pin-up darling of start-ups or run out of steam in the long run may be difficult to predict, but there is one thing for sure — Agarwal and Co. will save the planet a few extra carbon footprints and noxious fumes on their way to the bank. **A**

**Reid Hoffman**

Ex-CEO of LinkedIn and now executive Vice President of PayPal  
is among the initial investors in Facebook

# The missing link

**We spoke to Hari Krishnan, newly appointed as Country Manager – LinkedIn India after he set up the first Indian office**

**Q** Tell us more about your association with LinkedIn, LinkedIn's presence in India, and the experience so far.

**A** LinkedIn opened its first APAC office in India in December 2009, a month after I came on board as Country Manager for India. We have over 4 million LinkedIn members from India so LinkedIn is really not *new* to India. Now that we're here, we'll focus on developing localised user engagement activities to grow the member base and our effort will be to connect all of the country's professionals to help make them more successful and productive.

**Q** Would you be having a technical team here, or will this be a corporate / marketing presence?

**A** The India team is currently being led by me. Nayan Patel, from our Mountain View office, has taken the role of Director of Operations at LinkedIn India to support early market development activities, start local operations in Mumbai and develop strategic partnerships. We'll assess staffing needs in India over the next couple of quarters. We don't have a big team globally and expect to have about 500 people worldwide by the end of the year.

**Q** Why did you decide on India?

**A** Career management and professional networking go hand in hand. The need is immense in India — a country poised to be a \$80 billion software market in 2010 in the IT sector, providing direct employment to more than 2.2 million besides nearly twice the number by way of indirect employment. In India, the potential we see is being able to connect all Indian professionals to be more successful and productive. Professional networking is growing in India. LinkedIn provides a unique opportunity for existing and potential LinkedIn members to engage online and use



LinkedIn as an effective career management tool. We see an immense potential in being able to connect all Indian professionals to be more successful and productive. Like I said earlier, our Indian member base is growing and we need to work towards ensuring there is active engagement taking place.

**Q** What plans do you have for the future in India?

**A** We are focused on growing member awareness and member engagement. Our immediate task is to educate the Indian professionals on the potential of LinkedIn as a career management tool. We'll focus on developing localised user engagement activities to grow the member base and marketing partnerships to drive member engagement. We want to position ourselves as a platform for Indian professionals to be more successful and productive. The business partnership with Network 18 is the first big activity that we're focusing on now. We plan to engage in some more consumer outreach activities through the year.

**Q** What does LinkedIn have to offer independent application developers?

**A** LinkedIn is now available to any developer at [developer.linkedin.com](http://developer.linkedin.com). Now, any developer can simply request a key and get access to LinkedIn's rich set of APIs to make business applications better. By opening our APIs to third party developers, we are allowing an enormous community to create potentially unlimited innovations around our platform, impacting the business success of millions of professionals around the world.

**Q** After Twitter do you plan to add compatibility with more platforms?

**A** LinkedIn is continuously looking for ways to propel the professional conversation forward. Our partnership with Twitter is an ongoing one. This is just the first of several integrations members will see over the coming months. User engagement will drive LinkedIn's growth and we are focused on developing more opportunities for our members to make the most from the LinkedIn platform. **d**



**Edgar F. Codd**

Larry Ellison based his company's first database system on a paper by the British computer scientist titled "A Relational Model of Data for Large Shared Data Banks"

# Structured Query

**Chris Chelliah, Senior Director and Chief Architect, Appliance and Strategic Solutions, Oracle Corporation, Asia Pacific Division on Oracle's latest offering — the Exadata range of flash database servers**

**Q** How do Oracle products appeal to SMBs?

**A** Customers are free to choose between deploying Oracle on a non-DB machines. Besides, Oracle will assist in all possible ways in terms of financing. We also have several cloud-based configurations that will suit most SMBs. This way, SMBs don't have to purchase the whole software package, but can rather lease out the package. In fact, they can use Oracle software on conventional hardware and migrate to Exadata later.

**Q** What about recurring costs and updates? That's an additional cost.

**A** When a customer buys an Oracle product, they pay an annual support fee. This gives them access to any update released. Irrespective whether the customer bought 7i or 8i, each version update is made available to our customer by way of annual support fees.

**Q** Can they use x86 based systems as well?

**A** Customers can choose from any platform they want. The DB machine is an offering.

**Q** What's the advantage of using Exadata if a company already has Oracle database running?

**A** Exadata is all about consolidating your Oracle investment. Consider the different business units or departments in an organisation using unique databases for individual applications. With Exadata, you can have a single control centre across all verticals and share your resources at the same time. With support for the x86 platform, processing speed goes up with every passing release in accordance with

Moore's law. The Exadata range employs Sun FlashFire cards and delivers up to 50 GB per second of raw I/O bandwidth and up to 10,00,000 I/O operations per second. Exadata version 2 is the fastest and the only online transaction processing (OLTP) database machine in the world. In fact, there is no other database appliance from any of our competitors available in the market capable of OLTP workload. Even if you opt for a custom-built solution, it would cost you up to four times more. At the same investment, Exadata servers are four times faster.

**Q** With the recent acquisition of Sun, what is the future of MySQL? Can enterprises using MySQL implement Exadata servers?

**A** I would not be the right person to comment on the Sun acquisition, but if you go by what Larry Ellison commented, Oracle is here to promote what Sun has done. Exadata is an offering, and currently only supports Oracle database. If you're using Oracle in your organisation, you won't need any new skills or training, or resources. You are up and ready to go to production in about half an hour compared to days and at times even weeks by employing competitors' products.

**Q** Oracle has been regarded as a enterprise-driven company while Sun was viewed as a technology-driven company. Could you comment on the apprehension surrounding this acquisition?

**A** I would not agree to this. In fact, I would say the problems and concerns



are sowed by our competitors. If you go by our record for the past 30-odd years, we were the first to write an SQL-based database. We have actively been involved online, and were pivotal in pioneering grid computing. We have the largest market share in the business. Our customers wouldn't have come to us had we been different. To add, Oracle is based on standards-based computing. We lead the way in standards. Be it Java, XML or even web servers, Oracle has actively contributed towards their development. We have our Enterprise Linux platform and have been contributing majorly to Linux for over eight years. We adopted Apache and have been contributing towards it.

**Q** Would you continue contributing towards the open source community?

**A** Again, I would not be the right person to comment on the future. I may comment and things may turn out differently in the future. However, the track record that Oracle has just speaks for itself. **d**

**Share and Explore**

Nokia Research Centres latest offering Share and Explore transfers data wirelessly at 15-20MBps by placing the phone on a writer device which is connected to the PC

**\$12.7 billion industry**

According a report published by Juniper Research, mobile location-based services could become a \$12.7 billion market by 2014

# Infinite USB Memory Device

## The all-in-one data streamer



Infintec IUM Infinite flash drive

**D**ubai-based startup Infintec's IUM is ready for launch in the near future, and could just be the best thing since buttered bread — a gadget that lets you stream media and data to your TV, laptop, DVD player, or game console, or just about any device that accepts a USB stick. Offering “unlimited storage” on a normal-sized USB stick, Infintec's new flash-drive is able to stream data from your computer onto almost any device you connect it to, simply requiring a software installation on your Windows 7 or XP PC and a network dongle. The “streaming flash-drive” can be set to represent any size from 1GB to more than 1TB, and then simply plugged in to use.

With no need to worry about sharing or network protocols, this revolutionary idea of a device (when released in

the market) will act like your computer's surrogate storage (read receiving) device, creating an ad-hoc WiFi network using an 802.11n module. This could be an invaluable tool that lets you mimic the use of an external hard drive on any device in the same room as your computer, allowing you to stream media and data with a simple click of a button, without the need of wires, multiple data transfers, backups, and reconnects required with external HDDs. The network connectivity opportunities are mind-boggling, and could be especially useful transferring data between two computers in the same room.

### Outlook plays friendly with social networks

In partnership with MySpace and Facebook, Microsoft has

announced to get “more social” by including social-networking information in their flagship business software — Microsoft Outlook 2010. Business-networking site, LinkedIn is also offering a beta tool that will integrate the activity of a user into Microsoft Outlook 2010.

In November last year, Microsoft had announced the Outlook Social Connector for Outlook, a new Office 2010 feature that integrates the social-networking feeds into Microsoft's Outlook 2010 inbox.

Microsoft has recently released the Social Connector update that included the first third-party feature from LinkedIn. This update will allow users to view status updates, photos, and so on of their peers and colleagues. Microsoft says that the same will be possible for Facebook and MySpace users. You will be able to directly update your status from Outlook 2010 and will also be able to perform other activities associated with social networking.

Although the Social Connector feature has been developed for Microsoft Outlook 2010, it will also work with Microsoft Outlook 2003 and Microsoft Outlook 2007. Expect this integration to be part of the package when Microsoft releases the Microsoft Office 2010 suite June.

### Google starts experimental 1 Gbps ISP trials

Where do we sign up?

One thing which can really make you survive in the tech

world is innovation. Google is the company which gave us a revolutionary search engine; a 1GB e-mail storage, when 100 MB was considered enough. They've given us products such as the free Google Maps with Street View which would've been considered impossible a few years ago. They don't plan on stopping there, so they've decided to bring high speed fiber network powered internet services to our homes.

Fiber optic communication has never been exploited to the fullest and it's failed in reaching out to the masses. Google plans to change this by testing high-speed broadband networks in a small number of trial locations across the United States. Fiber optic communications is the method of transferring data from one place to another by sending pulses of light through an optical fiber cable. Google plans to revolutionize internet speeds forever by introducing connection speed of a mind boggling 1Gb/sec for as many as 500,000 people. That makes it about 20 times faster than the highest internet speed provided by AT&T or Verizon in USA or about a 1000 times faster than the average speed we see here. Google says that they are doing this for a couple of reasons - to encourage the development of bandwidth-intensive applications whose development had been somewhat restricted, to explore new ways of deploying fiber networks and provide an “open access” network which gives the user a choice to have multiple service providers. If this experiment becomes a





## GPS in your camera

Casio's EX-10HG which has a in-built GPS navigation system to be launched in October 2010

success, Google can redefine what internet speed is all about.

Although, this looks quite promising, this can take up some time to come into practice. Laying an infrastructure for fiber optics is a cumbersome and time consuming process. Also, the estimated cost of the project has been put between \$500 million and \$1 billion. Google's lack of experience in this field may also prove to be a hindrance. This will not be a smooth ride for Google and as one industry expert says "If it was easy, everyone would have done it."

So like we asked early, where do we sign up? The trials are taking place in the US now and there's no saying when we get to sample Google's ISP project. But when it does, it will surely be very big. Imagine downloading 200 of your favorite songs downloaded in about 8 seconds. The prospects are obviously exciting but we will have to wait and see how this shapes up. Till then, we just have to hang in there with our 600kbps and 1Mbps lines.

## Why the iPad may not be a hit

The iPad has finally arrived and Steve Jobs claims that it's "more intimate than a laptop, and it's so much more capable than a smartphone." Comparing it with Apple's own smartphone, the iPhone, and what do we see, a larger screen hence an interface to support the larger screen, thanks to the large screen we now have a larger keyboard, a larger screen enables better use of productivity software - kind of like an iPod avatar in a larger body.

Sure, the faster processor means it is more capable technically. The Nexus One itself features a 1GHz processor, and does not come with the shackles surrounding the iPhone OS store.

When comparing it with the iPhone you come to realize that the iPad is just an oversized iPhone which can't make calls.

Steve Jobs discards netbooks as cheap laptops, yet the iPad is still to show any multitasking capabilities. Better than a netbook really? The iPad fails to be better than even an iPhone.

So here are 10 reasons why we think the iPad may not be so hot

1. No multitasking. Remember, it's meant to be better than a netbook.
2. No Flash support. "The best web experience"; indeed
3. Screen is not widescreen. Well, innovation sometimes takes us a few steps backwards
4. No HD output. Who watches HD these days anyway?
5. No camera. So much for video chat
6. No USB port. Don't want to be too much like a netbook now do we?
7. No SD card slot. Cause 64 GB ought to be enough for anybody
8. Essential peripherals sold extra: keyboard, USB, SD card dongles, each sold for \$30!
9. Another iPhone-like operating system. Read closed system.
10. You need to pay \$10 per app for the iWork productivity applications suite

Even so, the iPad has a chance for success, and for many of the same reasons that the iPhone is a success. It is a beautiful product, with a dedicated developer community which just won't give up despite the constant abuse. It has hundreds of thousands of applications which give it an edge over new platforms which have lesser applications. The iPhone continues to be a favourite of many because it is a pleasure to use despite its many flaws. Apple may not have done anything new here, but just given a more of the good old stuff that they already know works. **d**



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# Credibility Unparalleled

At Digit we appreciate the best, for success is an indicator of effort — which is what these brands have in common — their unfailing efforts to better-serve consumers. At our Icons Of Trust trophy handout, we asked a few of these brands their strategy to stay on top.

## Samsung



**MR RANJIT YADAV**  
DIRECTOR — MOBILE & IT, SAMSUNG INDIA

We are very proud to have been selected as the Most trusted Brand for the Year 2009. I think the one major factor that won us this coveted title was the overall value proposition we offer to our consumers, which stems from the world class product quality, superior design and the consumer friendly features that we offer through our LCD Monitors.

We will work towards introducing new technology products with even more relevant consumer friendly features, so that the customers' user experience is further enriched.

**MR. RAJESH KHURANA**  
COUNTRY MANAGER, SEAGATE INDIA

The Seagate brand has an undisputed reputation for reliability. Users would not want to take any chances of losing the data. With Seagate, users can be confident that their data will be secure and I would say that was the one major factor that made Seagate a preferred brand in the external storage market.

Seagate's external storage solutions prove that an engineering reliability does not mean compromising on aesthetics and design.

In 2010, Seagate is committed to introducing more award-winning and innovative external solutions to the Indian market, strengthening customer's trust in our brand

## Seagate







## HP



### MR. RAJKUMAR RISHI

DIRECTOR — INKJET AND WEB SOLUTIONS, IMAGING AND PRINTING GROUP, HP INDIA

Hewlett-Packard India is the undoubted leader in the consumer imaging and printing space. The Digit award for the most trusted printer brand reiterates this position, and we are elated to have received such positive feedback from our consumers. At HP, we believe that innovation and the ability to connect and create what the end-consumer wants, gives us the edge over others.

In 2010, we will continue to provide an inimitable printing experience to our consumers, and their constant feedback and support will ensure we achieve greater consumer satisfaction space. Additionally, our strong relationship with the HP channel partners ensuring that HP customers are empowered to buy the best-suited printing solutions for their homes.

## Canon

### ALOK BHARADWAJ

SENIOR VICE PRESIDENT, CANON INDIA.

Trust is one of the most desirable outcome of any brand. Canon always comes up with latest technologies.

Like all previous years specially 2009, despite being the recession year, we launched over 80 new products. Customers expect reliability and Canon has the system to set it right. This requires a wide network of service centers which we have and we grew on in 2009. Our customers have trust in the company's staff, partners and distributors.

There is a scope of improvement in the way we are connecting with customers in 2010. We want to go in smaller towns and connect with more customers. We would also be launching about 100 products in 2010.

A trusted brand reinforces another trusted brand.





## MSI X-Slim X620 laptop

MSI launched its award winning slim laptop X-Slim X620 which boasts of an ATI Radeon HD5430 GPU with 11 hours of battery life.

# MWC Mania

## We take a look at the hottest phones and the latest stuff to come out of MWC

### What's new at MWC?

Mobile World Congress, or MWC as its popularly known, is the world's largest exhibition for the mobile industry. This year the much awaited event was held in the Spanish city of Barcelona from February 15th — 18th. As expected the event was privy to some really hot phones and the birth of some promising operating systems. Here we shortlist three phones which we feel are worth keeping an eye on in the near future, followed by a report on the Windows Mobile 7 platform. So let's check out some of these cellular wonders first.

### Samsung Wave

Samsung had previously launched their proprietary Bada OS back in November last year and at this year's MWC we finally got to see it in action



Samsung Wave

as Samsung unveiled their first Bada OS enabled smartphone called the Samsung Wave (S8500).

Samsung Wave has a 3.3 inch super AMOLED screen having a 800 x 480 pixel WVGA resolution. Normal AMOLED screens have a glass layer and an electric sensor

layer separated by air, but super AMOLED has merges these two layers. This, claims Samsung, reduces reflections by five times than a normal AMOLED screen.

The phone runs on a Cortex A8 1GHz processor which is the same that runs on iPhone 3GS and the Palm Pre albeit on lower clocks. A 5MP auto-focus camera is located on the rear side with an LED flash. Wave has features like integrated contacts — which gets all the various channels of communication like calling, messaging, Facebook, Twitter on one screen; push to calendar — which integrates Google, Yahoo and other calendars.

Samsung claims that their main idea behind developing Bada was to make the smartphones more accessible to the masses. It is partly built on a Linux kernel and the company plans to release the Software development kit (SDK) to developers in March for building applications.

Samsung Apps is the apps store from where you can download applications.

### Xperia X10 Mini and X10 Mini Pro

Sony Ericsson launched their credit card sized smartphones Xperia X10 mini and Xperia X10 mini pro at the Mobile World Congress in Barcelona. The most striking aspect about these phones lies in the operating system.

For the first time Sony Ericsson have used the Android OS on their phones.

Android seems to have become the preferred OS if the number of mobile phone manufacturers adopting it is anything to go by. Sony Ericsson is the newest Android convert on the block. While the Xperia X10 mini has a touchscreen interface, the Xperia X10 mini pro has a QWERTY keypad which slides from beneath its tiny body.

The basic specs of the Xperia mini series includes a 2.55 inch TFT scratch resistant touchscreen, a 600MHz Qualcomm processor running Android OS v1.6. This sleek phone boasts of a 5 MP camera with auto focus and geotagging.

It has an interesting interface which has four contextual corner buttons which can be customized according to your needs. Sony Ericsson's Timescape is being hailed as an interesting feature which tends to integrate all your contacts in one place such that it is easier to access their call history, Facebook, Twitter, messaging etc all in one screen. But then we have seen this feature in HTC's Sense UI, so it's nothing really new.

"With the X10 mini and X10 mini pro we have pushed the boundaries of what is possible with smaller devices and are giving consumers exactly what they want; two high performance mobile phones with

a fully customisable user experience platform and a stunning ultra-compact design," said Rikko Sakaguchi, EVP and Chief Creation Officer, Sony Ericsson.

### HTC Legend

Taiwanese mobile phone manufacturing giant, HTC, launched as many as three smartphones at the Mobile World Congress. According to



Xperia X10 mini pro

speculations in the tech world, HTC is rumoured to launch over 10 smartphones in the year 2010. If MWC launches are any indication to go by, it might just be true.

The HTC Legend is the successor to the hugely popular HTC Hero, although it has many differentiating features. The chin is less prominent in the HTC Legend, but the striking aspect of the phone is that its body is carved out a single aluminum block, making it the first Android based phone with a unicasings. The trackball has been replaced by an optical trackpad.

Legend boasts of a 3.2 inch AMOLED screen which promises a rich experience with its enhanced graphics and a capacitive touchscreen. It runs on Android Éclair (v2.1).

It has some other nifty



## East meets West

Dalai Lama joined Twitter on February 22nd with over 50k plus followers in a day.

## GeForce GTX 480 / 470

Nvidia officially announced the dates for launch of the GeForce GTX 470 / 480 at March 26, 2010

features like the smart ringer sensor. The phone hides a G-sensor which on detecting that a phone has been picked up, reduces the ringer volume.

The Friendstream window gets all your contacts' Twitter, Facebook streams on one platform, very similar to the Sense UI. With Friendstream you don't have to go the contacts page to access the integrated contacts.

Leap is an application that allows you to get a thumbnail sized versions of your home screens which is also a great addition as it saves time.

HTC Legend is expected to hit the markets in April 2010.

## Windows Mobile

One of the most talked about launches at MWC was the much awaited Windows 7 Mobile.

The new operating system dubbed Windows Phone 7 Series comes after several lackluster offerings from Microsoft in previous version including Win Mo 6. All eyes

are naturally focused on this new avatar especially since Android is rapidly gaining popularity. Since the time Apple set a benchmark in how OSes for phones should be designed, many of Win Mo's earlier versions came under a lot of criticism for being ill designed. The start menu for instance was exactly like the one found on the PC version ie. in the form of a list, making it extremely cumbersome for touch input. "Phones looked like PCs, but a phone is not a PC, it's smaller, more personal," Joe Belfiore, vice president for Windows Phone is reported to have said at the launch. No kidding! Still, better late than never. This time around Windows has designed the OS to more suit the touch interface with large 'tiles' making up the quick launch screen. These connect the user to the most used elements in the phone, be it favourite apps, websites or even links to Facebook profiles.

The tiles are dynamic or live, so they change when the underlying content changes. Overall the interface is quite a shift from any of the previous flavours of the OS, and more closely resembles the Zune HD player. Instead of going by individual applications for performing a set of functions, the OS makes use of Hubs which are basically like activity centers. The people Hub lets you access all your social networking functions in a single place. You have three distinct streams — recent, all and what's new. Recent shows the most recent changes your friends have made to their profile, all is the general news



The new quick launch screen for Win Mo 7

feed, while what's new is the aggregation of status updates. Similarly, the Pictures Hub aggregates pictures while the Office Hub takes care of your productivity needs. Under the office Hub you have OneNote, Documents and Sharepoint.

In a rather surprising move Microsoft has locked customisation of the OS by hardware manufacturers. HTC for instance earlier replaced the UI shell with their own version called TouchFlo found on phones like HTC Touch 2. It's doubtful whether anyone will miss it. Ms has even fixed hardware requirements from their hardware partners. These specifications include capacitive touchscreens and a fixed set of hardware buttons for Home, Search and Back. This should work well with the developer community since as much as users appreciate flexibility, app developers wouldn't mind

knowing that certain hardware features will always be present when coding software. This is a major gripe with Android. In any case, we'll know how users react once the first of these phones start rolling out end of this year.

## MeeGo – Is it a me too?

Finnish mobile phone giant Nokia did not have any phone launches this year which surprised quite a lot of tech enthusiasts. But, Nokia made its presence felt in the MWC in the form of a collaboration with processor manufacturing behemoth Intel, where they announced plans to merge their mobile operating systems into MeeGo.

MeeGo, a Linux based open OS is targeted at everything from cellphones to set top boxes. "MeeGo blends the very best of Moblin and Maemo software into one Linux based

computing platform.

MeeGo will be targeting a wide range of devices including popular mobile computing devices as

well as netbooks, tablets, connected TVs, media phones and in-vehicle infotainment," said Renee James, SVP Software and Services, Intel Group.

Now it wasn't really clear as to why Nokia and Intel are collaborating on an operating system, which is not the strong point of either companies. The concept sounds promising, but whether it will deliver or not can only be confirmed once we get to use this OS. Like Win Mo 7, it is expected to be used in digital devices by the year end. **d**



HTC Legend



# Buzz off?

**Google is tempting people with their latest offering Buzz. But will it bite or will we swat?**

Google got off to a rather bumpy start with the launch of their latest offering Buzz — its newest foray into the realm of social networking. Most Gmail users would have, by now, surely dabbled with the service. The service allows you to share status updates enhanced with pictures, video, and links which can be commented on and 'liked' by those following you. Sounds familiar? Twitter rip off you say? Sure it is, and then some more. In fact it probably fits perfectly between Twitter and Facebook.

As a part of the Gmail interface, Google Buzz brings the same features, allowing one to follow updates from their friends and family, and aggregate it all in one place in a threaded format (unlike Twitter). You can either choose to make a post public or share with a list from your

contacts. Google Buzz can automatically keep your friends and Family aware of any pictures you add to linked accounts such as your Picasa or Flickr albums, or if you share in interesting item in Google Reader, or videos uploaded to your YouTube account. It can even update from your Google Talk chat status, or Twitter. All of these updates can then be commented on, liked or emailed by people you share it with.

After the initial flurry of buzz posts that likened the service to either twitter, FriendFeed, or Facebook early adopters took a pause and soon realized something quite appalling. In an effort to give users a head start, Buzz had auto-followed each users most frequently mailed con-

tacts and shockingly enough, made an automatic public post about it! Would you really want the world to know who you chat with or mail most frequently? Google came under a lot of flack for this infraction and what some

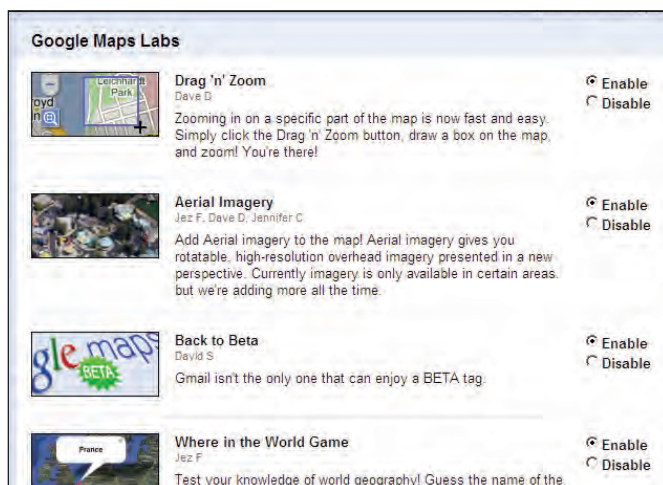
privacy groups consider a gross violation of privacy. Soon after the launch last month,

Electronic Privacy Information Center (EPIC) filed a formal complaint with the Federal Trade Commission. While the latest reprimand came from German Consumer Protection Minister Ilse Aigner who told media that Buzz constituted "a massive intrusion of privacy." There are some other glitches with the service as well. Apart from being rather messy in terms of the flow of information — threads get bumped up when people reply, so really popular

threads become a constant feature in your timeline. We noticed that those that decide to entirely opt out of it, stand to lose their Google profile. There is also the question of buzz notification mails coming

into your inbox while you're away. Kind of defeats the purpose right? All in all Buzz seems extremely Beta and Google has since, apologised for many of these failing promising swift changes in the service to better protect users' privacy.

This brings us to another aspect — do you really need another social network that you constantly need to update and manage? Many believe that there is already saturation in this space. Whether or not Buzz will gain momentum depends entirely on how the internet community responds to it. If we go by first impressions being last impressions Buzz has not gained any points there.



The extra options in Google Maps



## Please Rob Me!

Location sharing is rising as a trend in the social media space. It is very common to find your twitter feed populated by inane updates by your contacts telling you where they are. There are websites dedicated to register these check-ins like Foursquare which is a web and mobile application that allows registered users to connect with friends and update their location, thus earning them points.

This may seem innocuous on the outset, but a new website is trying to inform people about the dangers that can be associated with location sharing. With a name like PleaseRobMe.com, this website is a funny way of looking at location sharing. PleaseRobMe is website which aggregates a stream of updates from various location based networks which shows users who have checked in to some place other than their home. The idea is that if the user is in that location, his house is lying free to be robbed.

The website states its objective as follows: The goal of this website is to raise some awareness on this issue and have people think about how they use services like Foursquare, Brightkite, Google Buzz etc. Because all this site is, is a dressed up Twitter search page. Everybody can get this information.

Although there is a remote possibility of robbers in India being as tech savvy, but there have been cases in the US where burglary attempts have been made after referring to location sharing sites.

## Google Maps now comes with Labs

Google has come out with the Labs feature for Google Maps, which is represented by the

green vial in the top right menu. With the help of Labs you can try out nine new features (which are disabled by default). These features have to be enabled for them to work.

Lets have a look at some of the interesting features:

**Drag n Zoom:** This eases zooming into the map. You have to draw an area on the map and click Drag n Zoom and

**Where in the world game:** A very engaging game which will help you brush up your geography skills. It basically shows a zoomed in portion of a map alongwith four options from which you have to select the correct one.

**Aerial Imagery:** Aerial imagery gives you rotatable, high-resolution overhead imagery presented in a new perspective. As of now there are only certain areas on the map which have this option enabled.

**Rotatable Maps:** This lets you rotate the maps such that the southern hemisphere is placed on upper part of the map and vice versa.

**Smart Zoom:** It prevents you from zooming in only upto the portion where imagery is available, preventing you from getting the message "We dont have imagery at this zoom level"

There are other features also like Latitude and Longitude marker among others. All the features may not work in all areas of Google Maps, as this



Good old BBS

is relatively new feature. But with the Labs addition to Google Maps, you can look forward to some engaging developments on Maps

## A walk down memory lane as BBS turns thirty two

Before the internet came along with its luxuries of colourful pages, video chat, e-mail and streaming videos, the only communication available between computer users was using an electronic BBS (Bulletin Board). All you needed was a modem and even in India, BBS's were buzzing.

College students were the ones behind it here. There were a couple of popular ones in major cities and there were a group of regulars who visited them. The news of BBS's only spread by word of mouth and through magazines.

To connect to one, you would have to keep redialing for a very long period of time — all thanks to busy and sometimes noisy disturbance ridden phone lines. After all, BBS's were setup by enthusiasts at home and typically, only five to ten users could be connected at a time. Once connected, you would have access to a few

documents, a couple of downloadable shareware games, couple of text-based RPGs, a chat program and of course, a message board — all of which were refreshed from time to time. At a time when getting any kind of data (documents, games, applications, etc) was only possible through floppies exchanged by hand, this was an exciting discovery! There was no multitasking either — so if you wanted to chat with someone, you would have to just wait on that screen till someone came around. It was the arrival of dialup ISPs and some free ISPs that spelt the end of the BBS era sometime towards the late 90s.

More than three decades after BBS's first came around, the internet has taken over everything, and those who experienced BBS's would agree that we've been pampered in the last few years. The value of the data visible is only truly appreciated by a few. Those who want to check out what the craze was about, and for those who want to revisit the nostalgia, visit [www.synchro.net/sbbslist.html](http://www.synchro.net/sbbslist.html). BBS's have moved to the internet and you can connect to them. At least now, you won't connect via a 14.4kbps modem and a rickety telephone line, instead a Telnet client and an internet connection will do just fine. **[d]**



Technology is changing you, and what you do.  
This new you needs to be able to use tech to stay ahead...  
that's where we come in

# You 2.0

Nash David, Rossi Fernandes and  
Siddharth Parwatay  
*editor@thinkdigit.com*

**A**lthough a lot of us believe that we've evolved like mad as humans, over the past hundred thousand years or so. We haven't. Our methods may have mellowed, but today's schools and offices are even more competitive than the brutal life of our ancestors. Sure, we don't bludgeon our fellow cavemen over the head with blunt objects anymore, no matter how badly we sometimes want to, but we still use every chance we get to prove that we're superior to our peers.

This is the time of the year, across India, when we see the most evidence of this competitiveness. If you're a student, you are either smack in the middle of exams, or have started sweating, because they're just around the corner, and you're worried, understandably because your entire future is based on how you fare in comparison to your peers. If you're going to start working, or already are, then this is the time you are rushing about trying to prove your worth – either to get hired, or to get a decent appraisal. Every day, there are millions of people out there who are discovering new ways in which technology can help them succeed. Unfortunately, all of them are also competing against you for marks in school or college exams, or looking to get ahead of you at work.

Our concept of You 2.0 stems from our belief that You need to change. You need to learn, evolve, grow, and more importantly, do it almost overnight! Now there could be a million ways in which you can improve, and as individuals, each of you has unique strengths and weaknesses.

However, technology is the one aspect that binds us all together, and levels the playing field – only if you use it correctly, of course, and that's where we come in.

Technology knowledge is no longer a bonus; it's a requirement. There used to be a time when we'd proudly proclaim our proficiency with MS Office in our CVs. Today however, an employer is more likely to ask if you were living under a rock for the past decade, if you don't know how to use an office suite. And not just at work either, because your fellow students are submitting neatly designed projects, and doing vast amounts of research online. It's a given then, to assume that you are now expected to go above and beyond, and do more than usual to stay ahead of the curve. Thankfully, this really isn't as hard as some of you might think.

The following are a few simple ways in which technology can make you more competitive, in almost any type of task in life.

## Time management

Right from school, until you get into an office, there never seems to be enough time to do everything you need to, let alone everything you want to. That's what makes time management so important these days. The first step in managing your time is to understand how you spend it in the first place. A lot of us are often shocked by the results, because the majority of us don't really manage our time in the most efficient way.

This is when software comes to the rescue. Applications such as Fruitful Time Productivity Meter and Rescue Time sit in the background and keep track of your activities. They generate contextual reports comprising graphs and other data to help



## New Logitech presenters

Logitech introduces two new wireless presenters - the R800 and R400

## Gender Bender

Women's enrolment in higher education is 40 per cent higher than men in the US

You 2.0

you get a handle on how you spend your time. Rescue Time has provision for goal setting too. For instance, "I should spend more than 4 hours per weekday on very productive time. If I exceed 4 hours, send me an email at the end of the day".

The tool can also be configured to ask you what you were up to in your idle time. Most people are surprised when they find out that what they thought was a 20 minute lunch break, actually took over an hour at times. If you find that you're wasting too much time on unimportant stuff, you can stop yourself. Once you've identified how you usually waste time, there are ways to regulate yourself. More often than not, sites such as Facebook, Twitter, digg and Orkut eat into your work / study time. Depending on the browser you use, you can get addons that will coax you back to work or study. A Greasemonkey script (to be used in Firefox), called Kiwi Cloak ([bit.ly/kiwicloak](http://bit.ly/kiwicloak)) lets you visit distracting sites only for a short period at the beginning of each hour. Another one is Leech-Block ([bit.ly/3J3nsC](http://bit.ly/3J3nsC)) that lets you specify the exact time after which you would be allowed to visit time wasting sites. StayFocused ([bit.ly/StayFocusd](http://bit.ly/StayFocusd)) is the chrome counterpart to these.



Watchful Stayfocused extension

using one of them, stick to it. If you aren't, consider the following:

### Google Calendar

This is one of the simplest and most powerful tools out there. It can be set up to send SMS reminders for events, and more importantly, you can use simple English to make entries. For example, typing in "Submit project on Monday" will create a

relevant calendar entry for the coming Monday. You can even maintain multiple calendars, with a different colour code and the option of sharing the calendar with specific people.

### Scribe

iscrybe.com, which is currently closed for beta, is an even more powerful PIM that allows you to clip web notes to events. Along with a feature to store thought-streams, it also features expanded views of your daily schedule. Register with Scribe to be notified when registration reopens. If you're looking for other options, you might want to check out 30boxes.com. It features a standard drag and drop functionality, and also tightly integrates with social networks - it was able to pull birthdays from Facebook into the calendar.

### Evernote

It's not all about contacts, birthdays, and reminders though. Another aspect of our lives are the notes we need to take. Whether it's the important points of a lecture in college or quickly jotting down instructions from your boss, we can't seem to live without notes. Thankfully, with services such as Evernote ([www.evernote.com](http://www.evernote.com)), you're not going to be hunting for those little scraps of paper with valuable information

## Information management

All of us know how important personal information managers are for working professionals, but few of us know that they can be really useful for students as well. These days, students also need to store a lot of information, and also need to set reminders and alarms. Now there are hundreds of software and web-based solutions out there, and if you're already



### Use Firefox extensions to increase productivity

ReadItLater - You know how often we come across pages that we want to read but being preoccupied with something can't get down to it. Even if we bookmark the page its lost somewhere and who wants bookmark clutter for a one off read right? This utility does precisely that - save pages till you get done reading them. Readability - Simply put it is a simple tool that makes reading on the web more enjoyable by removing the clutter around what you are reading. Lets you focus on the task at hand.

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- Can be used as a mouse with Trackball & Left click button.
- Blank Screen button to draw attention towards the speaker.

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## Math anxiety

According to a Canadian study, 'the feeling of fear and dread of performing mathematical calculations,' can negatively affect even simple tasks such as counting

## Education Bliss

According to a recent New York times article, there's a correlation between education and we-being trends in the US

on them. Featuring multiple notebooks, a web clip feature, and a lot more, you can use Evernote to jot down everything from ideas that popped into your head, to content you stumbled across online. With 40 MB of storage available per month, you can now afford to become a squirrel, and store everything away for later use. Some alternatives include iClippy and the more powerful SpringPad ([www.springpadit.com](http://www.springpadit.com)).

## The web

It's not like this is news to you. All of us know how important the web is these days when it comes to research, keeping in touch with news and events in your field, or finding ways to understand subjects that your teachers have failed to explain to you properly. Yes, we've often debated ourselves whether you should trust sources such as Wikipedia, because they're not always accurate. Then there's the fact that knowledge is often localised – add a map of India from a foreign site into a project and you will probably hit a raw nerve, or just get marks cut. In general, though, the web is a treasure trove. However, how do you sort through trillions of web pages to find what you want?

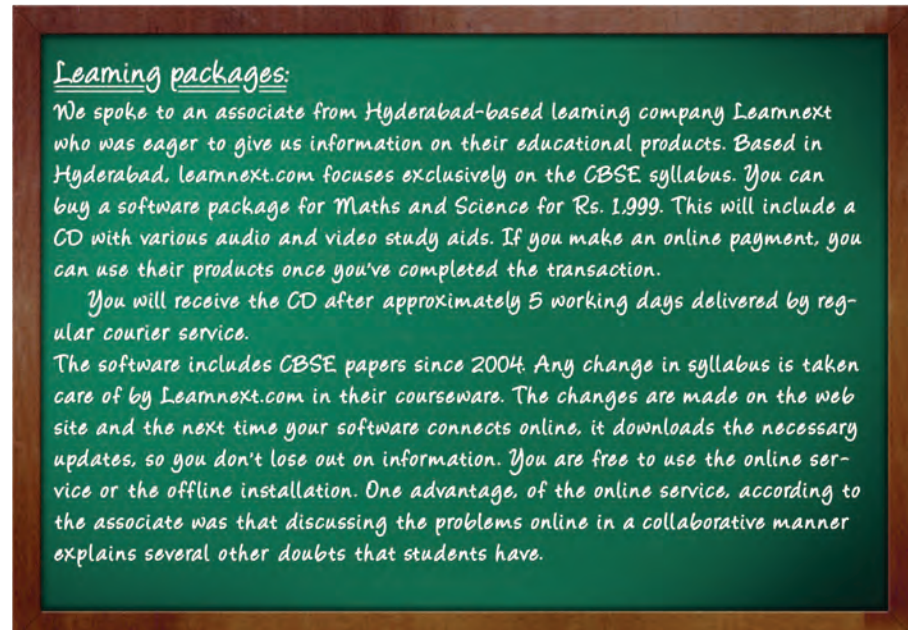
## Search

First up, you should learn how to use search engines properly. Advanced search techniques are something we've covered a lot of in previous issues. However, it's not just how to use a search engine, but which search engines to use for what, that's what really matters. For subjects such as Math, especially complex operations such as calculus, Wolfram|Alpha has some useful apps for mobiles that you will find very handy. You can have integration and differentiation solved in a matter of seconds. All you need to do is key in the equation on your phone and Wolfram|Alpha will solve it for you.

We've also got a primer on the deep web in this issue itself, on page 50, so be sure to read that article as well, so that you can find useful information that not everyone else can.

## Network

Facebook, Orkut and the like are not just good for flirting with the opposite sex, or



making contacts. You can also use them to set up study groups, and collaborate your efforts. A lot of students find it beneficial to study in groups, and every management institute praises the merits of collaboration of minds on a single project.

## On the go

A lot of us read or study while we're traveling, and that's when you might get stuck at something. It could be a forgotten formula, the meaning of a word, or just an email that you were supposed to send for the boss, but forgot about, while rushing home to catch the end of a match. A lot of mobile operators offer GPRS / EDGE / WAP services on a pay per use basis, and this is exactly what you need. So long as you don't go crazy downloading ringtones for your mobile, you will find that having this option available to you is indeed a life-saver at times. Even if you have an old mobile, without mobile internet features, you can use Google SMS to get answers.

Rudradeep Biswas uses Google SMS search while travelling. This way he always stays connected to the internet without

having a GPRS connection. All you need to do is send your search query as an SMS to 9773300000. However, when we tried using it for some Math formulae, we didn't get results as relevant as those on the web site.

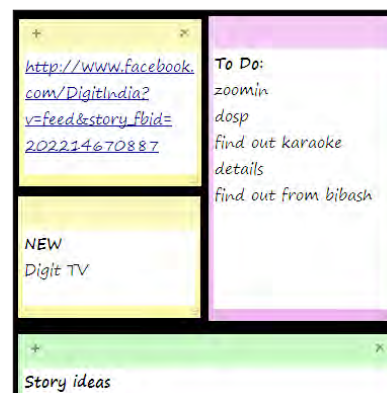
In addition to search, your mobile phone has several other uses as well. Shivaram Krishnan uses a mobile dictionary on his cell phone. Whenever he comes across a word he can't understand, all he needs to do is look it up on his mobile.

## It's all in your head

Although technology can help you in many ways, the solution to all your problems is to just get smarter. If you can remember more, associate better, and sharpen your mind, you're bound to go further in life. Technology has a few solutions for you in this regard as well:

## Remember Stuff

Sometimes low-tech works better than the latest digital gimmickry. Little yellow post-it notes, or fridge notes are a good mechanism to remember things. Now if only you could carry your fridge around with



Stickies in Windows 7

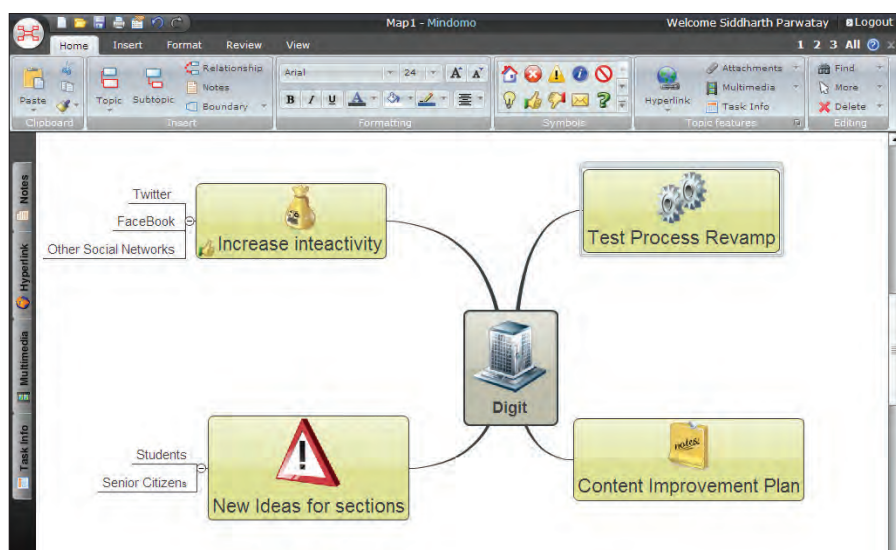


## Cheaper iBooks?

Apple's eBooks apparently cheaper than initially thought

## Meridian F 80

The exotic and compact speakers are available in India for approximately Rs. 2,00,000



Mindmap in mindomo

you! Using technology, you can... There are several sticky notes applications that you can download which let you pepper your desktop with multi-coloured digital post-its. Hence they remain in-your-face all the time, helping you remember important tasks, messages, ideas, appointments, phone numbers, birthdays etc.

One such application is StickyNotes 2.2 and can be downloaded from [www.igorv.com](http://www.igorv.com). It allows you to turn a sticky into an alarm as well. If you're running Windows 7, you should know that it comes with its own stickies app inbuilt. Rememberthemilk.com is an online version of the to-do list, which sends you reminders before the task is due. Todoist.com features a Firefox sidebar and iGoogle integration. Vitalist.com is another similar alternative. Another simple service is sticky-screen.org. The site requires no login, and doesn't make you download anything. It works on cookies, and as long as you don't delete the cookie, you can access anything you typed into the solitary sticky note you are provided with.

### Mind map yourself

Mind mapping is the technique by which ideas and relationships amongst the various elements surrounding a topic are represented graphically. It's usually easier to remember pictures than text, so this helps you remember stuff better, and also think things through in an orderly fashion, whilst being aware of all your thoughts on

the topic. Apart from work, this also applies to the way you study, as you can now dissect topics with ease, and learn anything that has points to remember.

There are several mind mapping tools out there that let you collaborate on the thought flow. But since simplicity is one of the intrinsic factors of mind mapping, these tools have to be easy to use too. Mindmeister ([www.mindmeister.com](http://www.mindmeister.com)) is an interesting tool but requires you to sign up, whilst bubbl.us lets you get to work right away. A more visually appealing tool was mindomo.com. It features curved lines, shaded boxes and many more added utilities, symbols and formatting.

### De-stress

Whether you're cramming for an exam, or working on a tight deadline, there's



Students such as Shrey use web sites in their friend circle to share notes

nothing worse than a tired mind. Various comprehensive studies have shown that a stressed and tired mind is less accepting of new information, and is also slower at recalling learned knowledge. Now we're not suggesting you give up and go to sleep, just because your brain is tired. Instead, we're suggesting that you recharge your mind with a little entertainment, or relaxation.

A simple freeware timer application such as Minute Timer 1.1 will suffice in most cases. It'll pop up at the specified time and all you need to do is stretch a leg or play a quick game of minesweeper or solitaire. A more comprehensive tool is WorkSmart which can be downloaded from [installand-enjoy.com](http://installand-enjoy.com). The application lets you configure your work timings and set multiple breaks for the day. Of course, for workaholics and studious kids, we have to bring out the big guns. Workrave is an application that is actually designed to assist in the recovery and prevention of Repetitive Strain Injury (RSI). It is coercive and forces you to take small breaks by locking down your system for a certain amount of time.

Now let's look at some other ways in which technology can help you extend your capabilities, depending on whether you're a student or a working professional.

### Students

We spoke to a lot of students as research for this article, to try and figure out what it is students are doing differently these days, if anything. Based on their feedback, we got a few tips, and when we found problems, we looked for viable solutions

#### Problem: Sifting through the web

**Solution:** A lot of students seemed to have trouble finding sites that catered to their specific stream or exam board. It's obvious that ICSE students would not like to solve CBSE mock exams, and vice versa. That's where sites like Planettutor.in come in. Planettutor has products from Class 9 up to engineering. Another interesting service from them is Enggmth.com, which caters to students facing difficulties in maths at the engineering level. The syllabi as well as solved question papers for math at this level are available

## screenr.com

Capture a recording of your desktop and share it with others. Some really nice screen grabs to scan through

## Numbers Game

One of the most important things to remember while creating one's resume is quantifying achievements with numbers

You 2.0

for most Indian universities. Planettutor covers CBSE, ICSE, State boards and IB boards as well as American curriculum. You can even brush on other subjects such as music, Hindi, Tamil and French.

The Planettutor Whiteboard is their online tutoring platform that enables you to have a one-on-one session with your instructor. This serves as an interactive session similar to doodling on Yahoo! Messenger.

Other sites that offer similar services are:

<http://nptel.iit.ac.in/index.php>

- Lectures from IIT and IIS on a variety of technical subjects, including PDF versions of course material.

<http://lecturefox.com/>

- Download links to lectures and course material from institutions such as MIT and Yale

<http://ocw.mit.edu/OcwWeb/web/home/home/index.htm>



You have the convenience of a whiteboard and can chat with your instructor. You won't miss your classroom anymore

- Over 1900 courses in various forms, including audio, video and slideshows

Pricing of services on such sites vary depending on the subject, curriculum and academic level. Take your time when selecting packages, and take a trial membership if possible, to gauge how helpful they are. Whilst searching, we found that resources for CBSE curriculum are easier to find, as compared to other education boards.

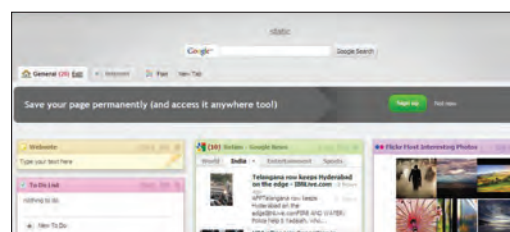
**Problem: Lack of ebooks**

**Solution:** Sounds strange to mention ebooks here, doesn't it? We usually associate ebooks with novels or newspapers, and generally entertainment. However, you will find that having your text books or study material as soft copies have some distinct advantages.

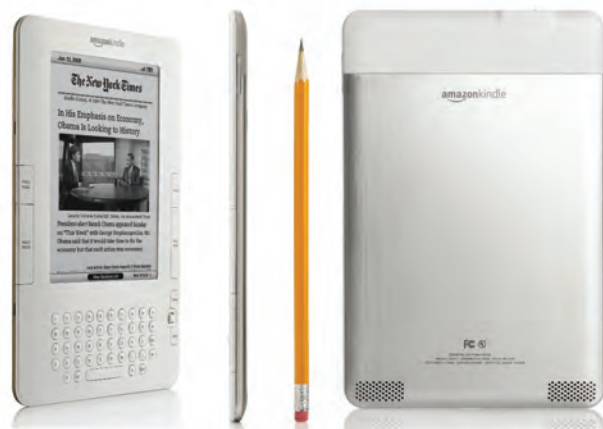
The biggest advantage is that you are able to search for something a lot faster. We've also seen ebook readers being launched by the dozen these days, and the advantage of this is that you can carry all your text books, research material and even your notes on one little device. Even if you don't have a fancy reader like the Kindle, you can still use your PC to do all of the above. Other options to the Kindle include Infibeam's Pi, which is available for Rs. 9,999. Digit reader, and student, Kumar Gaurav agrees to reading ebooks in addition to visiting web sites and using a mobile dictionary. Check out the workshop in this article to learn how you can convert your text book into an ebook yourself.

**Problem: Text is boring**

**Solution:** Digit provides a lot of study videos on our DVDs. Although they are not ultra-relevant to every course, they do help you understand subjects better. Apart from our DVDs, there are quite a few sites that provide video content for students. The easiest one is YouTube, which has all the content you'd probably ever need, but is also one of the sites that people can successfully waste days on. Instead, we'd recommend one of the following:



Netvibes pulling in content to a single page



Ebook readers have arrived, but with prices close to course fees in India, adoption among students seems difficult

### Enjoy Multiple Connections On India's Fastest Wireless Internet

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info@smc-india.com

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<http://www.learnerstv.com>

- Videos on a variety of subjects, along with illustrative animations and interactive tests

<http://oyc.yale.edu/>

- Creative commons lectures from Yale, on everything from Economics, to Bio-medical engineering to Music

<http://academicearth.org/>

- Consolidated video courses, in multiple formats from a number of institutions including MIT, Stanford and Yale

<http://freevideolectures.com/>

- Downloadable lectures from a wide range of sources, including IITs and IISc in India

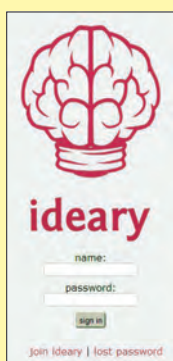
## Professionals

As we did with the students, we spoke to as many professionals, from as varied verticals as possible, to try and find common problems, and innovative ways that people have found to circumvent those problems.

**Problem:** Staying relevant and updated

**Solution:** In any professional setup it's important to keep up-to-date with current events, happenings, and industry news. Apart from subscribing to your favourite RSS feeds, you can set up your own customised Start Pages. These are dynamic web pages that bring various

### Stash away those ideas for later



Thought Dumbledore's pensive was a neat idea? Well there are real life digital versions of it online. The moment you get an idea, you meet someone, or just have a random stray thought that you wish to hold on to, simply head over to one of these sites and save it for ever. Both sites fea-

ture search so your ideas will not get lost. [www.ideary.ru](http://www.ideary.ru) – the slightly more simple jazzy looking option. Features an idea cloud. [lessmemories.com](http://lessmemories.com) – has facility to make entries public hence you can connect with others with similar thoughts.

elements such as search, gadgets, relevant news, and lots more on a single location. Although a lot of people use iGoogle, we prefer Netvibes.com. It's probably the best there is in terms of productive content and looks. Netvibes is able to aggregate your email too, so you rarely need to leave the page. If you want to explore options, you can also check out Pageflakes.com and Webwag.com. The best part about a start page is that you can sign in from any computer in the world, and all your customisation stays intact.

Social news aggregators also function brilliantly to keep a stream of relevant information flowing to you. Popurls.com is by far the coolest and most informative service out there. You can customise it further to cut through the silly stuff to only get the kind of news you want. Check out megite.com and web20.originalsignal.com for more options.

**Problem:** Group brainstorming across locations

**Solution:** There's just something about a whiteboard that adds to creativity. Some of the most brilliant ideas emerge when a group of people come together and scribble away to glory on a whiteboard. Hence we have digital whiteboards such as Dabbleboard.com that

### More instant whiteboards

Each of these provides a unique feature or two. Choose the one that fits your team the best. [Scribbler.com](http://Scribbler.com) – Room type of set up [Twiddla.com](http://Twiddla.com) – Rather nice looking environment [Imaginationcubed.com](http://Imaginationcubed.com) – A tool from GE, features a 3D marker and a nice playback option

provide an interactive whiteboarding environment. Simply share the URL and you and your team can begin collaborating. No sign-ups necessary.

**Problem:** Standing out in the crowd

**Solution:** Part of succeeding at your job is to collaborate well, as we illustrated with the whiteboard example. However, an even bigger secret to success is to make sure you are noticed, and can come up with solutions that help your company. This usually comes from being able to stay relevant and updated, and also requires a little out of the box thinking. Sneha Patel, a junior designer at a Mumbai graphics studio was looking at getting some millage with colleagues and superiors. On a lark she got some colleagues on to plum.com – a closed group version of twitter. Counterproductive? Not really. "My colleagues and I were able to share realtime updates and that actually increased productivity and teamwork" she says. More importantly she got noticed. Moral of the story be on the lookout for innovative online services

that can be put to use in the corporate world, and soon enough you'll be known as the ideas man (or woman in this case) of your office. Psst. Get your IT guy to setup status.net or better yet, start your own corporate networks on twingr.com, presently, or even yammer.com if your company doesn't already have one.

**Problem:** Grow personally

**Solution:** There are small ways in which you can value add to your skill set using technology. Wordweb is a small thesaurus cum dictionary app that sits in your task bar, ready to be invoked anytime a fractious word comes your way. Highlight a word in any

It's all about presentation...

It's a well known fact that a good idea not presented well can really tank. To enhance your presentations, blog posts, or just about anything that can be represented graphically you can use online resources. Head over to these web sites to create nice looking charts that require only one step in most cases:

[www.chartgo.com](http://www.chartgo.com)  
Easy to use and simple.

[www.diychart.com](http://www.diychart.com)  
Stunning examples available, that can be modified.

[www.charts.hohli.com](http://www.charts.hohli.com)  
Charts made with the Google Charts API.

## Goodbye Win7 RC

Windows 7 RC builds to be crippled beginning March 2010

## 25nm chips coming

Intel and Micro preparing to launch 25-nm chips

software, hit [Ctrl] + [Alt] + [W] to look it up, and you can upgrade your language skills. The application even suggests synonyms, similar words and 'see also' recommendations. Trust us, it pays to have fluent written communication skills.

## WORKSHOP

**E**Books are a necessity for students and for working professionals. There's no way of avoiding the PDF format. Paper might be the best medium but the ease of eBooks makes it worth the switch. A lot of us are busy and need our huge collection of books with us while travelling. eBooks make it possible. There are plenty of eBook readers and we've seen plenty more at CES this year. But what if you wanted your text books, journals, etc in the eBook format? There's only one way – make your own!

All you need really is a scanner and if you don't, a camera will do just fine. The software required for the process is all available for free. Theoretical books are best converted to PDFs. With diagrams and pictures, things become very complicated for free OCR software and it can get cumbersome. The only simple solution you have is Adobe Acrobat Professional.

It would be simple to use just images as PDFs but then each eBook would cross a couple of hundred megabytes each. We'll use free OCR software to convert these images into text. FreeOCR ([www.freeocr.net](http://www.freeocr.net)) is one of the simplest and cheapest alternatives to expensive packages such as Adobe Acrobat Professional.

Download and install the program while you're connected to the internet. The installer downloads some packages during the installation process.

## From paper to the screen

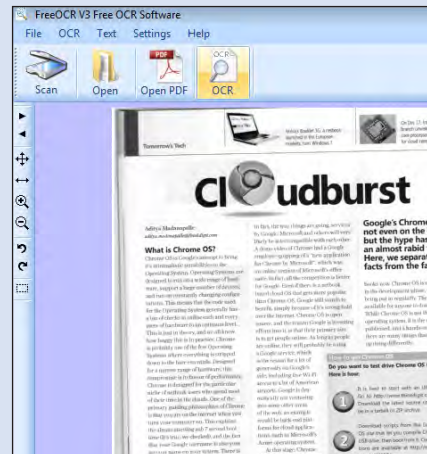
FreeOCR allows pages to be scanned directly into it. Place the book spread on the flatbed scanner and close the scanner top. Set the scan settings to black and white if possible. Make sure there is no dirt or complicated patterns on the screen. In the FreeOCR window, clear the sample text by clicking on the Clear Text Window button at the center of the window. Then, click on Scan. FreeOCR might ask you to select your scanner if you have many devices connected to the PC.

If you don't have a scanner, a decent camera

## There is no end

It's true. If we were to write this very article a week later, we'd already have a complete listing of new stuff you could accomplish. Here too, space constraints restricted us from giving more tips. Technology is just a tool, and in order to make the best use of

it, you'd have to help yourself by staying in touch, and reading a lot. We'll continue to provide you with more tips, and if you have an innovative way in which you use tech to your benefit as a student or professional, write in and let us know, so that we can share it with the rest of our readers. **d**



Converting of images and scanned pages into simple text in FreeOCR

will do. Click photos of the pages straight down and with as little page-folding as possible. Click all the photos in a sequence and you remember the first photo of the sequence.

## Images to text

Once you have all the pages scanned and properly named on your drive, it's time to start converting them to text. But first, you need to select the region you want to convert to text. You



PDFCreator creates PDFs out of pretty much everything you normally print

wouldn't want the page numbers, the page titles to come in between the text. There is a selection tool in the left toolbar. Click it and choose the area of the page you want converted to text.

Once that's done, click the OCR button. The text should convert to plain text in the window on the right. OCR software aren't good at detecting line breaks, so we need to get rid of them so the text flows well as a paragraph. Click on the Text menu and click Remove Line Breaks. This saves you the effort of manually removing every line break in the scanned text. FreeOCR will remove all of the line breaks. Browse through the text to find any spelling mistakes and hyphens or other special characters. Follow the same steps for all the pages you need to scan.

## Text to eBooks

Once the text is finalised, it's time to copy it to a word processor to fine tune and format the text. Click on the Word icon and a new word document will be opened with the text in it. If you are using any other word processor or page layout utility, you can simply copy and paste the text to it.

PDF has become a standard for eBooks because of the way it looks. Fonts look smoother and you can resize without degrading the quality. The file size is also small which makes it portable. We'll use a free PDF creator called PDFCreator (<http://sourceforge.net/projects/pdfcreator/>) to convert our plain text files into PDFs.

Once installed, use the word processor or layout software to print the pages/book. PDFCreator makes a virtual printer that outputs PDF files to the disk. Select this PDFCreator printer. You'll be prompted to enter details for the PDF being created. You can also change the compression settings for to reduce file size.

And that's it. You have your eBook PDF ready. You can carry it everywhere you go – your net-book or your mobile – and since ebook readers are rapidly gaining popularity, even on your eBook reader. **d**



**Office Communicator 2010**

The beta version which includes the Wave 14 package comes out this March

**Steve dislikes Flash**

Steve Jobs doesn't like Adobe Flash because it's too heavy



ADOBE® AIR™

# Feel the Air

Learn how to build rich internet applications based on Adobe Integrated Runtime platform, and deliver them across most operating systems

Rahil Banthia

readersletters@thinkdigit.com

The Adobe Integrated Runtime (Air), is a cross platform runtime. Basically, it's a wrapper for rich internet applications to be installed on several operating systems. It's freely available, and you can download it from the Adobe web site just like the Flash Player. You will get rich and engaging visuals from the applications you create for Adobe Air as it includes a lot of built-in graphic capabilities. Also the applications will run on Windows, Linux and Mac machines with little or no code modification

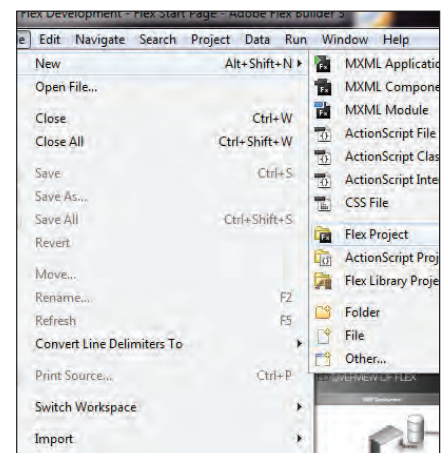


on your part. Finally, your users will also enjoy a quick and simple installation through Adobe Air runtime.

You can build Air applications using HTML and JavaScript which are then rendered inside an Air application using the open source web-kit HTML and JavaScript engine. So, you can use a HTML editor such as Dreamweaver or Notepad to create Air applications. You can also build Air applications using the Adobe Flex Builder, which is exactly what we will do in this article. While Flex is traditionally used to build Flex applications for the browser, the Air SDK that has been added into Flex recently gives you more features that are specific to Adobe Air.

## Air vs. Flash

Air and Flash are both Virtual machines (commonly referred to as ActionScript virtual machine) like Java, but Air adds more access to the underlying operating system when compared to Flash, so developers can interact with the operating system's dock, or



To create a new project, click on File > New > Flex Project

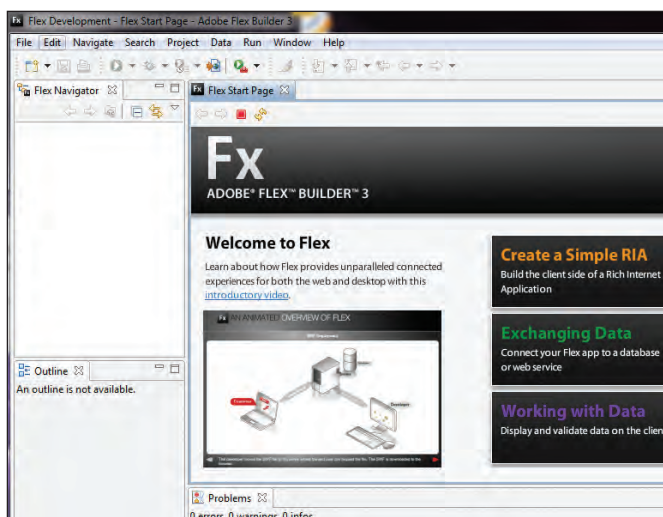
start menu or taskbar in addition to files, network connections and more. Unlike Flash applications, Air applications are packaged into installers and run like other 'traditional applications' without the need of a web browser.

## Getting started

We will create a simple desktop application for Adobe Air using the Adobe Flex Builder IDE which will use Air user interface controls and validation. Along the way, we will delve into Action Script 3, one of the programming languages you can use for creating Air applications with Flex Builder and some advanced Air functionality.

## Prerequisites

You'll need to install Adobe Flex builder available at <http://www.adobe.com/products/flex/> and on this month's DVD.



The Flex Builder user interface

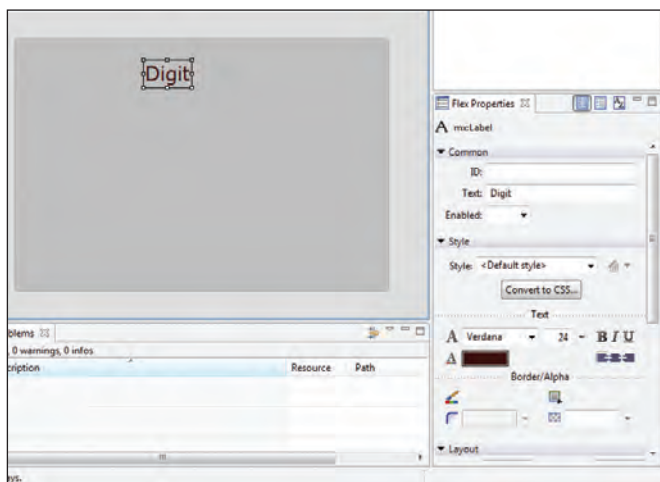
## DirectX 11 title

The upcoming first person shooter Metro 2033 will be available as a DirectX 11

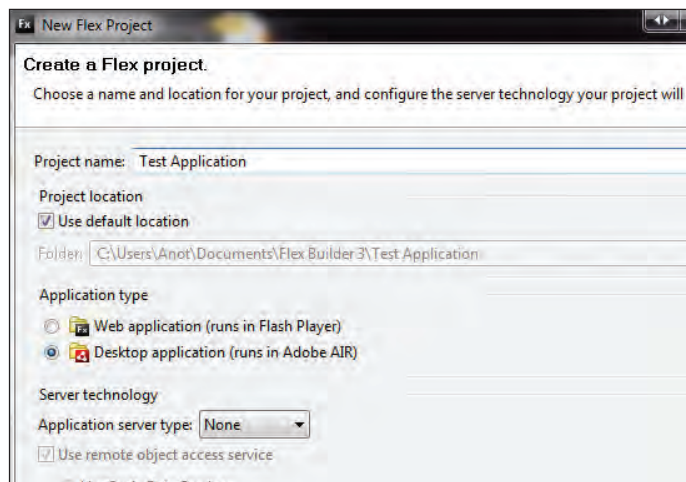
## Ubisoft DRM

Ubisoft's new DRM to require gamers to be connected to the net while playing games

Developer corner



Label Control and its properties



Setting parameters in your AIR project is easy

## Building blocks

Start by creating your first Flex Builder project for Air and also get familiar with the user interface. Type in the project name, and make sure you select 'Desktop Application (runs in Adobe Air)' in the Application Type.

Click on Finish to generate your project. It will open in the source view. In the top pane, click on Design button to switch to Design view.

Let's break down the Flex Builder Interface and go over one pane at a time. In the upper left, you will see the Flex Navigator pane. It will contain all your projects in a folder tree type view. The source folder contains the MXML file that was generated when we created our project. The XML file in the same folder contains details about how the application runs in Adobe Air like the initial window size and how the window looks. The bin-debug folder is where your application will be compiled to when you debug or test it.

Below the Flex Navigator pane, is the Outline and Components pane that contains the visual controls that you can use in Flex and Air applications. To add these controls to your application, you can simply click and drag them out onto the design area of your application. The layout button contains different visual controls that will

organise visual components of your application. The charts folder contains components that facilitate display of data in a visual way using charts.

On the right hand side of the window,

there is the states pane that is used to define the different view states for your application and to add and remove components many at a time. Below this is the Flex properties pane that shows the editable properties of whatever is selected in the Design pane. The bottom pane is the Problems pane. This

pane will display the details and the line numbers of the problems that may come up in your application. This will be used pretty frequently while debugging.

simplest is the Button control. Drag it and add it on the Design stage. In the Flex Properties pane, you will see that the button has an ID, Label and some options regarding where the label is placed and what happens when the button is clicked. Like the other MXML controls, you can set various style properties also.

The image control lets you specify a source for your image and then display it in your application. Its very similar to the HTML image tag. The RichTextEditor control will enable users to enter text and also style it by changing the font or colour. The TextInput control is a single line text input control, and will be used very frequently in most applications.

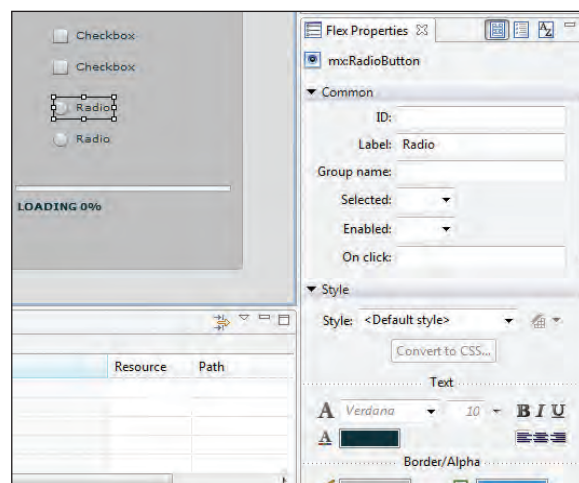
The checkbox control is used when you want people to select either a Boolean type Yes or No or if you want them to select multiple items from a



## Adding user interface controls

Let's begin by dragging the Labels control by dragging it from the Components pane and dropping it onto your application in the Design view. The text entry box for this component can be accessed in the properties pane when this control is selected. You can also choose different fonts and styles for your text in the same pane.

One of the most commonly used controls and one of the



Properties and layout of Radiobuttons and Checkboxes



## 20th Birthday

The first Adobe Photoshop was released back in February 1990

## reMail goes away

Google buys and discontinues reMail, an iPhone service that allows downloading mail without an internet connection

group of checkboxes. If you drag one of those onto the stage, you will find that the checkbox control consists of the box itself and a label. The RadioButton control is similar to the checkbox control. The RadioButtonGroup control lets you group different radio buttons together and associate them with another enabling functionality similar to the HTML Radio buttons, i.e., only one radio button among a group can be selected.

ComboBox control also has the same Data Provider property. When you drag it out onto the stage, it doesn't have any items. As you can see, it is your standard drop down box, the choices of which are populated by the data provider of the control. You can set it by using a Binding expression or by giving an array of values. In the properties pane, go to the Data provider text box and add the options you want to have within square checkboxes and separated by commas as follows: Windows, Mac, Linux, Other. The ComboBox will then get populated by the values we specified.

The DataGrid control is a table like view with columns and rows and also has the Data Provider property. It is very useful in database applications, or applications which have a large list of objects which you need to present to the user.

There is a DateChooser control which displays a small calendar and allows the user to select a date from

it. A similar control is the DateField control, which has a calendar button next to a text box for the user to click and choose a date.

One really interesting control is the VideoDisplay control that can be used to show a video within your application. You can even stream media from a compatible server. However, the video needs to be strictly an FLV file.

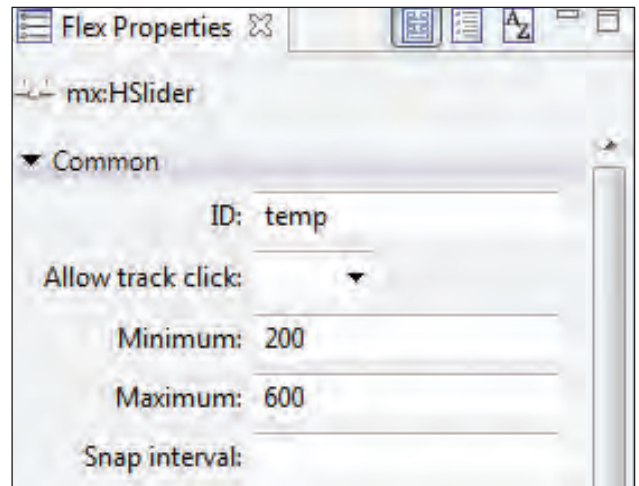
Different layout controls can be used to align your Component controls, add spaces and make your application look visually appealing.

## Source view

When you switch to the source view of the application, you see the source code in MXML language of your application. You can even enter your Action Script code here.

For this, you use the CData tag as follows:

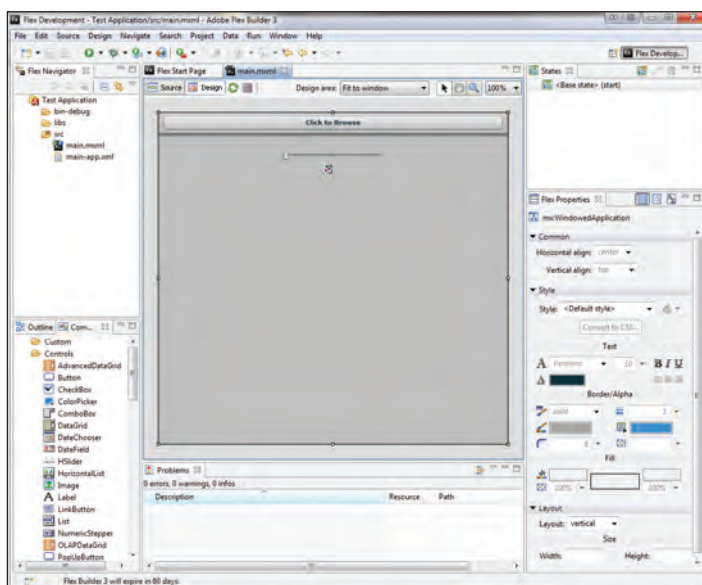
```
<mx:Script>
    <![CDATA[
    ]]>
</mx:Script>
```



Using the properties pane on the right, give the horizontal slider an ID (temp) and give it a minimum value of say 200 and a maximum value of 600



The calendar for DateChooser control



Click on the Green run button to test your application.

## Data Binding in MXML

Simply put, data binding in MXML is tying a value of one control to the value of another control. To begin, let's delete all the existing controls on our application. The first thing we want to do for our application is to change the layout of our application from

absolute to vertical. To do this, navigate to source view and change the property in layout from absolute to vertical.

Next, let's switch to the design view and add the necessary components. First add the Image control to our application. Next add an HSlider control underneath it.

Also enable live dragging by choosing True in the dropdown box corresponding to the Live Dragging label.

Then select the Image control on the stage and switch to source view. What we will do now is bind the Image size of this to the value of the slider control. To do that, just change the width attribute of the Image control to {temp.value}. Curly braces are used in MXML to encapsulate the control you are binding to and its property. The temp is the ID of our slider and the property we want to access is its value in our case.

Next we will add a Browse button on

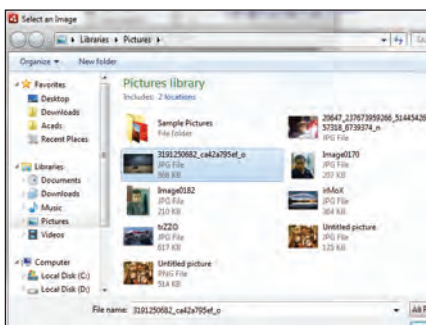
## Servers go offline

EA takes down many of its online gaming servers

## Facebook IM

Facebook adds support for XMPP which allows popular instant messengers to access Facebook chat

Developer corner



Navigate to an image and click on Ok

our application. To do this, drag an `ApplicationControlBar` control from the Layout folder onto your application. In the Properties pane, select `Dock` to be `True`. Next add a button control on the `ApplicationControlBar` by dragging it onto the stage.

Finally, we want to be able to browse to an image file in our file system using the browse button you just created. To do this, we will add some Action script code to the MXML source:

```
<mx:Script>
    <![CDATA[
        pri-
```

```
vate var file:File;

        private function
click(evt:MouseEvent):void {

            file

= new File();

            file.
addEventListener(Event.
SELECT, file_select);

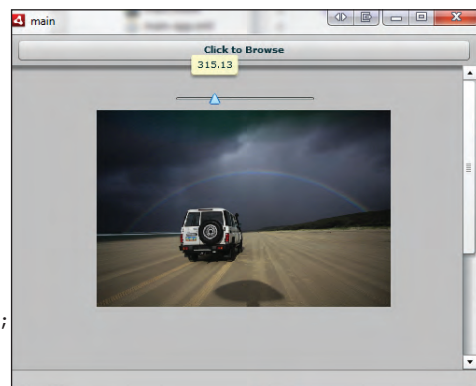
            file.
browseForOpen("Select an Image");
        }
    }
```

```
        private function
file_select(evt:Event):void {

            img.
source = File(evt.cur-
rentTarget).nativePath;
        }
    }>
</mx:Script>
```

## Deploying your application

Once you have created your Air application, you have to package your application into an AIR file. You can do this by going to `Project > Export Release Build`. You have to choose the project and then



Now as you move the slider from left to right, you will notice that the image size will change alongside our action. Because we have enabled live dragging, the image size changes dynamically

the main application file. You can choose to include or exclude your source files if you want. You have to then sign the Air application before it can be exported. You can either create your own certificate or get it from companies such as Verisign.

Next click on the `Finish` button to output the AIR file at a location you chose. You can then install and run your application by double-clicking on the AIR file. **d**

# Born to be tough

Superior Series  
SH93

**DRAM Module**

DDR3 1333X to 2000X  
DDR2 667 to 1200

**USB Flash Drive**

C906 4GB to 32GB  
C903 2GB to 32GB  
C905 4GB to 32GB  
S805 2GB to 16GB

**Memory Card**

SDHC 2GB to 32GB  
microSDHC 1GB to 16GB  
NH92 320GB/500GB/840GB

**HDD**

CH94 320GB/500GB/840GB

**ADATA**

[www.adata-group.com](http://www.adata-group.com)

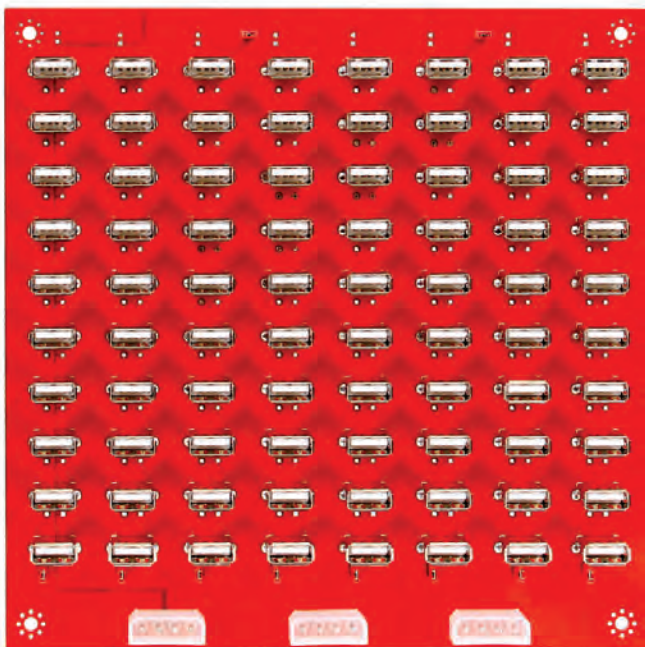


### Scobbling from anywhere

Learn ways you can have your music collection reflected in your Last.fm profile

### Crawling the deep web

A rather large chunk of the web is still undiscovered. We present ways to look deeper



### Thanko USB charger

The Thanko USB charger array from (where else?) Japan has a staggering 80 ports. The whole array of ports is a little impotent though, as they are meant only for powering up devices, and not transfer data at all. However, if you have extra space on your desk, this is a great addition. The USB array comes with a rather bulky device for drawing the power from a source, and does not connect to a computer through a USB port, but a plug point



### 1839 Daguerreotype Giroux

A rare part of photography history is the centrepiece of the Westlich Photographica Auction at Vienna this year. The Daguerreotype Giroux is from a the first batch of cameras ever made for personal use. The buyer will get bragging rights for owning the only private camera of the kind, as all other similar models are part of museum collections. The camera is signed by Louis-Jacques-Mandé Daguerre, the person who came up with the Daguerreotype process, the earliest known method of photography. You can pick this one of a kind model up for around Euro 7,00,000 (Rs. 4,48,47,500) – that is if no other enthusiast or collector shows up for the auction

### Lenovo IdeaPad U1

Lenovo's IdeaPad U1 is expected to be on the markets by June this year, priced at around \$1,000 (Rs. 46,730). The device, now almost ready, was showcased at CES 2010 in an early prototype form. The U1 is a hybrid device that is both a netbook and a slate.

The screen, which is the slate docks into the main body of the device. In netbook mode, the device runs the Windows 7 OS on an Intel Core 2 duo processor. In the slate mode, the device runs a Linux variant known as Skylight and is powered by a Qualcomm Snapdragon ARM processor



## Amateurs: The real masters

We find out how you can get started as an amateur radio enthusiast



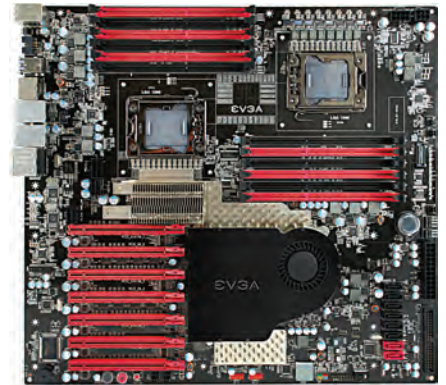
Leica amped up their already overpriced camera range by rolling out 60 Gold Plated limited edition cameras to commemorate China's 60th anniversary. Each camera costs \$30,000 (Rs. 14,04,450)

Droolmaal



## Ultimate Ears 18 Pro

The Ultimate Ears 18 Pro is about as good as in-ear monitors (IEMs) can get. There are two bass, two mid and two high drivers housed within each earphone – that's a total of six drivers, and sound from all of them is internally isolated till they actually enter the ear canal. You can customize the cord colour, length, the colours of the IEM itself, and get your name on the case. You can also choose to change the amount of noise isolation, by shelling out \$50 (Rs. 2,340) extra. The IEMs are available for \$1,350 (Rs. 63,140)



## EVGA W555

The makers of this monstrous motherboard have surely not heard of Global warming. If you have any idea what goes on a motherboard, brace yourself for the specs. Two LGA1366 sockets, 12 DDR3 RAM slots, and 7 PCI expansion slots. Theoretically, you can plug in 16 cores (eight logical), 7 GPUs, and more RAM than you can possibly use. The last time we checked, a power plant was not included in the box, so that is something any potential buyer will have to arrange for. On the other hand though, *Crysis 2* is expected sometime this year



## Martin Jetpack

The predictions of Sci-Fi authors for the 21st Century is coming true, although about ten years late, with the introduction of the Martin Jetpack. The Jetpack by the US company is a single-man flying machine, and is sold with a training and certification programme. The training is based on the "helicopter training program with parts of the Bell Rocket Belt and Harrier training programs incorporated". Pre-orders are going to start any time this year, and you can go to [www.martinjetpack.com](http://www.martinjetpack.com) to put in a ticket if you want to pick one of these up. Be among the first 10 to receive it, and your training will be in New Zealand. Expect to shell out something between \$1,00,000 and \$1,50,000 for one of these



**Tweet your Loved Tracks**

Head over to <http://lastfmlovetweet.com/>, which is a mashup of Last.fm and Twitter, which updates twitter with a track every time you "love" it (add to favourite list) on Last.fm

**www.tuberadio.fm**

Tuberadio is a great mashup of Last.fm and YouTube, that let's you use the music videos on YouTube as a library, searchable using the tagged information database of Last.fm

# Scrobbling from anywhere

Aditya Madanapalle

[aditya.madanapalle@thinkdigit.com](mailto:aditya.madanapalle@thinkdigit.com)

Last.fm is a web 2.0 radio service that has a very active community of listeners. The edge that Last.fm has over other radio streaming services such as Pandora or Grooveshark is the community, and the back end utility known as Audioscrobbler that keeps track of all the songs you have listened to, and suggests similar tracks or artists to listen to, download or buy. If there is a concert by any of these artists near your location, these are also listed. If you're a Last.fm user, it often happens that you listen to a lot of music that does not get scrobbed. Here, we will show you how to scrobble these sources.

## Scrobbling from an MP3 player or a PMP

Last.fm has apps that support iTunes, the iPhone and iPod by default, so scrobbling from one of these MP3 players is not a problem. However, if you own anything but an iPod, scrobbling can be a little painstaking. You will first have to enable MTP in the file transfer USB mode on your player. Most players have an MTP mode, which is simply a protocol for transferring data. When enabled, your MP3 player can sync with a media player on a computer, say Windows Media Player or iTunes. This allows a user to transfer DRM protected music onto the player. The same mode can be exploited to "read" the "play history" from your player, and submit the information to audioscrobbler.

There are a few pre-requisites before you can scrobble smoothly from your PMP. If you have not been using your device in the MTP mode, preferring to have the convenience of connecting the device to computers as external memory,

## Does your Last.fm profile not reflect all the music you listen to? We show you how to make those tracks show up in your library.

then you will have to format the device then switch to MTP mode. Next, you will have to use a software such as Windows Media Player or Winamp to transfer the files to the device in the MTP mode.

There are two commonly used software for scrobbling from a PMP. Zenses and QTScrobber, both open source, and both community developed. Zenses is no longer being actively developed, but is the simpler of the two. You will have to connect your player to the computer in MTP mode, and start up either Zenses or QTScrobber. These will analyse the tracks on your PMP. Zenses scans the PMP once automatically. If you are using QTScrobber, you will have to click on the "Open MTP Device" button.

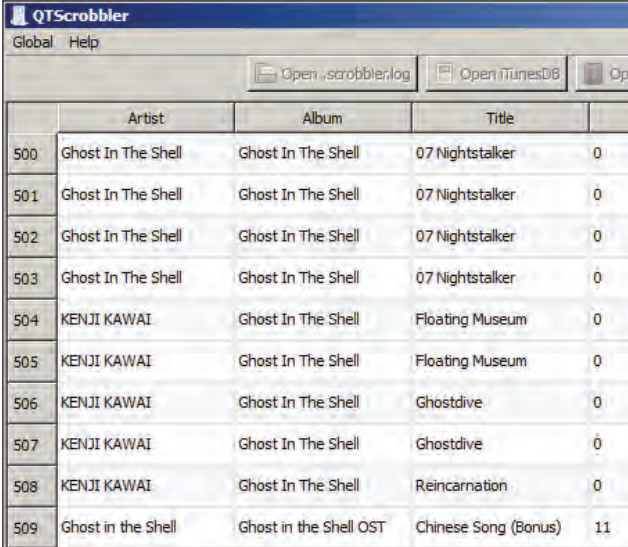
Once this is done, close the software. You can now disconnect the PMP, and listen to your songs. After you are done listening to a few songs, you can connect the PMP to the computer (it has to be the same computer) and start either Zenses or QTScrobber, whichever you were using.

Both software have a date and time field. If you change this field, then the scrobble timings of the listened to tracks will be calculated backwards from the specified time. By default, the field shows the time at startup. This can be changed to reflect the time that you actually listened to the tracks. Zenses should list the listened to tracks on it's own, once you start up the software. You need to click the "Open MTP Device" in QTScrobber. Enter in the username and password to your Last.fm profile. Zenses has fields for these in the main window itself, QTScrobber has them in the Global > Settings window.

Click on Send to Last.fm in Zenses and Submit in QTScrobber to scrobble the detected tracks to your profile. If you are using the Zune, you can alternatively use a software known as Zuse, which is made specifically for the Zune.

## Scrobbling from your mobile phone

There are many ways to scrobble from your mobile phone. If you have a Sym-



	Artist	Album	Title	
500	Ghost In The Shell	Ghost In The Shell	07 Nightstalker	0
501	Ghost In The Shell	Ghost In The Shell	07 Nightstalker	0
502	Ghost In The Shell	Ghost In The Shell	07 Nightstalker	0
503	Ghost In The Shell	Ghost In The Shell	07 Nightstalker	0
504	KENJI KAWAI	Ghost In The Shell	Floating Museum	0
505	KENJI KAWAI	Ghost In The Shell	Floating Museum	0
506	KENJI KAWAI	Ghost In The Shell	Ghostdive	0
507	KENJI KAWAI	Ghost In The Shell	Ghostdive	0
508	KENJI KAWAI	Ghost In The Shell	Reincarnation	0
509	Ghost in the Shell	Ghost in the Shell OST	Chinese Song (Bonus)	11

The song list shows up in QTScrobber on first use

## Flower visualiser

There are many visualisers available for your Last.fm history. One of the better ones is hosted at [www.diametunim.com/muse/](http://www.diametunim.com/muse/), all you need to key in is any username

## Piratebay uses Last.fm

Many web sites use Last.fm's rich database and API as a back-end, including Piratebay for tagging all the torrents listed in the music section

Geek life

bian phone, the easiest way to scrobble is to use a software known as Mobblor. Mobblor is not a plug-in for the existing MP3 player on your phone, but rather a player in itself. You can set Mobblor to scrobble tracks as and when you listen to them, or scrobble them all together after listening to a few tracks. Mobblor has the additional functionality of being able to stream music from Last.fm, though this will reflect heavily in your bills. Mobblor also lets you love or hate tracks, as well as skip and ban tracks if you are streaming music from Last.fm.

There are a number of language packs for Mobblor, including Pirate, 1337 and Klingon. Windows Mobile users have a number of options to scrobble. The simplest software that can be used is Pocket Scrobblor, which is mostly a background process. It logs the songs that are played from the default Windows Media Player already installed by default on your Windows Mobile OS.

Pocket Scrobblor is not a stand alone application, and cannot play music by itself. You need the .NET Compact Framework 2.0 installed on your Windows Mobile device in order to use Pocket Scrobblor. There is no free application to scrobble from a BlackBerry. There is an application known as Flip Side, that plays as well as scrobbles from a BlackBerry. Flip Side is also available as a purchase to Windows Mobile users. Flip Side is a standalone player, with a sleek touch interface.

There are scrobblers available for most major platforms, the glaring exception being scrobblers for Sony-Ericsson devices. Scrobbling support for this platform is on the agenda though, and should be around soon.

## GET CRACKING WITH AUDIOSCROBBLER

If you need to scrobble from a particular source, but there is no current way to do so, you can make your own scrobblor using Last.fm's open API. All you really need to do is collect the metadata information, attribute a time-stamp, and pass it on to Last.fm in the specified format. The API is available at [www.last.fm/api](http://www.last.fm/api). Most of the scrobbling mechanisms above have been coded by Last.fm users who found a gap in scrobbling that they wanted to fill. A great place to start would be a Java app for mobile phones.

## Scrobbling from web sites

Many web 2.0 music streaming sites such as YouScrobble and Lala already offer scrobbling to Last.fm as a feature. Although the Grooveshark community is demanding scrobbling support, there is no mechanism yet. To scrobble from Grooveshark, a Java application known as Rumpus can be used. Rumpus is available at <http://rumpus.altervista.org>, download the ZIP file and unpack it to a convenient folder. Removing the version number from the folder will help in the command line operation to follow. Go to Start > Run > CMD (the Windows console) and navigate to the Rumpus folder within the console. Then type in `Java -jar Rumpus.jar`. If a window does not pop up, make sure Java is installed properly on your machine. Enter in your Grooveshark username, and your Last.fm login details to continue.

Rumpus uses the RSS feed of the music that you listen to, generated by Grooveshark to submit to Last.fm. How often your Last.fm scrobbles get updated depends on how frequently your Grooveshark RSS feed gets updated,


which means that Last.fm will not show the "listening now" icon on your profile. You will have to listen to a few songs before the scrobbles start showing up on Last.fm (4 tracks, in our case). We also noticed a 50 minute lag in the timings

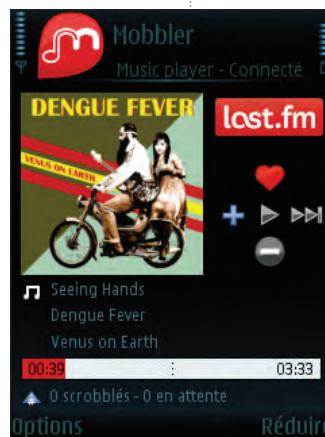
of the scrobbed tracks.

You can use an RSS feed reader to monitor your feed in Grooveshark, and then choose to scrobble many tracks at once. Your Grooveshark RSS feed is at [http://api.grooveshark.com/feeds/1.0/users/<username>/recent\\_listens.rss](http://api.grooveshark.com/feeds/1.0/users/<username>/recent_listens.rss). Rumpus automatically checks for updates to the RSS feed once it is running.

Scrobbling for YouTube works only on Firefox, through the popular Greasemonkey plugin.

If you don't have Greasemonkey, install it, and also install the Youscrobblor script (not to be confused with the YouScrobblor web site). The Youscrobblor script is available at <http://bit.ly/yscrlr>. Once the script is loaded, go to YouTube. Next to History and Subscriptions, there will now be a Scrobble button, along with the Last.fm logo.

Every time you watch a music video, you can click on the Scrobble button to relay the track information to Last.fm. The first time you click on the Scrobble button, you will be asked for your Last.fm login details. By default, the script expects the videos to be named in the <artist> - <track name> format. If this is not the format followed, you can edit the track names, and scrobble. You can use this script to scrobble any tracks, as a last resort to record a particular track in your library. Be careful of overusing this method though, as scrobble spamming is a bannable offence on Last.fm. 



Streaming Last.fm radio and scrobbling from Mobblor

## ROCKBOX THE OPEN SOURCE PMP FIRMWARE

RockBox is an Open Source firmware for PMPs that is an alternative to the default firmware in your devices. RockBox allows you to exploit all the performance benefits of your device on a hardware level, while removing the restrictions imposed by manufacturers on a software level. RockBox is available for many devices, including devices manufactured by Apple, Sandisk and Cowon. There are unstable, but pretty usable ports for Samsung and Toshiba, and developers are working on a RockBox version for Philips. RockBox allows users to scrobble from their devices as easily as scrobbling from iPods, as well as a number of options, including skins. You will find all the usable ports on our DVD.



## The deep dark web

The unindexed part of the web is also called Deepnet – the invisible, dark or hidden web

## 256GB flash drive

Kingston launches the 256GB DataTraveler 300 flash drive

# Crawling the Deep Web

Nimish Sawant

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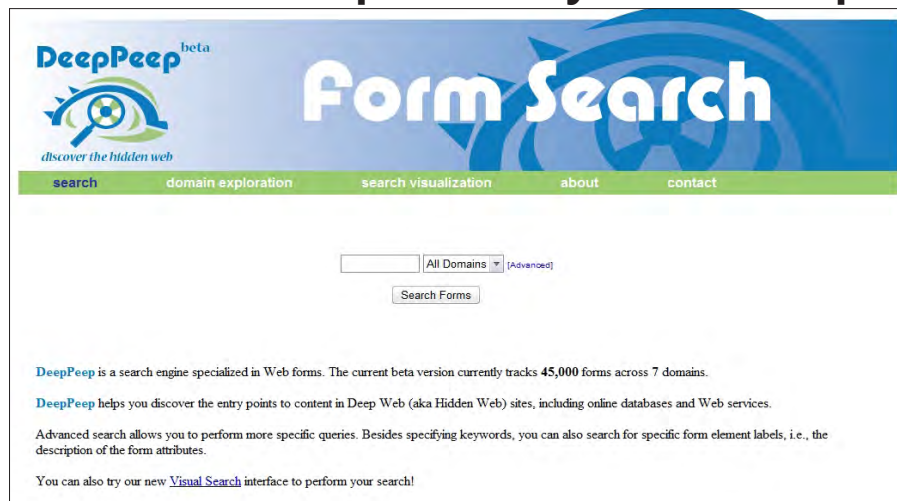
Google has become synonymous with search. Search engines working on algorithms that yield results faster than we can say *search*, makes us believe we have all the information there is. While popular search engines are capable of searching the majority of the web, there are sites that lie below their radar. So there are sites that you probably will never come across. Welcome to *Deep Web*. The web that search engine spiders are able to crawl is called the Surface web, like the iceberg that is visible. On the contrary, the deep web is the huge repository of information that search engine spiders do not have access to.

## Why search engines don't search the deep web?

Each search engine has a program called spider, crawler or bot that constantly crawls the internet looking for information. It then indexes all the web pages it crawls through and ranks those pages according to the relevance in content. While crawling web sites, the bots also follow the links on your site thus increasing their footprint. Depending on algorithms, a search engine can either confirm the presence of a page without indexing it, or index the page content and look for hyperlinks on a page. The frequency of the spider crawling web sites depends on the search engine's discretion.

However, search engines have some limitations as they operate on fixed algorithms, often leading to irrelevant results as the search engine is sometimes not able to contextualise the search query. Also search engine bots only crawl static web pages, whereas a majority of the information on the net is stored in databases, which the spiders are not able to crawl. Thus the search results miss out on the data present in databases in universities and government organisations among others. Moreover, there are

**A rather large chunk of the web is still undiscovered. We present ways to look deeper**



a lot of anonymous surfing web sites that the search engines do not crawl. All this adds up to huge numbers making the search results only a fraction of the total data available.

## The deep web

The most logical question right now in your mind will be, if Google can not search the data, what exactly is it and how come it is not crawled. Lets try to decode the deep web content wise.

A database contains information stored in tables which are created by programs such as Access, SQL or Oracle among others. Now this data can only be retrieved by posting a query. The query when executed searches the database to come up with the result that has been specified. This is very different from searching static web pages which can be accessed directly by crawlers.

This database can be text related or non text related like multimedia files, pictures, presentations, PDFs among other things. It may also include dynamically changing content. Many universities, libraries, medical organisations, scientific research organisations have data that cannot appear in popular search engine results. It may only be visible to members who have access rights to those databases.

There are web sites that do not want the search engine crawlers to index their web sites for reasons best know to them.

## The dark web

No matter what technology we have, there are some elements in the society that come up with ways to misuse it. There is a sinister side as well to the Deep Web called the Dark Web. A significant portion of the deep web is used by nefarious elements in the society to propagate objectionable material.

Freenet, a distributed, decentralised information storage and retrieval system which allows users to surf the internet anonymously. It has come under a lot of flak as it not only allows users to remain anonymous so that their paths are untraceable, but also hides the fact that someone is using Freenet at all. This has given a lot of leeway to cyber criminals to flourish under the guise of anonymity.

This guise of anonymity though is good for users in countries where internet is highly censored, where freedom of speech is stifled. But at the same time a large number of web sites on paedophilia, terrorist activities, virus coding and other cyber crimes are floating on Freenet.

Another case in point is the Russian mafia arm called Russian Business Net-

## Plug-in free video

HTML5 supported browsers have access to plug-in free video

## Youtube IPv6

Google starts IPv6 for Youtube making it one of the first popular sites to do so

Feature

work (RBN) which is synonymous with online cyber crime. RBN takes advantages of the unused or discarded web addresses that are lying in the Deep Web. They activate these addresses for a couple of minutes, send out millions of spam email and then deactivate the address. This makes them untraceable. They also host web sites whose content relates to child porn, malware, spyware among other such cyber crimes.

## Federated Search

Now that we have the information on the existence of another web, let us try to find out ways in which we can harness this repository of information. Popular search engines only crawl web sites for links but are not able to search databases. Federated search engines is a category which searches multiple online databases or web resources.

Federated search engines work with the help of software connectors. Connectors are software programs written to access a content source which can be a database. A connector apart from

knowing the URL of the source should know how to send search commands based on the search syntax of that particular source. Complexity of the connector program depends on the authentication methods, URL redirections, cookies number of steps required to access data from that source.

A federated search engine uses these connectors to return the final results from various sources to you. The results from various sources are consolidated and checked for duplication and then presented to you on a single page.

These type of search engines act as an intermediary between you and the sources of your content, such that you do not have to visit the individual web site which has the database to perform your search.

Federated search is different from Meta search, which is basically a search engine that searches more than one popular search engine at a time. The reason being that the underlying search element for popular web search is still a crawler, unlike in federated search where the search query is enabled to search the databases.

Juliana Friere, Associate Professor at the School of Computing at the University of Utah along with her team has come up with Deep Peep ([www.deeppleep.org](http://www.deeppleep.org)) which aims to crawl public databases for casual as well as expert users. "DeepPeep is a vertical search engine: it is specialised in web forms – the entry points to hidden web content. Currently, we index 45,000 pages that contain forms, spanning 7 distinct domains," she said.

According to her a lot of mainstream web sites are searching the deep web to a certain extent. "Having the ability to combine visible and hidden web information in a search engine's results can lead to higher quality information being presented to users. But if not done right, this can lead to further overwhelming users with information," she added

## Benefits of federated search Saves Time

Federated search engines are a boon to research students as it helps in saving on a lot of time. The federated search engine performs simultaneous searches on different databases such that the user does

not have to visit individual site to perform a search. It consolidates the results of all the various database searches onto one web page.

## Quality of results


The quality of results in a federated search is much better off than a popular search engine result on the same topic. This is because the federated search gets its results from databases which are associated with particular organisations which are authorities on the subject.

Lets say for instance a medical student wants details on Stem Cell Research. Now a popular engine search will provide links to news articles or say Wikipedia which corresponds to Stem Cell Research. A federated search engine like Mednar, on the other hand will provide links to articles from government recognised health institutes. It's a no brainer, that the quality of information derived from the medical institution will be of far greater significance than say the information derived from Wikipedia.

## Real time search

Federated search does real time searching such that you get the most up to date information from the source on your next query. Whereas in popular search engines, the search results are updated only when the crawlers crawl the web. Deep web search engines search each source live for all the queries that it gets. So as soon as the parent database is updated to include a new document, the next search will find it.

However the time taken for coming up with results on a federated search engine is quite high as compared to popular search engines. This is because the federated search results depend on how fast the underlying database search performs. The most common work around that most federated search engines use is to populate the results incrementally as they get the results from the underlying search engines.

So next time you log on to the web, do not just limit your search to popular search engines. Do try to explore the deep web. 

### Federated search engines

[www.deeppleep.org](http://www.deeppleep.org)

Deep Peep is a search engine specialised in Web forms. The current beta version currently tracks 45,000 forms across 7 domains. These domains include auto, airfare, biology, book, job and rental.

[www.deepwebtech.com](http://www.deepwebtech.com)

Deep Web Technologies, provides federated searches for scientific and technology related search queries. It has federated search sites for particular topics like mednar for medical research; biznar for searching business related sources; worldwidescience for searching scientific content from databases across the world.

[www.virtualprivatelibrary.com/](http://www.virtualprivatelibrary.com/)

On the other hand Marcus Zillman, executive director of Virtual Private Library and a deep web expert, has developed a subject tracer information blog, which has links to research web sites divided into neat categories. This blog does not have any search query box. So you will have to decide your area of interest and then according follow the links on the virtual private library's home page.

[www.pipl.com](http://www.pipl.com)

This is an excellent site that scours the deep web for searching people based on their names, email addresses, usernames or even phone numbers.



**ARSI**

The Amateur Radio Society of India is a non-profit public service organization, organized under the laws of the Government of India

**NIAR**

National Institute of Amateur Radio was established in 1983 by the Ministry of Communications

# Amateurs: The real masters

**From Sonia Gandhi to Amitabh Bachchan, several eminent personalities are HAM radio operators. We find out how you can get started as an amateur radio enthusiast**

Nishit Rastogi

*readersletters@thinkdigit.com*

**S**imply put, any amateur radio is referred to as “HAM radio” and the operators are termed as “Hams”. By definition the term amateur would imply that the radio and its operator are either committed to helping communities or pursue it out of individual interest without any ambition of financial compensation unlike commercial radio operators. The term amateur is not a reflection of the capabilities of the system or the skill of the operator. It indicates that the operators are committed to helping communities without financial gain. This also helps as a classification basis for the license, where enthusiast licenses (for Hams) are cheaper than commercial licenses.

Ham radio operators usually enjoy personal communication with each other and can support their communities during emergencies or disasters while learning more about electronics and radio communication theory.

The culture of operating Ham Radios unlike other similar socio-technical activities (like Geo-Caching) is not new. Even though the first license was granted in India as early as 1931 it became popular and omnipresent only after 1984 in India, when the then Prime Minister, Rajiv Gandhi lifted the import duty for wireless equipment. As of 2008 estimates there are more than 16000 operators in India and around six million worldwide.

Amateur radio operators help the community at large during disaster situations like floods, earthquakes, cyclones

or whenever ‘normal’ communication systems fail. Ham radio operators provide emergency communication to their communities. Apart from that they also participate in contests. This is called the sport of Ham radio. Hams go on air and compete to see who can make the most contacts in a specified time interval. Some lucky hams get to speak to astronauts since space stations have Ham radio equipment and some astronauts use them to make contact with the hams on earth. There are also satellites which bounce Ham signals across the globe so you could speak to people from the other side of the globe.

Since there is no censorship board for amateur radios there are two generally accepted guidelines that are followed, think of them as fair-use policies:

1. Hams are not allowed to do anything with their radios for personal financial gain. Ham radio is a hobby.
2. Ham radio operators cannot ‘broadcast’ to the public. This means that Ham radio transmissions are meant to be received by other Ham radio operators. While a short-wave radios will allow you to listen to the Ham radio

bands, what you will hear is hams talking to other hams and not music or other radio programs of ‘general’ interest.

Note: Ham radio operators are designated or known by their call signs. These call signs consist of a country code, and a unique identification number. A call sign is the identity of the Ham operator, and is issued by a central regulatory authority.

## Use in relief work

Indian amateur radio operator, Bharathi VU4RBI, demonstrated amateur



Bharathi Prasad demonstrating the Ham at DX-pedition

radio to local students in Port Blair, Andaman Islands, a few days before the 2004 Indian Ocean earthquake, and subsequent tsunami. In India, Vigyan Prasar (a science promotion body under the Indian Department of Science and Technology) coordinates simulated disaster communication exercises and also organises training to help people get a Ham radio license in areas that are vulnerable to natural calamities.

A team of Ham radio operators were at Port Blair on Andaman Island on a ‘Dx-Expedition’ when the tsunami struck in December 2005. Mr. Sarat Babu recounts how he was able to contact 12,000 people on the mainland and all over the world and help the Government understand the ground situation when all other communication links were cut. The exemplary services he rendered during the crucial 10-day period brought him recognition in the form of the International Humanitarian Award.

The Amateur Radio Society of India has been instrumental in leading amateur radio DX-peditions to the remote island territories of India in the Indian Ocean. In December, 2004, a team of amateur radio operators embarked on an ARSI-organised DX-pedition to the



## Samuel Finley Breese Morse

Developed the Morse code along with Alfred Vail after the untimely death of his wife due to illness

## 1896

Guglielmo Marconi transceived his first radio signal in Italy over a distance of 6 kilometres

Feature

Andaman and Nicobar Islands. The team was on the islands during the 2004 Indian Ocean earthquake. Following the earthquake and tsunami, the ARSI team began immediate amateur radio emergency communications from two stations on the islands, one at Port Blair and the other on Car Nicobar. These were the only effective communications from the territory to the rest of the world for 10 days following the disaster.

## Getting started

If you prefer a structured approach you can get involved in the amateur radio field by finding a local club. The club will provide you information about getting licensed and local operating practices. They will also provide technical advice like information about purchasing equipment locally. Many clubs organise meetings and classes to teach the basic skills of radio operation and prepare you for the Ham radio license test. You can also do it yourself by reading books or getting help from another amateur radio operator.

Ham meets are also organised. In India too. Hamfest has become popular since 1991 and last year it was held in Bengaluru - The Garden City of India along with Golden Jubilee Celebrations of Bangalore Amateur Radio Club VU2ARC.

## Equipment Purchased

Most Amateurs purchase a handheld VHF or UHF (or a combined "dual-band" VHF+UHF) radio. You can optionally connect an external antenna at your home for extended range. A mere handheld, running at low power, is sufficient to gain access to most local repeaters so this is plenty to get you started.

The price of these handhelds can be obtained from manufacturers as per make and features. Some popular brands are Alinco, Icom, Kenwood and Yaesu.

## Self Made

Amateur Radio Transceivers can be made by enthusiasts with locally available components. Several Hams have come

up with their circuit design, PCBs and construction of low cost amateur Radio equipment. Assume that you have just passed the Restricted Grade-II class "no code" license and are looking for a radio.

## License and Examination Details

Amateur radio operators have to qualify in an examination conducted by Ministry of Communications, Government of India and obtain license for operating / possessing a Radio Station. Any individual above the age of 12 is permitted to appear for Amateur Station Operator License Examination and no educational qualification is prescribed. It takes just two months (say two hours a day training) to become eligible for the examination.

One should qualify a simple test conducted in three subjects namely,

- I) Morse Code (Transmission & Reception)
- II) Communication Procedure
- III) Basic Electronics.

The Officer-In-Charge, Wireless Monitoring Station, Dept. of Telecommunication under Ministry of Communication, is the authority for conducting these tests in their own town provided there are sufficient number of applicants. The licences are issued by Wireless Planning & Co-ordination Wing of DOT, after passing the test in any of the following grades:

1. Restricted Grade II - Permitting use of VHF/UHF only (i.e Walkie-Talkies).
2. Grade II - Permitting HF/VHF/UHF frequencies but with limited transmitting power.
3. Grade I- Permitting all amateur frequencies with higher power including latest techniques.
4. Advance Grade- Permitting higher power and advanced techniques including Satellite Communication.

The ability to handle Morse Code at the rate of 5 words per minutes sending-receiving will make you eligible to get




The basic Ham equipment in use

grade-II and 12 words per minutes sending-receiving will get grade-I. For advanced grade higher level of technical knowledge in electronics is essentially required. Basic knowledge can be obtained by purchasing study manuals, books on Morse Code from any of the amateur clubs.

The exam fee should be paid in the form of Demand Draft drawn only from State bank of India in favour of "Pay & Accounts Officer (Head Quarters), Department of Telecommunications, New Delhi" and payable at New Delhi service Branch No:7687. The fees is as follows: Grade II & Restricted Grade II is Rs.10 each, while Grade I is Rs.20 and Advance Grade is Rs.25.

## Local clubs

For those that like a structured approach, many clubs organise meetings and classes to teach the basic skills of radio operation and prepare people for their Ham radio license test. At the end of the classes, a test is given. If you pass, you're a Ham! There are clubs in Delhi, Mumbai, Kolkatta and Chennai. Every month meets are held in Ahmedabad, Hyderabad and Nagpur. Similarly, hams meetup in January, March, June, August, October and December in Ajmer, Bangalore, Darjeeling, Gorakhpur, Jalandhar, Goa, Mangalore, Shillong, Ranchi, Srinagar and such other places where a monitoring station of the Monitoring Organisation of the Ministry of Communications is located. 





## Intel and Nokia combine?

The two giants are rumoured to be working on a Atom-based SoC for cellphones codenamed Penwell

## Notebooks with Radeon 5870s

ASUS has gone ahead and offered a notebook solution with a Radeon HD 5870 GPU, beating NVIDIA's GTX280 solution

# Mean and Green

**Better late than never is the adage. We say it had better be better. NVIDIA's upcoming DX11 part gets dissected**

Michael Browne

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**R**ound one of the DX11 battle is over...AMD has won, and NVIDIA goes home without a runners-up trophy. Writing off AMD as "all washed up" was foolhardy and this coupled with NVIDIA's 40nm problems spelt disaster for them during the age of DX11's infancy. AMD has sold many DX11 parts, thereby restoring coffers sans competition.

NVIDIA claims their 40nm woes "are history", and our monolithic protagonist is in production as you read this. The GTX 480 and 470 based on the GF100 have been announced. But Fermi's adversary has a running start and DX 11 has reached proving point with people already tapping their feet impatiently. There is a lot riding on this one, despite the apparent air of nonchalance NVIDIA manages to exude.

## The GF100 exposed

Fermi is huge – at 3 billion transistors, it's more than twice of the GT200s (GTX 280) count of 1.4 billion. 512 stream processors (SPs), a 384-bit GDDR5 interface – Fermi is most impressive on paper, much like our cricket team! But is it more than two GT200s on a single die?

Fermi is scalable. Thanks to decoupling of functional units on the GPU, lower-end chips will have the same logic as top-end ones. The 512SPs are divided into 16 groups of Streaming Multiprocessors (SMs). Furthermore, one cluster of four SMs makes up one Graphic Processing Cluster (GPC).



The GF100 architecture in detail

The Host Interface is an interconnect between the CPU and GPU, while the GigaThread Engine, which is basically the scheduler, is responsible for fetching and copying data from system RAM to the video RAM via the six memory controllers. This GigaThread Engine also handles redistribution of any workload. Each memory controller is 64-bits wide, which is how NVIDIA arrives at the figure "384-bit" wide controller. Blocks of threaded instructions are created within the GigaThread Engine and sent off to the SMs. Each SM then breaks down this block and feeds it, 32 threads at a time to the SPs within the block, each SP getting one thread. Remember that each SP can execute pixel, vertex, geometry and

compute instructions. The large block of common L2 cache (768 KB) handles load, store and texture operations. The 48 ROP units are divided into six clusters of eight units each, and each cluster gets its very own 64-bit memory controller. As you can see, bus bandwidth and the ROP units are very important to NVIDIA, which is why these are very close to the L2 cache and memory controller. We're also told scaling on each of these units is linked, meaning changing the clocks of one, will affect the other units. On the GT200 and previous generation GPUs, SMs and Texture Units were grouped together and collectively referred to as Texture Processing Clusters, whereas on the GF100, each SM has four texture units (shaded in dark blue) – more of the scalar concept. The SP has a new trick in its ability to perform a two-step multiply-add operation in one step with a new instruction called FMA

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## \$ 2 million

Wikipedia gets 2 million dollars from Google to support the site

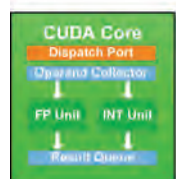
## NVIDIA Ion 2

Acer has announced that their Aspire One 532G will feature an Ion 2 graphics solution

## How stuff works

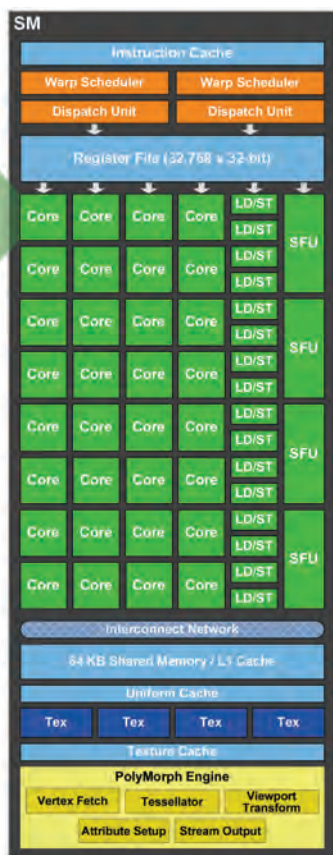
or fused-multiply-add. Rounding off of decimal places is done in a single step and there is no loss in precision in this single stage step, but there is a saving of processing resources – win-win. There are four SFUs or Special Function Units within an SM that handle transcendental operations such as sine, cosine, square root and reciprocal.

The improved cache on the GF100 is another point NVIDIA has illustrated on, and the most apparent benefit is from the much larger 768 KB unified L2 cache. The benefits of a unified cache are improved utilisation, less resource utilisation and therefore higher efficiency. Incidentally, all processing on the GF100 is IEEE-754 2008-compliant – this simplifies developers' lives as well as keeps them honest. Additionally, double precision floating point performance has gone up by 400 per cent compared to the GT200.



### The emphasis on geometry: but why?

DX11 is a lot more rigid than DX10 when it comes to rendering techniques and features; therefore both GPU makers have more of a level playing field than ever since neither can add extra features on their GPU without the fear of it being unused, thereby wasting super precious die space. DX11 makes Tessellation a mandatory feature and this has been fully exploited by NVIDIA, whereas rivals AMD,



The Streaming Multiprocessor

SPECIFICATIONS COMPARISON			
	Fermi aka GF100 (GTX 480)	GT200 (GTX 285)	RV 870 (HD 5870)
Stream Processors / Cores	512	240	320 (1600 ALU / 5)
Core Clock (MHz)	unknown	648	850
Stream processor clock (MHz)	unknown	1476	850
Memory Clock (MHz)	unknown	2484	4400
Texture address (mapping) units	64	80	80
Texture filtering per clock *	256 (4 x 64)	80 (1 x 80)	80 (1 x 80)
ROPs (Raster operator units)	48	32	32
Fabrication process	40nm	55nm	40nm
Memory bus width	384-bit	512-bit	256-bit
Memory type	GDDR5	GDDR3	GDDR5
Memory size	unknown	1 GB	1 GB

\* in the GF100 each texture mapping unit can fetch four texture samples per clock, as opposed to one sample on other cards

they claim, have only scratched the surface with their RV870. Thanks to its geometry prowess the scaling down with Tessella-

tion will be minimal on the GF100

and this means complex and lifelike characters, objects, environments and scenery with more fine detail than the competition using the same game assets. Environments should look a whole lot better. Environment interaction will be more of an experience and deformation of objects will become more realistic. Tessellation needs oodles of spare geometry power, since triangle density of a given frame can scale up to astronomic proportions, putting a sudden, enormous load on the geometry sub system and it is this feature that has dictated the reworking of the Raster Engine and the creation of the PolyMorph Engine.

### The emphasis on geometry: how?

The PolyMorph Engine is an improved version of the Geometry Controller on the GT200. Unlike the GT200 and predecessors, each SM gets its own PolyMorph Engine.

	GT200	GF100	Benefits
L1 Texture Cache (per quad)	12KB	12 KB	Fast texture filtering
Dedicated L1 LD/ST Cache	None	16 or 48 KB	Efficient physics and ray tracing
Total Shared Memory	16 KB	16 or 48 KB	More data reuse among threads
L2 Cache	256 KB (Texture read only)	768 KB (all clients read/write)	Greater texture coverage, robust compute performance

Previously, each TPC was made up of three SMs and had a single Geometry Controller. So from sitting inside a pipeline, the PolyMorph Engine becomes modular and all 16 of them can intercommunicate, thereby work cohesively, effectively doing more, more efficiently. The PolyMorph Engine has five stages as shown below. Results after each stage are passed to the connected SM, where it is executed, and the result is passed to the next stage in the PolyMorph Engine.

The Raster Engine comprises hardware that is basically responsible for creating screen pixels from the geometry data received from the SPs and the Polymorph Engine and this data is passed back to the SPs for further pixel shading. The GF100 has four Raster Engines, one each for each GPC. The Raster Engine is unchanged from the GT200 as far as we know.

These changes give the GF100 a massive boost to geometry crunching – 8x the power of the GT200. Geometry performance has stagnated, from neglect more than anything; the GT200 was only 3x faster than the NV30 (FX 5800) in this regard.



## WM7 details leaked

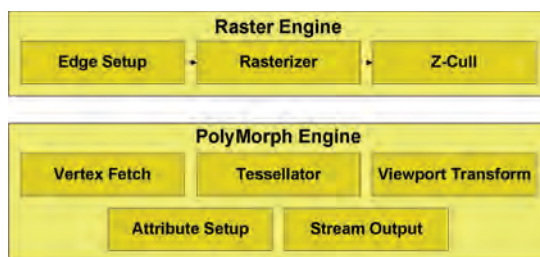
Microsoft is livid at leaked details on the Windows Mobile 7 development front

## Facebook at number two

Good old FB is now the second most popular website in the US, behind only Google

Tessellation + Displacement Mapping = visual realism

Both these techniques are not new, and are used extensively in the film industry as animation techniques. When used together, developers have precise control on the level of geometric detail, which is very important. Animation is done on a compact description and this is scaled up to whatever an appropriate quality level. This also brings about savings in memory usage as well as bandwidth consumption. In the example below, courtesy Kenneth Scott, id Software, we see a general outline of the character on the left, note the very limited geometry due to which the object looks rough. Using Tessellation, we see a result free from gradients in the centre, but no more detailed than the object on the left. The object on the right is a result of applying a displacement map to the smoothly tessellated object in the middle and looks much more realistic.



### Better AA

On the GF100 enabling 8x MSAA (Multi Sample Anti Aliasing) no longer incurs the performance hit that it was associated with. CSAA (Coverage Sample Anti Aliasing), which is the frugal mans AA technique has also been tweaked with support for up to 32 samples. Transparency Multi-Sample Anti Aliasing incurs less of a performance hit on the GF100 and thanks to more samples, the overall effect is a little close to realistic.

### More gamer-goodies

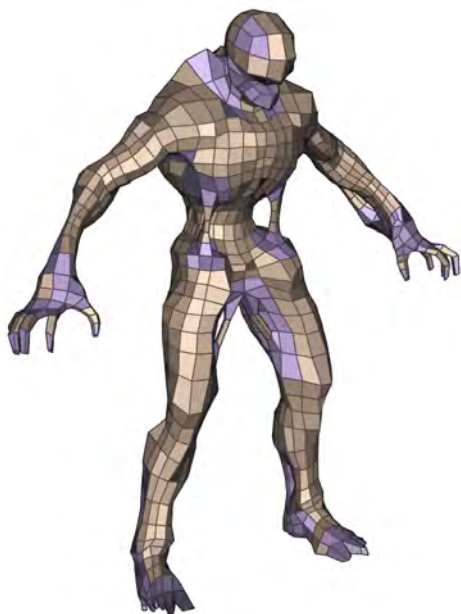
NVIDIA has showcased 3D Vision Surround, which involves their 3D Vision and up to three monitors for an immersive experience. 3D Vision with Batman: Arkham Asylum was

really fun and immersive – the action really seemed to jump out at you. Three monitors with such a 3D effect would be even more amazing. AMD gets kudos for marketing the multiple monitor concept first. Their technology is called Eyefinity, where 2, 3, and up to 6 monitors can be used for a truly larger than life (literally) gaming experience. But NVIDIA has added the 3D angle to this, going a very positive step further.

### ECC: For Tesla, with love?

Another much talked about feature is ECC or Error Correction Code. While the RV870 (Radeon HD 5870) can detect errors on the memory bus it cannot correct them. The GF100 sees ECC support on both L1 and L2 cache as well as the register file. Obviously this is a feature included to keep the GF100s chances as a GPGPU alive

ECC is mandatory for simulations and large scale floating point calculations, meaning nobody would touch the GF100 for Tesla-like functions unless ECC was a part of the package. ECC does nothing for games, and one pitfall is while overclocking the memory system could behave weirdly.



Tessellation along with displacement mapping adds additional detail to the mesh

## WM 6.5 now Windows Classic

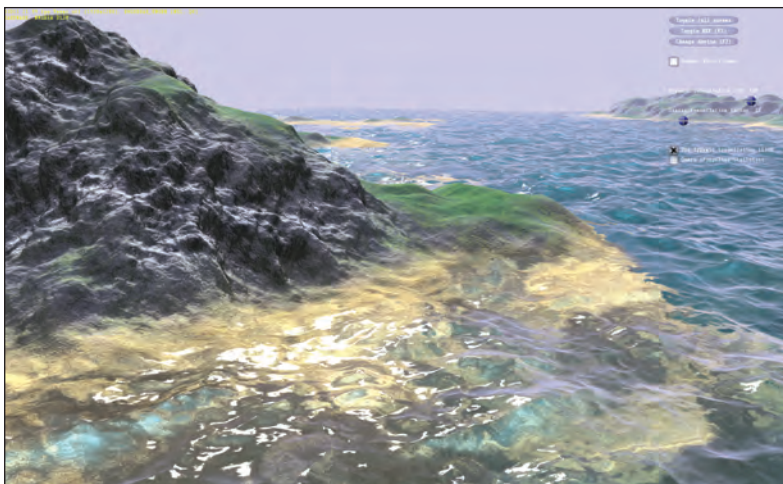
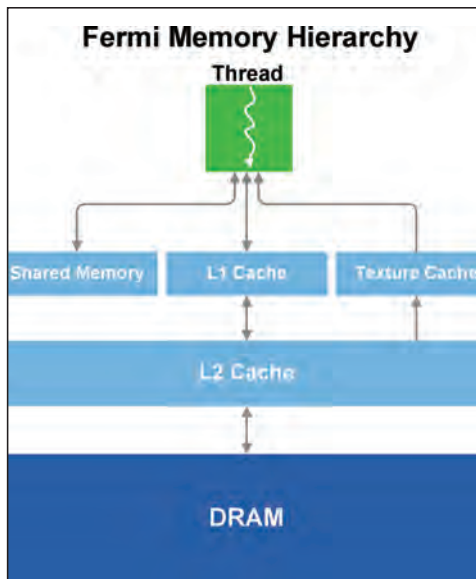
After Windows 7.0 hits, MS has promised that Windows Mobile 6.5 will live on with the moniker "Classic"

### How stuff works

We're told NVIDIA might disable this feature on the top-end parts.

### So?

We're postponing judgement till we get a sample card. However, the GF100 seems like a well thought-out product. The G80 was path breaking and a tough act to follow but it seems, NVIDIA has quite a few innovations on the Fermi's die – enough to call it a new architecture and not a refresh with more



Tessellation used on a larger scale

## JARGON

**Out Of Order Execution (OoO):** In the quest for greater parallelism, instructions are fed to a processor in parallel, removing them from their order of execution. This is called Out of Order Execution

**ROP:** acronym for Raster Operations Pipeline, this is one of the final stages of the rendering process that involves taking pixel and texture information and processing it into a final pixel.

**Tessellation:** This is a process to simplify complex wireframes making them easier to process for the GPU and also reducing the memory footprint

**Displacement Mapping:** A displacement map is a texture that denotes height information in a scene. In a 3D model, the displacement map is used to alter the relative position of vertices.

processing power. AMD has a firm grip of the market and we've seen historically how, difficult to unseat an established product.

AMD has proved that power is as likely to be misused in the hands of an underdog as the top dog; and the iron clad prices of their HD 5xxx series cards testify to this. It's called skimming the cream in marketing terms and everybody's guilty of it at some point. Which emphasises the point of how important competition is. We're hoping to see a good fight. **d**

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## Communication over power lines

Delhi Technological University, is working at using the existing power infrastructure for communication. It has tested a deployment at Alipur that can transmit information over the power lines, including the internet and multimedia.

# Abracadabra!

**Although not a new concept, wireless power is now being implemented. We look at some of the more interesting developments in the leading labs working on wireless power**

Aditya Madanapalle  
aditya.madanapalle@thinkdigit.com

## The wired world

It has taken about a century of digging and cabling, to network the world together. Electricity grids around the world use wires to take electricity from where it is generated to deliver it to where electricity is needed. These setups typically involve the massive plants, transmission towers, and the number of pylons on the distribution grid. When electricity was being introduced, wiring up so many places, across the world, seemed like a daunting task. Wires, were however relatively cheap, as well as efficient, and so wired electricity became the de facto standard of distributing electricity.

Wireless power in itself is not a new idea, it had been conceptualised more than a century ago, only never really implemented. In 1893, the Chicago World Fair brought together trends from around the world. It was also one of the earliest large scale demonstrations on the uses of electricity. Nikola Tesla won a bid to arrange for electricity for the entire fair (Thomas Edison and JP Morgan were his competitors). Here, the attendees saw the earliest public demonstration of wireless electricity transmission, a setup by Tesla. Tesla's approach used something known as electrostatic induction. The method involves suspending two sheets of metal from the ceiling, one on either side of the room, and creating an alternating electrostatic field between them. This allows light bulbs to light up anywhere within a room.

Tesla's vision for wireless power was to juice up devices anywhere in an environment, without the devices being

tethered to wires. Even in 1893, the fact that bulbs were tethered to wires, making them immobile, was considered a problem. Over the years, many successful methods to deliver energy over distances wirelessly have been developed. Fundamentally, wireless transfer of information was considered similar to the wireless transfer of energy. Applications for these have been many. These included remote control devices, vehicles in a closed environment and communication.

About two decades ago, a range of electronic devices and household appliances started showing up in the market. These ranged from digital cameras and spare television sets to vacuum cleaners. All of these needed plug points, and the number of points often fell short. A typical user would face a number of problems, with just the wires. Sometimes the plugs would be of a different standard than the socket, almost every device had a unique adaptor that was not compatible with anything else, and running a number of devices at the same time became difficult. In an environment where the density of power-hungry devices is large, the wiring invariably became a tangled mess that nobody could navigate. A cramped office with computers lined up on a table, is a perfect example of this.

While wireless power over large distances is not going to be feasible any time soon, there are two areas where users stand to benefit a lot from wireless power. Wireless power is great for sending a large amount of power over small distances, as in charging all

devices in a single room, or household, and sending a small amount of power over large areas, say, all the walkie-talkies on a construction site. A company called Splashpower toyed around with early prototypes of wireless energy transfer as early as 2001. Demonstrations of technologies have been around since 2008, showing up at conferences such as CES, and are expected to be implemented by 2011.

## Near range wireless power

The technologies for existing near-range wireless electricity transmission are all based on the principle of induction.

Induction is a phenomenon that causes electricity to be created when there is a change in a magnetic field. There are many kinds of inductive phenomena, including electromagnetic and electrostatic induction. Wireless transfer of a small amount of energy to and from devices using these methods, is pretty common already. The tags in retail outlets, for example, use this technology, as do some smartcards and the devices that detect shoplifting. In some highly-specific applications of electricity, which can be potentially harmful, some of these technologies are used to power devices that do not require much electricity. Examples of such applications range from electric cookers to electric toothbrushes.

Companies such as WiPower are trying to up the ante a bit, by allowing consumer electronics such as cameras, laptops, PMPs, mobile phones and even televisions to charge up wirelessly. WiPower uses a form of electromagnetic induction known as "resonant cou-



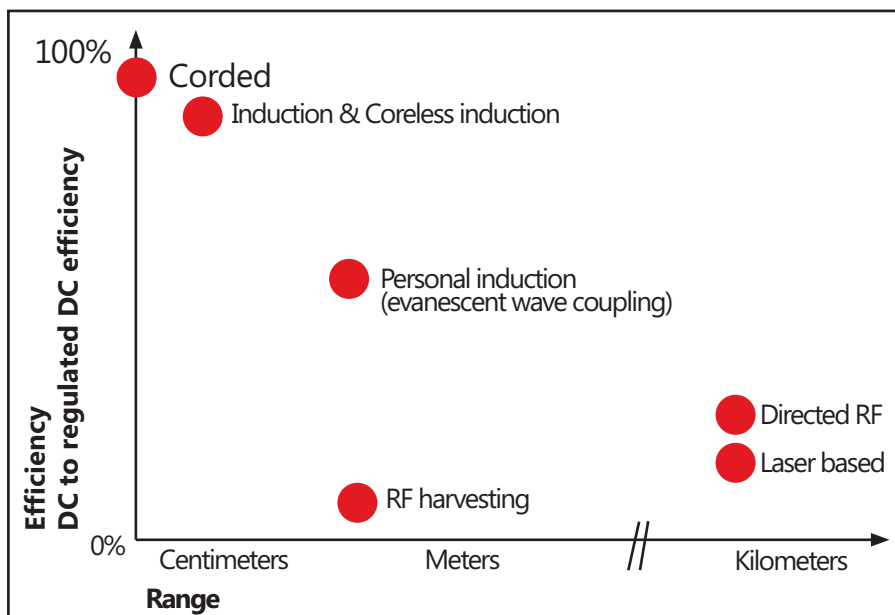
## Uniden Power Pad

Can charge up mobile phones using sleeves attached to the devices. The Uniden Power Pad is market ready

## FreeWave radio

The brand new range of radios from FreeWave use a part of the radio spectrum that does not have any license restrictions, for information exchange

From the labs



A comparison of efficiency vs the range of standard wireless technologies

pling". Resonance occurs when an object vibrates at a greater amplitude because of some kind of waves. These waves may be magnetic, electromagnetic, acoustic or any other variety – reso-

nance occurs for all of them. Music from a stringed instrument, breaking a glass with a high-pitched voice, or vibrating windows when a certain frequency is playing on speakers are all everyday

examples of resonance.

A coil of wire, attached to a power source, can relay electromagnetic waves over to another coil of wire, attached to a device. The inductive coupling uses electromagnetic resonance, and the receiver coil generates electricity. Tightly-coupled induction tunes the coil of wire embedded within a device so finely to the coil which is the source, that the orientation, location and distance to the object become very important. Loosely coupled induction however, does not have these limitations, but suffers from a small fall in the efficiency of the power transmission (about 10 per cent when compared to tightly coupled induction). Both these technologies have their own unique set of problems. Tightly-coupled induction cannot be used to power up multiple devices at once, because the size of the coils on both the transmitter and the receiver should be of a similar size. Loosely coupled induction renders many devices that it charges useless, as the electro-

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## Wireless Power Consortium

Aimed at establishing common standards and interfaces for wireless power, it includes Nokia, Philips, RIM, and strangely enough, battery manufacturer Energizer

magnetic energy interferes with some of the communication features in the device, such as GSM or radio.

This kind of resonant coupling, is a great compromise between efficiency and mobility. Other kinds of wireless electricity technologies either need the devices to be too close to the source, or cannot charge up any device in a reasonable amount of time. The inductive coupling approach also is the lowest cost solution, and can be cheaply deployed in a number of ways. The coil to charge a device can be either embedded within the device itself, replacing the battery unit, or added to the back of a device as an additional sleeve, which is connected to the power unit of the device. The sleeve approach is great for transition between a wired domestic, office and public environments, to a wireless one. The device can be charged using traditional methods where wireless chargers are not available. The charging can be done in the form of mats, that can charge multiple devices at once. These sources

Image credit: Powercast



A Powerharvester module, is tiny enough to be embedded almost anywhere

can be embedded, within say the tables of cafes or the walls of homes.

Since the technology has been around for a while, and is a low cost solution, why are we not seeing more wireless devices around? When asked this question, the WiPower team told us that "The major hurdle to mass adoption has been the difficulty and cost of integrating wireless power technology into consumer electronic products. Large OEMs are very interested in the technology, but have generally found it too complex and expensive to replicate in high volume manufacturing environments. " The initial cost of such devices



Uniden Power Pad Australia

would be high, and it is an overhead that consumers may not be willing to pay extra for. For example, if a manufacturer comes out with a camera that charges wirelessly, will the buyer pay extra for a mat that can charge the camera, and maybe other devices from manufacturers who follow the same standard? It is easier to market a wireless television, that does not need to be tethered to a power source.

There is currently a gap between wireless technologies, and its implementation, as manufacturers will have to rethink the way they make their devices. "WiPower has attempted to bridge this gap by providing companies with a wireless power Design Kit. The Design Kit allows engineers to explore WiPower's technology, and discover how simple and cost-effective it is to design into a variety of applications. With WiPower's wireless power system, consumers will be able to charge multiple devices in any position on a single charging pad. The technology is also easily integrated into furniture so that people will be able to enjoy clean, wireless spaces at home, the office, etc." The WiPower design specifications are available to manufacturers, and orders can be placed for the transmitter and receiver elements to integrate into any manufacturing process. The receiver units are designed in such a way, that they can be potentially retro-fitted into existing consumer electronic products. One of WiPower's greatest innovations is in the charging pads. The pads are

configured in a way that they can calculate the amount of charge necessary for the device, and relay only that much power to the receiver.

## Long range wireless power

The technologies for long-range wireless electricity transmission, a possibly more exciting domain, include radio waves, microwaves, and even lasers. The technologies are not that difficult to decipher or understand. For example, to use lasers to provide wireless power, you need to simply point a sufficiently powerful laser at a solar panel. It is easy to envision a network of lasers instead of wires, but there is the question of efficiency. While in controlled spaces, the efficiency is pretty good, over a large grid or deployment on a large scale is not yet practical. However, a small amount of charge can be "cast" over a large area, powering up devices that are willing to accept that charge.

Wirelessly relaying small, but steady amounts of power have their own

unique set of advantages. Powercast is a company that specialises in something known as "trickle power", a model of wireless power transmission that allows power to be relayed over radio waves in small quantities. They make Powerharvester Receivers, that can "harvest" electricity

and power devices, and Powercaster Transmitters, that are sources of power for the receivers. The use of Powercast for consumer technologies is very limited. According to Powercast, "Our technology provides micro-power and will not be suitable for most consumer devices, and especially devices like mobile phones that require fast recharging. Wireless power for consumer devices will primarily be based on induction and will work for higher power, short range applications." Powercast has demoed a few trickle power consumer applications though, including LED Christmas lights and remote controls that charge up wirelessly.



## Trickle power for consumers


Trickle power can be used for consumer electronics if the trend for reducing the power footprint of devices continues

Trickle power, however, has a range of applications when it comes to applications on a larger scale, especially in the industrial sector. "We are focused on power over distance for industrial applications such as wireless sensors for trickle charging batteries or battery-free sensors. Wireless sensors enabled by Powercast technology will provide greater life and reduced maintenance (from not having to change batteries) to wireless sensors for a range of applications including energy management, building automation, location tracking, and defence." This has many implications for a number of sectors. Any kind of monitoring on a system, through small cameras, infra red sensors, or other kinds of sensors, can be done through a Powercast setup. All the walkie-talkies in an area can be remotely powered using a trickle charge. Smart RFID tags, similar to the tags embedded in consumer goods, can be used to track, say all the animals in a national park, and monitor their health at the same time.

Powercast's system is built in such a way that any number of Powercasters can transmit power to any number of power receivers, configured within the same grid. This allows for great flexibility at the point of deployment, and scales well when more units have to be added to any given configuration. "Powercast has many innovations related to sending and receiving power over distance. Our RF Powerharvester components work over a wide operating range which makes them useful for many applications as opposed to a design that only works in a narrow operating range of input power and device load," according to Harry Ostaffe Director, Marketing and Business Development, Power-

cast. Powercast has teamed up with at least 200 companies for developing and implementing the trickle power technology, and also sells kits that can be used to develop applications.

## A wireless world

Apart from the convenience aspect of the technology, there are many other advantages as well. The environment stands to benefit tremendously if this is implemented on a large scale. The large number of adapters and wires will be done away with, as well as devices such as multi-plug points. The packaging material used to deliver these wires along with the device can also be done away with. Batteries, that are terribly harmful to the environment can be replaced by discreet wireless power sources. The cost of materials used to make these wires and batteries and running the factories that do all of this can also be done away with. This kind of technology can greatly reduce the hazards of working with devices that use wires and plugs in explosive environments, in hospitals and in combat situations. When it comes to industrial applications, wireless power to sensor networks, or tagged networks not only simplifies implementation, but also allows for the components of a network to do more. For example, trickle charged smartcards or RFID tags can be configured to collect and relay information, as they can be wirelessly powered. Deploying networked nodes in the atmosphere for collecting weather information, underwater, or even in outer space becomes more efficient as each module can be powered up at a distance. Widespread use of wireless power technologies, is however, still some time away. 

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# Every problem has a solution

Data loss? A slow computer? You've come to the right place...

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## Dynamic disk a disaster?

I recently purchased a Dell laptop (configuration – Intel Core 2 Duo P8700, 4 GB RAM, 500 GB HDD). The laptop came with a single partition and loaded with Windows 7 Home Premium edition. I used the disk management utility for partitioning the disk. I created four partitions (150, 100, 100, 100 GB), but in the process my hard disk has changed into dynamic type from the basic type. I have the following queries: - what is a dynamic type hard disk? What differences are there between a dynamic and the basic type? How can I change the drive back to basic?

I have tried all possible options including - disk manage-

ment, partition magic software, etc but I am not able to convert the disk back to basic type. By right clicking the complete disk, I do not get the option to convert the same to basic type.

**Sanjay Mehta**

The main difference between a basic and a dynamic disk is the way data is stored. Dynamic disk allows creation of volumes that can be spread over multiple drives where as a basic disk will not let you do so. For most practical purposes, it doesn't really matter to most of us. The only problem is that once you have a dynamic disk created, you cannot convert it back to a basic disk unless you delete all the partitions and convert the drive to a basic one. Basic disks were used till Windows 2000 was released. Most Windows operating systems, with a few exceptions since then, use dynamic disks for storage.

## Slow Windows file copy

I use Windows XP SP2. My file copy and move operations are really slow. Please give me sug-

gest some copy handler software. Thanks and keep it up.

**Manish Bhuva**

Check out a software called Teracopy ([www.codesector.com/teracopy.php](http://www.codesector.com/teracopy.php)). It's free and available for download. It lets you copy files, verify them and also shows you the speed. The performance of file copy in your system might be affected due to badly fragmented data on the drive.

## Motherboard change affects DVDs?

I upgraded my Intel Pentium 4 motherboard with an AMD 790GX motherboard and an AMD Athlon X2 processor. Everything works fine, except my DVD writer. It does not recognise the DVDs burned with my earlier motherboard, but Digit DVDs run fine. Please help. Also, I need to know if I can run Windows XP 32-bit in Virtualbox inside Windows 7 64-bit.

**Tatai Banik**

The DVD reading problem might not have to do with the motherboard but with the drive itself. DVD drives start giving problems very often. Try the same drive on a different system and see if it works. Do the same with the DVDs you burnt on the old motherboard. Windows 7 64-bit should run a 32-bit Windows XP just fine within Virtualbox.

## How to recover data from Seagate 80GB drive

My four-year old Seagate 80 GB hard disk is not working and

while booting, I am getting a message 'Boot disk error. Enter CD to boot'. The motherboard BIOS is not even showing any hard disk connected. I've checked all the wires and connections and seems like the problem is with the drive.

Is there any way to recover all the data and if so can you tell me any support centre. I live in Trivandrum. I can go to Bangalore too if you know about any genuine support there.

**Karthik J**

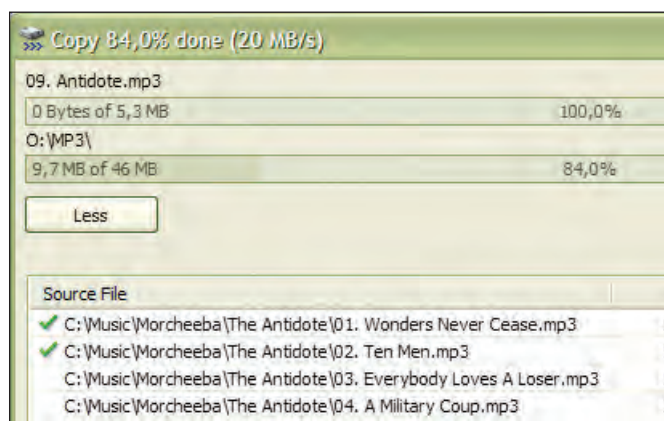
You can take your hard drive to Stellar Data Recovery at their Bangalore office. Contact details can be found on their site [www.stellarinfo.com/contact/](http://www.stellarinfo.com/contact/). Keep in mind that data recovery can cost a lot depending on the state of the drive and the capacity of data to be recovered

## CRT monitor losing control

I have an IBM monitor-E74(CRT). For the last few days, the monitor automatically changes its brightness, contrast etc. and I am unable to control it. It is causing me a lot of problems and I would be really grateful if you can help.

**Bishwadeep**

There are obviously some serious problems with the CRT monitor that can't be fixed by changing settings on it or through the PC. You need to take it to a service centre to get it repaired. It might be something to do with the front control panel. We also recommend opting for an LCD screen.



Teracopy is a great third party file copy utility

## Sidewinger

Microsoft shows off the new Sidewinder x4 gaming keyboard

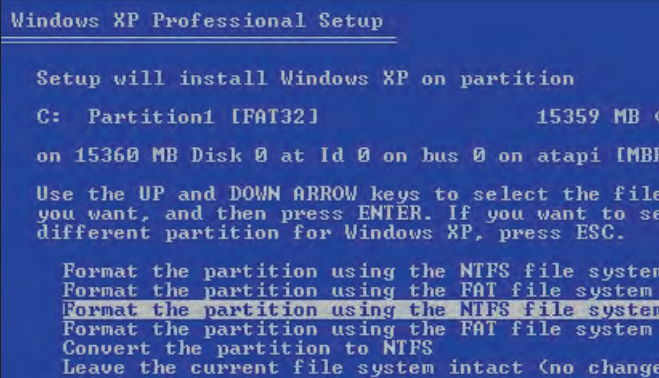
## Chrome extensions

Google launches Chrome 4 with support for some 1500 extensions

### Game won't start

I installed VOLVO from your December issue. When I try to start the game, I get an error - Video Device Error and the window closes. So I can't play the game. Please advise.

Savio D'Souza



Formatting the Windows partition is possible using the Windows installation disc

### Your PC might not support the requirements of the game.

Check if your graphics card is DirectX 9.0c compliant and has the video memory required.

### Formatting C partition from Windows

I'm having problem in formatting my local disk C. Whenever I try to format my disk a message comes on my screen saying that Windows is unable to format the disk. Can you suggest how I could format my disk?

Rohit Yadav

You cannot format the default Windows partition, while you're running the operating system and possibly other software from it. The only way to format the partition is to boot from another drive or partition with an OS on it. Formatting the C partition will also be possible through the Windows installation disc during a reinstall.

### Going multi-GPU and overclocking

I have just got a PC assembled for myself with the configuration - Intel Core i7 860, ASUS P7P5D Deluxe, Kingston 4 GB kit 1333 MHz, XFX GeForce 9600 GT, 500 GB HDD, LG optical drive and a MRON GAMMA cabinet. I want to know is whether I can use three PCIe cards well (3-way SLI or triple Crossfire) on my board or not? Will the present PSU that is equipped with my cabinet be able to support at least 2 PCIe cards? Could it even support three? I've been unable to find proper specifications on my cabinet. Playing games at 1280 x 1024 at high settings is more than enough for me. Should the upcoming

games require more out of the PC, then will I have to get my rig overclocked manually by some expert or will the Intel Turbo Boost and my ASUS motherboard's tuning feature will do the job well? I need advice on cooling solutions.

Nikhil Mishra

The ASUS P7P55D Deluxe board supports both CrossFire and SLI, so you shouldn't have much problems there. The same can't be said about the power supply. You have to open the PC and look for a sticker that mentions the specifications. Even then, it's recommended that you use a good quality PSU of at least 500W for a stable two-way SLI/CrossFire setup.

Your current set-up should be fine for 1280x1024 resolutions gaming for a while. Most likely, the 9600GT will be outdated by the time you feel that the current system isn't performing. Going in for a second 9600GT card won't double your performance - it's something that varies from game to game. It would be simpler to sell off the card and go in for a powerful one.

You shouldn't have to depend on someone to overclock the system for you. The onboard overclocking tool should let you do it easily. Plenty of cooling solutions are available for the LGA1156 platform. Look for the LGA1156 versions of the Cooler Master Hyper 212 and Thermalright Ultra-120 coolers.

### Graphic card overclocking

I've purchased Winfox NVIDIA GeForce PX9400 GT (1 GB DDR2) few months ago. I want to upgrade its BIOS. Please pro-

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## Hacking consoles

Hacker claims to have finally cracked the PlayStation 3

## Nexus gets multi-touch

Google releases firmware to enable multi-touch functionality to the Nexus

vide me the link to your page where I can find the BIOS files to download. I also want to over-clock my graphic card. For the time being, I've set the values of core, memory and shader to its default values - 575, 400 and 1375 MHz, respectively. I want to know what values I should use to overclock my GPU without harming it. My PC configuration is as follows: Intel P4 3.06 HT, 1.5 GB DDR1 RAM and 250 GB HDD.

**Abhishek Rathor**

The graphic card brand you might be referring to is WinFast from Leadtek. Updating the BIOS of a product is unnecessary unless there are some major issues. A wrong BIOS update or a problem during flashing could make the card unusable. The limits to which any component can be overclocked isn't set. It's something that has to be done little by little till you reach a point where there is both a performance boost and also stability. A poor cooling solution will also limit you. Keep checking the temperature of the card every time you make an incremental overclock. The 9400GT isn't a very powerful card and overclocking it won't give you a big boost in performance. Do it at your own risk.

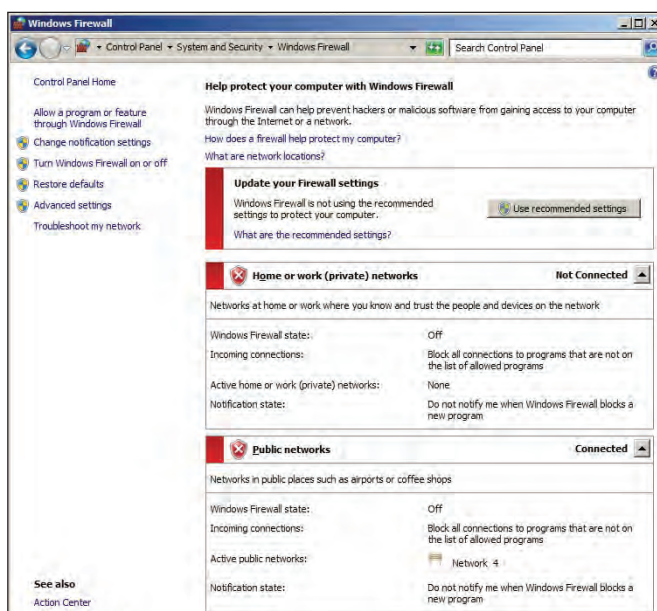
### Norton won't go

My PC configuration is  
Processor - Intel Pentium 4 2.93 GHz  
RAM - 256 MB DDR

I have installed Norton Internet Security and now I want to remove it. But when I uninstall it, I'm not able to access the Internet. When I install again, the connection works fine. Please help me uninstall it.

**Shubham Kesarwani**

The problem might be due to some permission set by Norton Internet Security. Make



Ensuring Windows Firewall is working once a security suite is uninstalled

sure NIS isn't running when you uninstall the program. Once uninstalled, check the Windows Firewall to make sure it is enabled but more importantly to check if connections are being allowed.

### Tri-core performance

I'm a post graduate student in VLSI Design. I'm facing problems with my PC, which has the following configuration:

- AMD Phenom x3 8650 2.3 GHz processor
- ASUS M3N78-EM motherboard
- 2 GB DDR2 ZION RAM
- 160 GB Seagate HDD
- BSNL broadband connection
- ASUS VH192 19-inch monitor

I use Windows XP SP2. The system boots slowly and after booting, it takes time to connect online and also it requires more time for opening any application such as Media Player and Nero. In fact, it takes

some time to settle, only then can any application be run without freezing the system. As the processor has three cores, I expect the system to run faster than my earlier dual core processor which is not happening. I heard that the triple core processor from AMD isn't very great. I am playing Max Payne 2 on the system, but it runs very slowly while it works

pretty well on an Acer laptop which has an Intel Core 2 Duo processor. Please help in sorting out the issue.

Will a transition to the following configuration makes

my system better? AMD Athlon II X2 245 with an ASUS or Giga-byte suitable motherboard.

I'm having a problem with my monitor also. A weird shade runs from the bottom to top continuously. I use iBall speakers. Are these speakers affecting the monitor? I switched off the speakers

and checked but the problem remains. I took the monitor to the service centre and it was working fine there. I do not know what to do.

**Madhu**

The slowdown could be due to a number of reasons. If you haven't installed any drivers for the motherboard. It can, in some cases, severely affect performance. Download and install the latest drivers for the board from the manufacturer's site. If you're using an old PATA hard drive, that too can slow down the PC. Run virus scans to be sure that there are no viruses on the system.

The Athlon X2 245 is a faster processor for single threaded applications, but the Phenom x3 8650 isn't very slow either like you mentioned. A tri-core doesn't automatically mean a faster user performance. Not all applications can use multiple cores efficiently, so in applications where a single core is used, clock speed of the processor determines the performance. A dual running at 3 GHz will then definitely be faster than a 2.4-GHz tri-core. The laptop you have might have a better graphics solution than the onboard graphics of the AMD 780G chipset, which is why you see a stark difference. First, rectify the bootup and slow application loading issues and then invest in a decent graphics card for gaming.

LCD monitors shouldn't be affected by magnetic fields from speakers like with CRTs. It could be some problem with the panel itself. Also, check the cable for damage and if possible, test the monitor on a different PC or using a D-sub instead of DVIs.



## GNOME

Gnome, with its *Keep it Simple & Stupid* (KISS) policy is the desktop environment of choice for millions and also the default option for Ubuntu, which is arguably the most popular desktop distribution. Here are a few pointers towards tweaking Gnome a little more to satisfy the power-user in you.

### Uniform theme for root applications

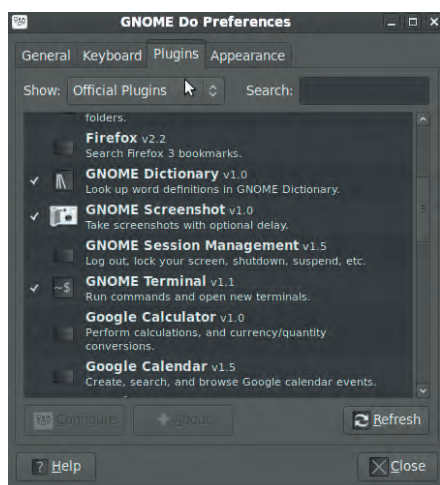
If you've changed your theme that was installed as a different user, and then launch a GUI application with root privileges, you'll notice that it still starts with the old theme. To do this, open the terminal and type in the following commands sequentially:

```
$ sudo ln -s ~/.themes
/root/.themes
$ sudo ln -s ~/.icons
/root/.icons
$ sudo ln -s ~/.fonts
/root/.fonts
```

This creates symlinks for the icons, fonts and theme directory between the current user and the root.

### Gnome-DO

Gnome-Do is an application launcher and much more, inspired by QuickSilver for Mac. Think of it as a super-charged replacement for your [Alt]+[F2] default



If you can think of it, there is a plug-in for it



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Gnome-Launcher. In some distributions, it is available by default in the repositories. For the rest, there are detailed instructions on the official web site at [http://do.davebsd.com/wiki/Installing\\_Do](http://do.davebsd.com/wiki/Installing_Do). For Ubuntu 9.04 the PPA repositories are as following:

```
deb http://ppa.launchpad.net/do-core/ppa/ubuntu jaunty main
deb-src http://ppa.launchpad.net/do-core/ppa/ubuntu jaunty main
```

After this, a simple `sudo apt-get update` followed by `sudo apt-get install gnome-do` should do the trick.

You can summon `gnome-do` by pressing [Win]+[Space] bar and then type the first few letters to launch an application, open a folder, update your twitter, do a dictionary lookup, control your music and anything just short of learning the art of Zen.

### Nautilus scripts

Nautilus is a Gnome file manager and it supports scriptable right-click actions. So you can resize images, converts audio

certain functionality, especially multimedia related task. Therefore, it is advisable to install the following packages if you don't already have them.

### Imagemagick

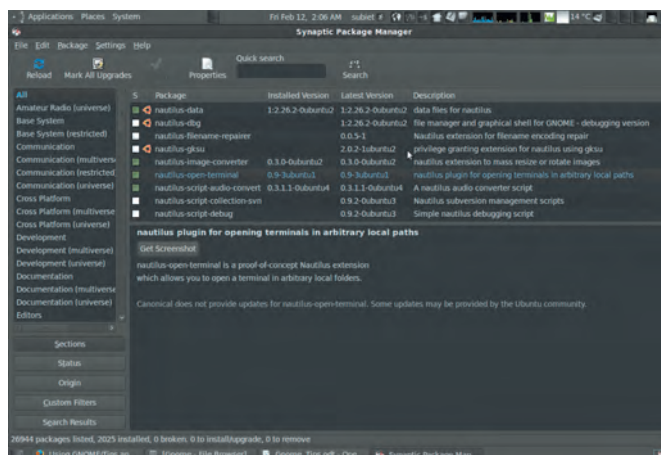
This is Photoshop in command line, all image related functionality depends on it.

Mencoder and transcode: For audio/video conversion tasks. On a Debian-based distribution, either you can use synaptics to install them or type the following in the command line:

```
$ sudo apt-get install
mencoder transcode ima-
gemagick
```

If you find Nautilus Scripts over whelming, you can get some of the functionality by installing the following packages:

```
nautilus-open-terminal
nautilus-image-con-
verter
nautilus-script-audio-
convert
```



A small package that lets you open a terminal in the current folder

format, encode video for your mobile and more without launching any other application. First go to <http://g-scripts.sourceforge.net/nautilus-scripts.tar.gz> and download all the scripts. After extracting the package, simply put the contents in your `.gnome` directory located in your home directory.

These are only scripts and depend on other software for

### One click to root

If you frequently find yourself moving or editing files that require root permission and find it cumbersome to either use the command line or open a specific folder in Nautilus with root privileges each time, you can make a simple shortcut to save time.

Right-click on any panel or the desktop to create a launcher.



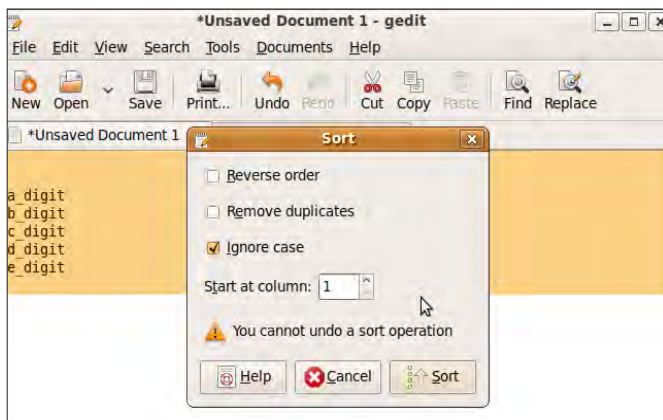
In the launcher properties, enter the following:

```
Type > Application
Name > Root Nautilus
Command > gksu nautilus
```

So now whenever you click on this icon, a Nautilus window with root privileges will open after authentication.

## Gedit plugins

Gedit is the default text editor for the Gnome environment



Nifty little functionalities implemented via plug-ins in Gedit

and powerful code editor too. Gedit is feature rich and comes with tab and spell-check support. But it can do much more courtesy the available plugin-base. Go to Edit > Preferences > Plugins to install and configure them. Some of the plugins we recommend are:

**Spell Checker:** No surprises here, a quick spell check is an indispensable tool.

**Sort:** As the name suggests you can sort the contents of an entire document or the selected

text. You can sort it normally or in reverse order.

**Change Case:** For those times when you have to use ALL CAPS.

**Python Console:** Gives an interactive Python console in the bottom pane.

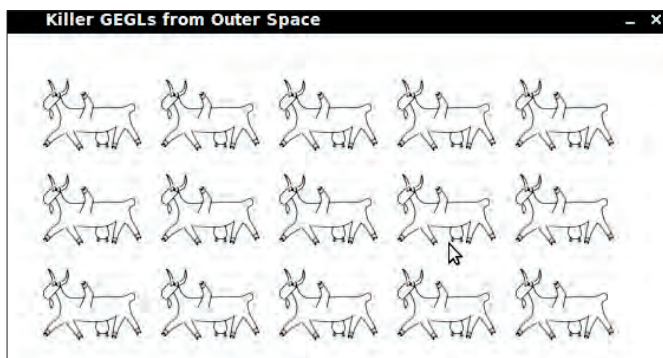
**Embedded Terminal:** Useful if you're using gedit as your code editor, you can quickly compile and see the output in the embedded terminal visible in the bottom pane.

**Bracket completion:** Automatically complete brackets, used primarily while coding to match parentheses.

## Easter Eggs

Open the Run Dialogue [Alt] + [F2] and then type gegl from outer space and press [Enter]. This will launch a simple game where you have to save a fish from falling bullets. Check the screenshot below:

This time after pressing [Alt] + [F2] type free



A simple retro game hidden as an Easter egg in Gnome

the fish and hit [Enter]. You will have a small fish called Wanda, floating around your screen which will run away when clicked only to reappear randomly again. If you find that irritating and want it out of your screen you will have to reload your gnome-panels. To do this, launch the run dialog by pressing [Alt] + [F2] and then type `kill gnome-panel`.

## FreeCommander Custom columns

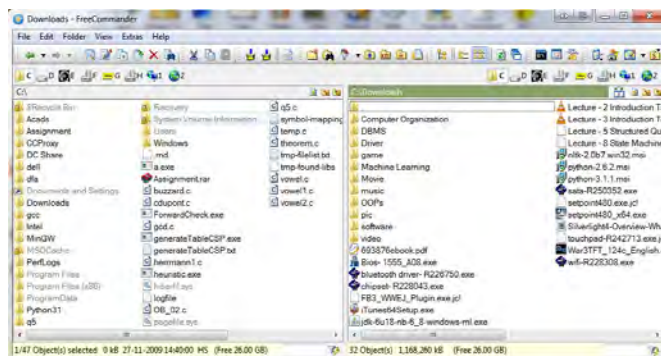
Unlike Windows Explorer, FreeCommander does not support adding column headings on the fly or shifting the column sequence by dragging and dropping. Hence, one of the most important features in FreeCommander is the ability

Add to list (the first button on the top menu) and type in an appropriate name for your entry. Next select the profile you just created and click on Define Columns (The last button on the menu which resembles a Hammer). Click on the Add to List icon and select the column type from the menu.

Once you are done configuring the profile, all that is left is to activate it for your file pane. Just go to view > Customs Columns > Your desired profile.

## Custom keyboard shortcuts

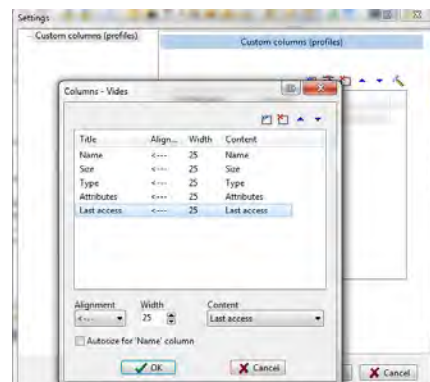
Most of the functions in FreeCommander can be accessed by keyboard shortcuts so that you accomplish tasks faster than



The FreeCommander Interface

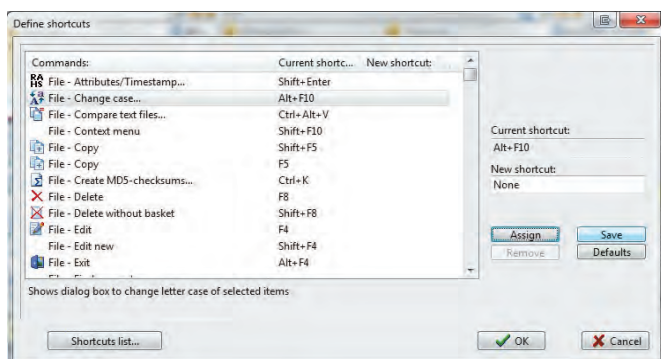
to create Custom Columns. This feature makes it possible to customise the details display mode so that it only shows the most important and relevant information and that in an order you are comfortable with. As in Windows Explorer, you can then sort the files by clicking on a column heading.

Go to Extras > Settings ([Ctrl]+[Shift]+[S]). Under the View drop down menu, navigate to Custom Columns (profiles). Click on



Use the blue arrows to arrange the columns display sequence

ever. It even lets you manually configure hotkeys and add new ones for some command that you use frequently. Go to Extras > Keyboard



Make sure you click on save before closing the window, otherwise the change might not take place

**Shortcuts.** A list will open with the shortcuts assigned to the commands available in FreeCommander. Here you can either change or remove shortcuts for the commands or add a hotkey for one which has not been assigned any by default. Just enter the desired key combination in the New Shortcut text box and click on assign.

## Customising

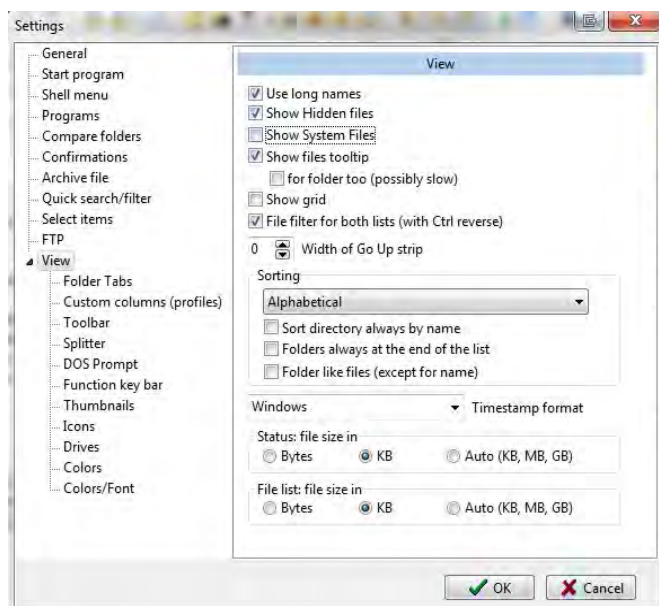
FreeCommander lets you customise its appearance according to your preference. You can edit the toolbar entries already existing on the FreeCommander window or add new ones. You can even change the drives that appear in the Drives bar or customise the colours for the status bar, the whole interface in general or font colour for different file types. Go to Extras > Settings > View to access these settings.

## Toggle visibility

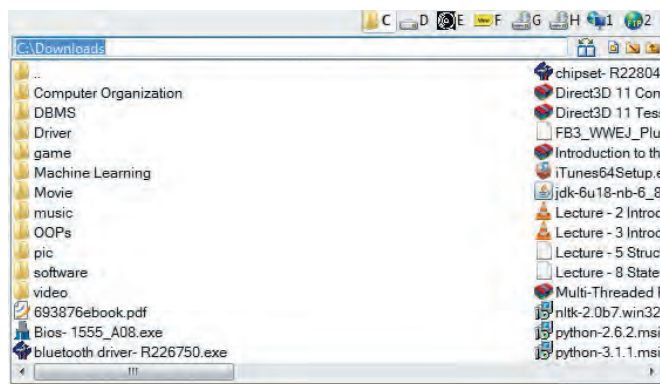
Go to Settings > View > Show Hidden Files to activate the visibility of hidden and system files in the selected pane. You can even consider defining a hotkey for it so that you can toggle the visibility anytime using just a keyboard shortcut. Go to Extras > Define Shortcuts > View- show/hide hidden and system files, and add a custom key combination in the New shortcut box.

## On a pen drive

If you run FreeCommander from a pen drive or any external storage device, the file and icon links in your custom toolbar entries will be broken once the drive letter changes. To get over this, you need to use the FreeCommander variable strings format instead of a hard-coded path. This will enable your toolbar entries to find your files, regardless of the actual drive letter of your storage device. Use %FcSrcDrive% instead of the drive letter in the path for files on the same drive as FreeCommander and %FcSrcPath% instead of the location where FreeCommander is installed for files in the same directory as FreeCommander.



Check the box for Show Hidden Files



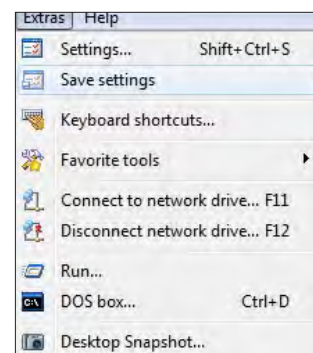
Enter the path in the Address Bar after pressing Alt+G

## Working with paths

To enter a path in the FreeCommander Address bar, middle-click on it or use the [Alt]+[G] shortcut and set it to edit mode. You can even type your path in DOS command line if you have enabled it from Settings > DosPrompt: Show Command Line.

## Backing up

If you have made a lot of changes to the settings of FreeCommander and added custom profiles and tabs, it is recommended that you backup your configuration so that you don't have to go through the whole process again on a new computer if your computer crashes. Go to Extras > Save Settings to back up your settings.



Click on Save Settings

## Command line parameters

FreeCommander comes with various command line parameters for those of you who launch applications directly from the command line. Some of the useful ones are:

/L - To set a path in the left pane.

/R - To set a path in the right pane.

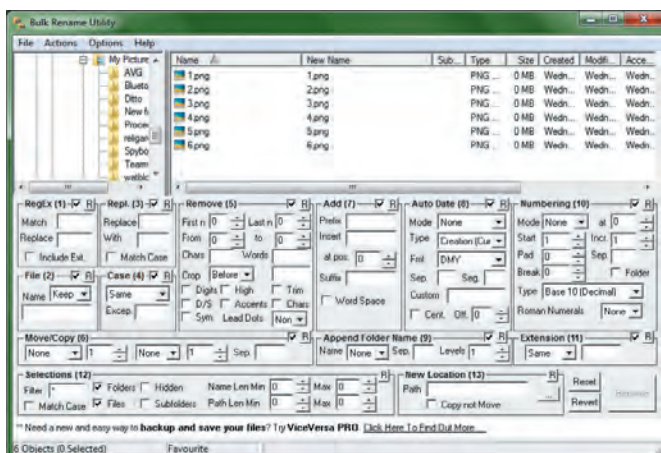
/N - Starts FreeCommander as a new instance even if another instance is already running.

/C - Starts FreeCommander and passes the other command line parameters you supplied to the already running instance.

## Bulk rename

Bulk Rename Utility allows you to rename files and folders. You can customise the options to rename them as per your choice. Moreover, it allows you to batch process files so that files that have a pattern or those which have to be renamed in a





Screenshot of Bulk Rename Utility

pattern can be renamed at once. For all the examples given, select the options, then click on a file in the explorer which is part of the Bulk Rename Utility Interface. The new name will be displayed in Green next to the current name. This shows you a preview of what your file will be renamed as.

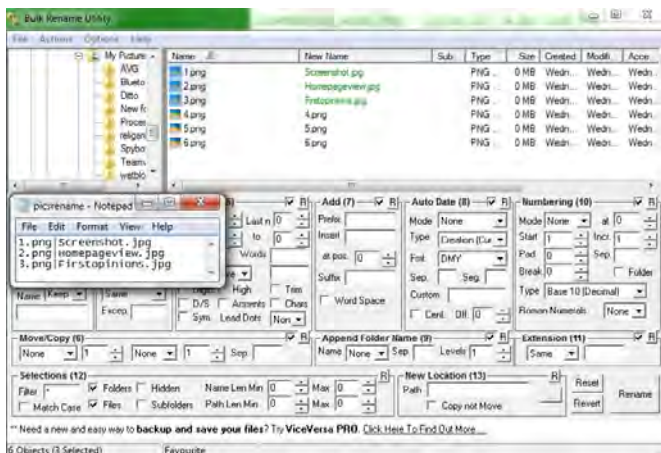
## Using a text file

Ever had a list of songs ripped from a CD that came out as Track1.mp3 and Track2.mp3. Bulk Rename Utility allows you to rename them all in one go, assuming you have the actual names stored in a text file. Open the required folder. Create a text file with the names. Format is as follows: Current Name | New Name. The current name and the new name have to be separated by a pipe symbol. There can be only one entry

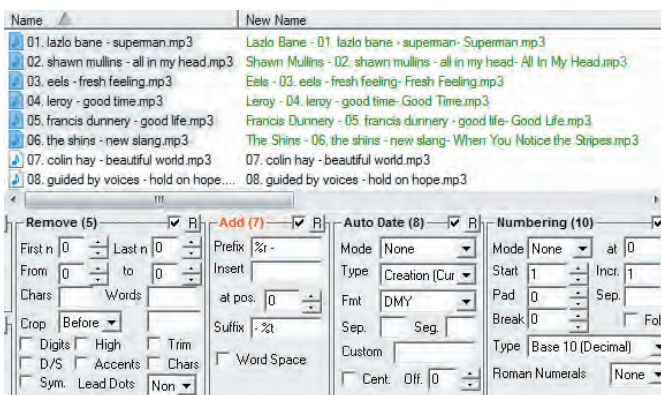
per line. Go to File > Import Rename Pairs and then select the files to rename.

## Using tags

More often than not, music files are named differently. The file name might not be the track name, so on and so forth. In the area marked 7, there's an option called Add. It allows you to add prefixes and suffixes. You can add ID3 tags as well to your file name. ID3 tags allow you to set Artist, Title and Track Number to your MP3. Adding %r to prefix will prefix your file with the name of the Artist, so your file lists are automatically sorted by artist. Similarly %t allows you to add the Title and %k Track Number. The above settings are useful for sorting into folders. Please note that to do so, you need to first extract the ID3 tags



Rename from Text File



Add MP3 Tags

(Options > Extract > ID3 Tags). The same can be done with JPEGs using EXIF tags. You can add %a for Aperture, %e for Exposure, %f for Focal Length and %xb for Exposure bias. This is quite popular with photography buffs.

## Using filters

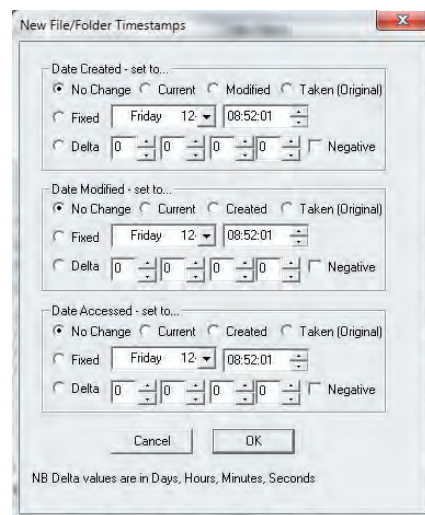
If you've ever done any batch processing, you'd understand how irritating it is when files other than what you're working on get in the way. Assuming you're naming MP3 files, you really don't want your ZIP files to get in the way. Now, an easy way out is to use the Sort by FileType option. However, if you don't want to go that way, you can set up filters.

Filters are part of the left bottom panel under Selection (12). This way your rename operations will only work on the files you select. So key in \*.mp3 to restrict only your MP3 files. You can also enter in multiple file filters separated by a space (\*.mp3, \*.cbr, \*.zip). Alternatively, you can also set up a filter that prevents access to certain type of files. You might want to ensure that your system files or your DAT or REG files don't accidentally get renamed. To do so, you can

set up a not-filter by adding !\*.reg !\*.dat. This will select all files except the ones in the filter.

## Changing timestamps

Bulk Rename Utility allows not just the renaming of files, it also allows you to change their file attributes like their date and time information. If you're renaming a bunch of files, you can go to Options > Timestamp and change the created, modified and accessed dates. A nice feature is the enabling of the Delta option that allows you to set the new date as the



current date plus some number. It also includes the option of a negative. This is useful when working with photographs or logs, and the date information is essential.

## Character translations

This allows you to preset changes that you'd like to make to characters. Let's say that all your digital camera images have the prefix DSC, and instead of cropping or deleting it, you would like it to be prefixed with Photo. Using Options > Translations, you may set them. That includes replacement for special characters like \$ and for any ASCII value. For example, to convert from capital A to capital B, you may use the following translations A=B, 41=42, 065=066, A=066, 41=066 and so on. You may use direct values, hex values or decimal values as in the example above. You may even convert pairs. Like every D,S,C = P,H,O,T,O. Of course, if you wish to convert a comma sign, you can't use the direct value, you'll need to use the Hex or Decimal value. Please note that Character Translations need to be reset every time, else they could tamper the rest of the renaming operations.

## Drag and drop functionality

Bulk Review Utility has a drag and drop option. Using this, you may directly drop files from Windows Explorer onto the interface. This is useful when you need to process files which are different locations.

## Sorting files and folders together

Since BRU works for both files and folders, there is no necessity of differentiating between the two while batch processing. Unfortunately, Windows Explorer sorts files and folders separately. This can be removed in BRU by going to Options > Sorting > Sort Files and Folders Together.

## Save settings

This is useful if the same sort of rename operation needs to be done repeatedly. You can select the renaming criterion, including all the character translations, and then save the settings as a Bulk Rename Utility Favourite BRU file. Press [Ctrl] + [S], or go to File > Save. You can later use these settings by going to File > Open and opening the BRU file. This is also useful if the operations are to be performed on different computers. One set BRU file can be transferred then, instead of recreating the settings.

## Terminal

Today GNU/Linux has come a long way and you don't need to touch the command-line for performing everyday tasks, but if GUI is a little too n00b for you, here are a few tricks to make you a command-line ninja.

## Watch videos

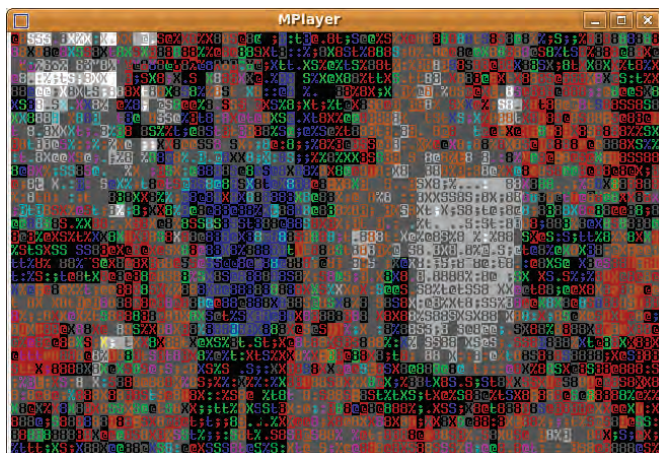
If static ASCII art is too boring for you try and watch a video in command line. Not only is it possible, it is very simple too. Install mplayer on a debian-based system. To do this, type `sudo apt-get install mplayer`

Then to watch the video, fire up a terminal and type `mplayer -vo caca filename.avi`.

If the above is not retro enough for you, you can watch it in black and white too `mplayer -vo aa filename.avi`. Works best for simple 2D animated content such as SouthPark.

## Change your MAC address

So your university insists on infringing your privacy by tracking you via your MAC address, you can always be a step ahead by changing it to whatever you fancy. All you



The screenshot doesn't do justice to the geeky glory of watching video in text

have to do is bring the interface down then use the hw ether switch to change it and then pull up the interface back again.

```
$ ifconfig eth0 down
$ ifconfig eth0 hw ether ff:ff:ff:ff:ff:ff
$ ifconfig eth0 up
```

Remember the MAC address will always be in HEX format.

## Easy filesharing

Ever wanted to share a directory and its content quickly over the network? If yes, simply type `cd` in the directory you want to share and issue the following command:

```
$ python -c "import SimpleHTTPServer; SimpleHTTPServer.test()"
```

and everything under this directory will be served at the port 8000 via a new webserver. So your friends can point at `http://YourIP:8000/` to access the content. When done, simply close the terminal window or press [Ctrl] + [C] to terminate the process.

## Long commands

If you think you will never be able to remember the long command given in the above tip, you are right. This is where the role of "alias" comes in `alias short_name= 'command_name arg1 arg2 arg3'` For example you can first form the following alias, by issuing

the command in the terminal `$ alias share_dir='python -c "import SimpleHTTPServer; SimpleHTTPServer.test()"'` and from now you can just type `share_dir` to share your current directory over the internet.

Alias are generally stored in your `~/.bashrc` file, so you don't have to manually make them for each terminal session. If you ever want to use alias without its expansion you can use the `\` mark before it. For example, if you have an alias like the following `alias ls='ls --color=auto'` and want use `ls` without that `--color` option the you can issue the following: `$ \ls`.

## Editing your .bashrc

The `.bashrc` file located in your home directory is the configuration file for your bash shell. It is executed every time you open a terminal window or invoke the shell. Therefore it is a great place to store your "alias". To open it, type the following and hit return:

```
$ gedit ~/.bashrc
```

You can use it for fun stuff such as displaying a message every time your shell is started or for more useful stuff as making your default startup directory as your Desktop folder instead of your home directory when you invoke



the shell. Both of these can be achieved simply by typing the following in your .bashrc.

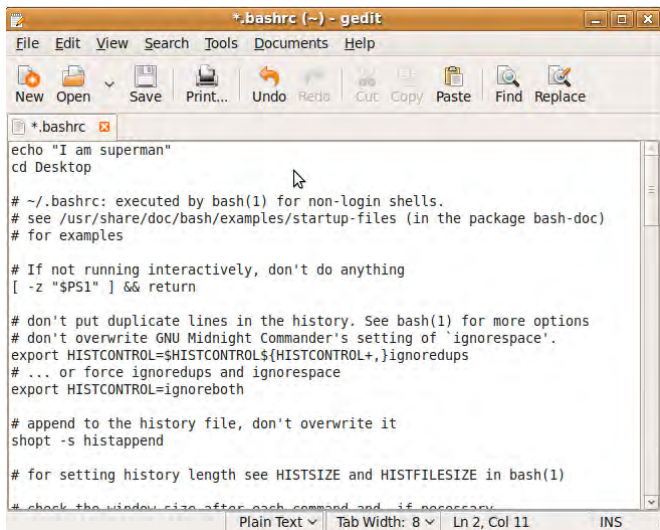
echo "message you want to display" cd Desktop.

You can edit this file to include whatever fancies your, there are also some default alias present over there, especially related to the ls command that you can enable/

application type the following

```
$ ps -e | grep app_name
```

You don't even need to type in the full application name, for example typing just fire for firefox would do. If you find the above process too tedious you can also use the less powerful but more convenient killall command \$ killall application\_name



Customise your shell experience

disable by simply uncommenting/commenting them.

## Type less do more

This one is self-explanatory and a huge timesaver, just look at the example below.

```
$ cd /digit/long/path/pain/to/type/again
cd: /digit/long/path/pain/to/type/again: No such file or directory
$ mkdir !*
mkdir /digit/long/path/pain/to/type/again
!* works with any command and not just mkdir to run it with same arguments as the command before it.
```

## Killing applications

On issue of kill -9 Process\_id the application with that particular process\_id (pid) will get killed no matter how badly it is hung. To find the PID of any

A word of caution if you type the following command \$ kill -9 -1, it will kill all processes that you have the privileges to kill.

## System monitor

If you're not satisfied with merely killing an application from the command line and want to see where your system resources are going in detail, then Htop is a neat little application for that.

Since it is universally present in the default repositories it can be easily installed. On a Debian-based distribution (include Ubuntu) this can be done by issuing the followingsudo apt-get install htop. You can view processor/memory usage of all application, change their processing priority, kill them and much more with Htop.

## R for remember

Finally we had reserved the best for the last. All of us have found ourselves looking for that awesome command we typed two days or two minutes back by continuously pressing the up arrow key, but not finding it. Press [Ctrl] + [R] in your bash shell. Type in the first few letters of the command you're looking for it will immediately match the command you are looking for from your history (which you can view by issuing the history command) and you can execute it by pressing [Enter].

## Photoscape Full / Partial capture

Photoscape comes with a great screen capture tool that can take snapshots of the entire screen, a window, or a selected region, and the captured image can even be modified before saving with the plethora of editing tools that comes inbuilt with the software. Click on the Screen Capture icon in the Photoscape circular menu. In the dialog box that appears now, uncheck Sound if you do not want to hear the sounds being played during the capture process.

If you want to capture just one particular window, click on Capture Window and then hover your mouse over the

desired window or window object. You will see that its bordered by a rectangle. Finally, middle-click to complete the capture. If you want to capture just a small region of the screen, click on Capture Region, and then draw a region to capture with your mouse.

Under the Capture Screen Process, you can click the Copy to clipboard radio button if you want to bypass the Photoscape editor and place the captured image directly in your clipboard. Otherwise the image will open in the editor tab for you to modify and save if desired.

## Photo mosaic

A photo mosaic is just a combination of different photos on a single page for you to show off your photos to friends and families without having them to flip through each one of them. Click on the "Page" icon in the Photoscape menu. Choose a page layout in the right pane that suits your needs best.

You can change the photo page margin size, border roundness and background colour or insert a frame for your photo page from the right pane to perfect your mosaic. Some basic colour filters are also available at your disposal to enhance your photos. Finally, click on save to make



To perform a full screen capture, click on "Capture Full Screen"

your photo page and view it in the Photoscape Viewer.

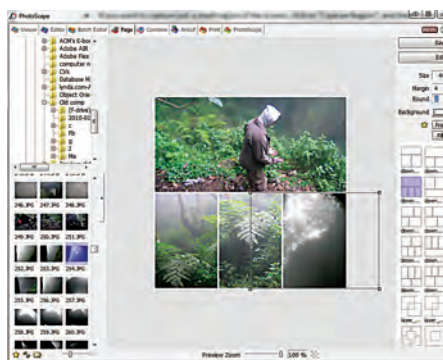
## Add backlight effects

If you have some dull photos, you can add some backlight effects to illuminate the subjects from behind, and make dark areas brighter.

Open any photo with Photoscape. The original image will open in Photoscape Editor. Click on the Backlight Effects button in the bottom pane under the "Home" tab a few times until you get the desired backlight effect for your photo. Save the photo once you are finished.

## Bulk resize your photos

Resizing multiple photos to upload them over the internet is an extremely tedious and repetitive work. But with Photoscape, you can batch resize them in one single click with the "Convert All" function.

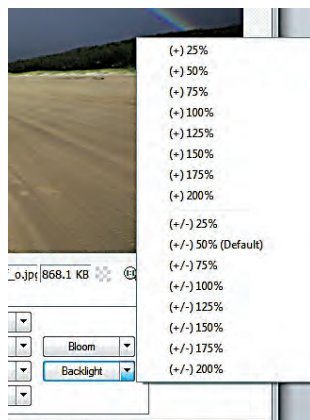


Drag and drop your pictures from the left pane into the centre work area

Click on the "Batch Editor" icon in the Photoscape menu, click on the "Batch Editor" icon. In the batch editor workspace, open the folder that contains photos that you want to batch resize.

Use [Ctrl] + Left Click to select multiple photos and then drag them onto the workspace.

You can use various resizing options from the Home tab



You can even select the Backlight percentage form the dropdown box alongside the button

in the right pane. Select the one that fits your needs. The centre pane of the workspace will show a real time preview of the changes you've made.

Finally, click on the "Convert All" button to batch resize your images. Once you are done setting the naming convention for resized files and the output folder and format, wait for some time for Photoscape to finish the job. The program might appear to have hung during this process, but there's nothing to panic about.

## Create lolcat pictures

Photoscape lets you create improved lolcats pictures with conversation balloons and text captions.

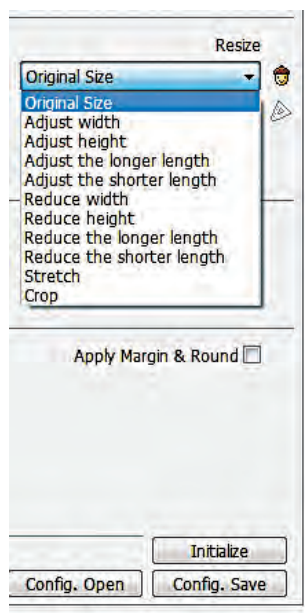
Click the Editor Button in the Photoscape menu. Browse and open your picture in the workspace. Go to the Object tab in the bottom pane. Click on the "Balloon" icon to add and edit a conversation balloon. Select the font properties, and the conversation balloon of your choice. At all times, you will get a live preview of your balloon and any changes you make to it.

Click on Ok and finally save in the bottom pane and you are

done creating your own lolcat picture / cartoon.

## Revo Uninstaller

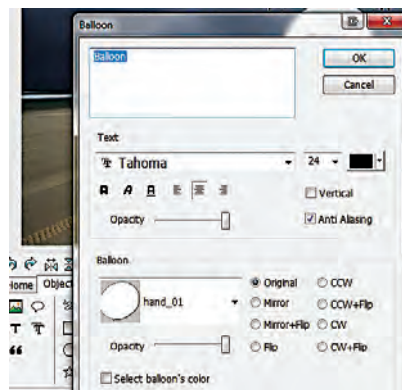
There comes a point after two or three years of constant usage of a computer when the majority of third party applications on your system start annoying you. Some may have been small utilities that spread themselves over various parts of the system. Some applications might have become broken, or



Bulk resizing didn't get any easier than Photoscape

lost a crucial file, leaving the rest of the files to occupy precious space. Some annoying but innocent adware might keep giving you pop ups, the uninstaller to which you can find nowhere. Your Program Files and Documents and Settings folders become such a mess, you don't know where to start, in order to get back the original clean and orderly system you had a few years ago.

Sounds familiar? The problems you have are some of the most common ones among PC users. The solution is simple: Revo uninstaller. In its simplest form, it acts as an alter-



Insert your funny caption in the balloon editor that pops out

native to the Windows Add and Remove programs window. Its advanced features are just awesome. Here are some of the things you can do.

## Change Start-up programs

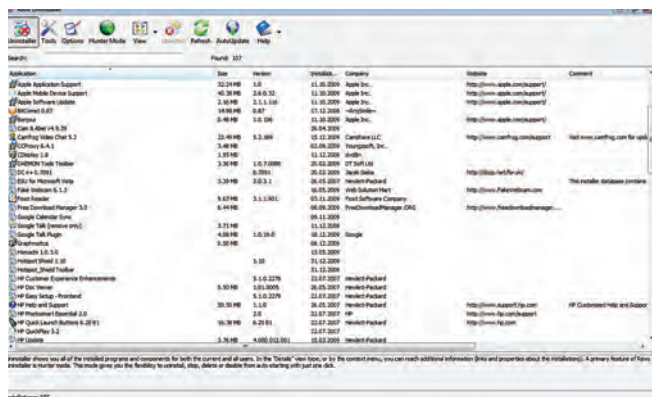
Though you can add and remove programs from the start up folder in start menu, some annoying start up programs can't be avoided this way. The Microsoft system configuration utility is the next option, but is not really high on user friendliness. The alternative is the Auto run Manager in Revo Uninstaller.

Found in Tools > Optimization > Auto run manager, this option gives you a complete list of all applications that start by default at start-up. All you need to do is untick the ones you wish to stop.

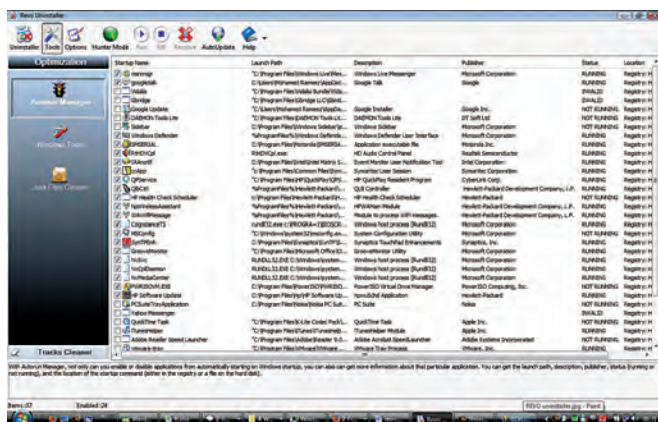
## Erase Complete Histories

If going to separate browsers to erase your tracks is too much of a bother, all you need to do is go to Tools > Tracks Cleaner > Browsers Cleaner. All installed browsers appear as multiple tabs, from which you can choose options such as clear history, delete cookies etc and click execute. This menu also has options to erase recent documents histories from Microsoft Office applications, in a similar sub-menu. Another





The Revo Main window



The Autoun Manager

sub-menu, labelled Windows Cleaner, has an entire array of options to delete recent file histories from many default windows applications, such as Notepad.

## Quick Access to utilities

Windows has a lot of useful options for optimisation, but with the increasing complexity of new versions, some of them have become quite hard to find. Worry no more, you will find a collection of all the essential windows utilities in Tools > Optimisation > Windows tools. From system restore to shared folders, everything in one place.

## Irrecoverable delete

Did you know that much of your deleted data can be recovered by a determined person in a laboratory, if they have not been overwritten. This is

because data is stored magnetically and at the time of deletion, only the reference to it, in the file allocation table, is deleted. The magnetisation still remains. So if your opponents are determined enough,

they can pull out those files you deleted. Worry no more. Evidence remover, found in Tools > Tracks Cleaner > Evidence Remover, is for you. This option overwrites all sectors on the disk from which you have recently deleted data, hence ensuring that the deleted data become unrecoverable. You may also utilise the unrecoverable delete option in the same menu to directly delete file irrevocably.

## Hunter mode

Till now, you have been taking it easy on those pesky annoying pieces of software. When it gets time to get serious, it's time for Hunter Mode. This mode is custom designed to get rid of those hard to locate pesky pieces of adware or other programs that plague your computer.

To access this, click on the hunter mode button in the Revo uninstaller main window. The window disappears and a rifle scope view (with crosshairs in it) appears near the top right corner of the screen, true hunting style.

Drag and drop this rifle scope onto any window, and a menu pops up. The menu gives you options to

**Uninstall:** Remove the programme and all files associated with it.

**Stop Auto starting:** If the programme automatically starts at start up, it is prevented from doing so next start up onwards.

**Kill process:** Equivalent to End process, found in task manager, except this time you don't have to find which process it is.

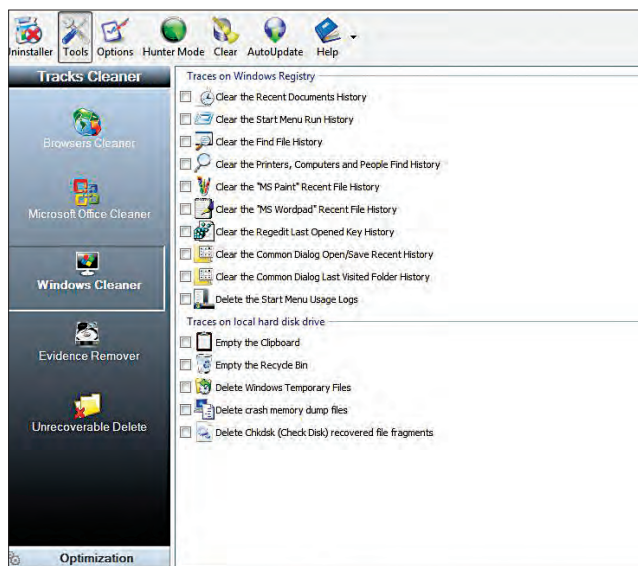
**Kill and delete process:** End process and delete the EXE from which it ran.

**Open Containing Folder:** Opens the folder in which the EXE file from which the process runs is saved. This is especially useful if you have broken applications on your computer that run blank windows, and you have no idea what/where they are.

**Properties:** Brings up the properties menu of the EXE file, as you would obtain if you right clicked it and clicked properties.

**Junk Files cleaner:** One of the most powerful and customisable features of Revo Uninstaller, this tool will let you get rid of all those scattered pieces of useless files left around your computer, thanks to many applications developed by incompetent developers, just lying there using up your hard disk space.

To access this tool, go to Tools > Optimization > Junk Files cleaner. After a short delay depending upon the size of your disks, a list of files REVO thinks is junk appears. You may choose to clean this up. The list of files that appear in this can be modified by going to Options > Junk Files cleaner. Here you will find options to the specific file extensions that are considered junk files, and other properties based on which they are selected. You can also add specific folders and file types to an exclude list. **d**



The Tracks Cleaner, found in Tools, is an excellent tool for removing unwanted histories from your computer

## End of game

Radical, the developers of the game Prototype lay off half its staff

## Project Natal

Prototype pictures finally make their way to the internet

Workshop

# Gaming Handsfree

Rossi Fernandes

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Now we're all big fans of gaming and while futuristic hand gloves aren't going to hit us anytime soon, motion tracking is a nice thing to have in games – you can move your character around by using your hands for example. Project Natal seems to be shaping up well, but it still isn't here. With just a web camera, you can now have a motion tracking device for free. Use software called Free Track (www.free-track.net) and you can soon control your game views using your head.

The plot is simple – the web camera detects a set number of points on your head. One of the things that greatly improve the tracking performance is use of LEDs. These are things you can easily buy off the market and build yourself. A few PDFs are available with guides on how to build your own head gear.

## Choose point model

The first step is to set the point model that you will be using with Free Track. The larger point model you use, the better. It allows for better detection as well as it tracks movements along various axes. Click on the Model button at the top of the Free Track window. Click on the point model that you wish to use. The single point model should do just fine if you wish to control the game in two degrees. This is perfect for racing games for example. It will let you move the player

view to either side to see if you're being overtaken. Flight simulators will also benefit. If you select any of the other point models, you need to specify other values for the distance between the two points.



Selecting the point model to be used by Free Track

## Setting up the cam

Make sure that the web camera is mounted exactly in front of you and there are no bright lights in the background. Next, configure the camera in a way that it detects the points easily and doesn't lose track of them. LEDs are simpler to detect as compared to bright spots

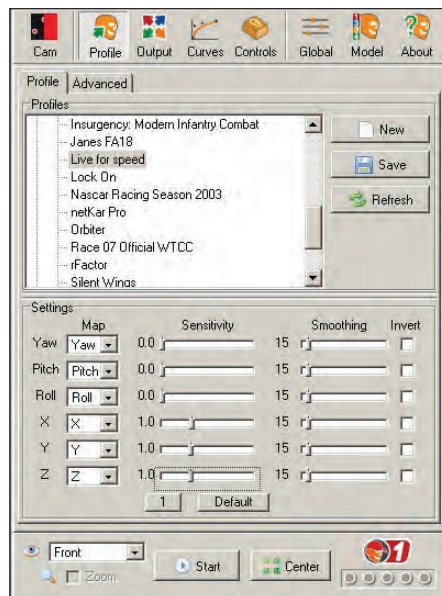
marked on a cap or a head-  
phone. Click the Cam button and then on the Start button after selecting your camera from the dropdown menu. Next, set the threshold slider till Free Track has a clear lock on the guide points. The background should go blank and the LEDs should stand out in it. Move your head around to ensure Free Track locks on the points properly. If it doesn't, you'll have lots of problems with controlling during game play.

There are also some other controls you can change to tweak and improve the motion detection accuracy. The point size menu allows you to specify the size of the LED or markings. You can specify the approximate size of the LEDs or markings and if possible, the frame rate of the camera.

## Sensitivity

Once you have the detection set up fine, it's time to fine tune Free Track to our requirements. Every game requires a different setting – remember that you can use Free Track as a tool to move the player view or even to control the player itself or look at an object from different directions. Profiles can be customised for every game.

Click on Profile, and then select one of the games from the list. Change the sensitivity and smoothing levels from this menu and watch the live preview of the controls on the right.



Customising game profiles and setting sensitivities

The 3D model should resemble your head movements. Further tweaking of movement and rotation is possible by clicking on the Curves button on the toolbar. New profiles can also be created for games that aren't natively supported.

## Enabling input devices

Free Track can be setup in a way that your head movements control the key strokes or even mouse movements. Click on Output, then on the Keyboard tab. Click the checkbox and then click on the button adjoining the different directions. Set a key that you want pressed when this movement is done. This way, you can even control applications on the desktop using. For example, you can load up Firefox when you move your head down. For flight simulations such as Microsoft Flight



Control key strokes using head movements

Simulator 2004 and 2002, you can use the FSUIPC add-on.

All that's left is to start the game, set your keys and profiles although Free Track's profiles should take care of everything. You're ready to go!



# Sorting through some Core Chaos

**So many platforms, processors, chipsets, motherboards! Someone had to make things clear. It might as well be me!**

Agent 001

[agent001@thinkdigit.com](mailto:agent001@thinkdigit.com)

**I**t was time for another major upgrade that involved changing my faithful Intel P45 chipset P5Q3 motherboard and Core 2 Duo E8400 processor. I packed my bags and headed off to Lamington Road to see what I could find.

The processor and motherboard market has been heating up. There's a wider choice now and at the same time, more confusion with new sockets and chipsets cropping up. To those oblivious to the developments, Intel has moved to two major sockets – LGA1366 and LGA1156; the LGA1366 for the top of the line Core i7 processors and the LGA1156 for the Core i5 and Core i3 processors.

I walked into a slightly fancy store and just out of curiosity, asked for the fastest Core i7 processor – the i7 975. They said that no one really went for those expensive processors. The only one remotely available was the slower 3.2 GHz i7 965 priced at Rs. 53,000, which is way too high. The cheapest Core i7 920 was priced at a Rs. 14,300, which is still quite high for most of us. A decent motherboard to go along with it would cost another Rs. 10,000 at least. MSI's X58-Pro priced at around Rs. 11,300 was available. I remember it for its good value for money. Biostar too, had a few offerings around this price range. The shopkeeper even showed me the Gigabyte EX58 EXTREME, a top-end board for some Rs. 21,000. I wasn't exactly looking for a Rs. 75,000 processor-motherboard combination though.

I focussed on the Intel Core i5 range and AMD's new Phenom. Prices for the cheapest Core i5 were a little more reassuring. The Core i5 750 was priced at Rs.

9,900 bundled with a decent VFM board such as the Gigabyte GA-P55M-UD2 (Rs. 6,200) would be a solid base to build a system on. Few shopkeepers tried to sell me cheap AMD combos as well. An AMD processor with a cheap board is bundled as part of the deal. I wasn't interested in those. Instead, I asked around for the AMD Phenom x4 Black Edition 955 and the 965. They were around Rs. 8,200 and Rs. 9,200 respectively. The Black Edition would let me overclock the processor over the 4-GHz mark.

I made a note of the models and asked for some more motherboard options, preferably based on the AMD 785G chipset or the 790FX chipset. Some of the shopkeepers had no clue of the chipsets, so I looked through some of the boxes they showed me. The best and also the costliest offerings were from ASUS – the M4A79T Deluxe and the Crosshair III Formula both based on the 790FX chipset and both pretty expensive – prices were between Rs. 12,800 and Rs. 13,800. The MSI 790FX-GD70 was of a similar range but the price a considerably lower Rs. 9,800. The AMD 785G is a great alternative and I found some decent models from Gigabyte and ASUS for the same. The Gigabyte MA785GM-US2H was very cheap at just Rs. 4,500 and it even had an HDMI port that makes it perfect for an HTPC. The ASUS M4A78STD-V-EVO was priced at Rs. 6,500 and it supported CrossFire support that could help future proof my system. The option of going with the NVIDIA nForce platform is also present. The options for the AMD platform are on the 780a SLI platform. This is a slightly older platform, but it's what formed the top line of boards. Boards from ASUS for example can be found between the Rs. 8,000 and Rs. 11,000 mark. Those looking for cheaper

boards for HTPCs have to look at the GeForce 8200 and 8300. Those boards are difficult to find, but they should be under Rs. 7,000. Look for models from ZOTAC and XFX.

If you're building with the least investment, the Athlon II X2 245 priced at around Rs. 3,000 is the way to go. It makes good sense when bundled with an AMD 785G powered motherboard. It will play HD content and also some basic games. For those looking for more power, there is the new Athlon II X4 630 for Rs. 5,100 that happens to be a quad-core. If you're looking an Intel setup, you won't have problems finding the Core 2 Duo E7500 for around Rs. 5,500. The more powerful Core 2 Q8400 is more affordable as well. Those looking for a system to render a lot of stuff should go for it. I found it for Rs. 8,500. Intel's LGA775 processors are now more or less at par in pricing with their AMD counterparts. Generally, the recommended boards from my end for the Core 2 series are based on the P45 chipset. The P5Q series from ASUS and the EP45 range from Gigabyte start from around the Rs. 8,000 mark and go way beyond Rs. 15,000. If you want something a little cheaper, the MSI P45 Neo3 is available for Rs. 7,000.

It was a fun trip. There are so many choices available today, it's ridiculous and there's a solution for every need. I only wish the Core i7 processors drop in price and so do the X58 boards. The performance jump is huge and it would be nice to get my hands on it. **d**



## 2560x1440 goodness

Dell's new 27-inch 16:9 Ultrasharp U2711 makes some noise on the internet

## Core i goes cheap

Intel's Core i3 530 processor hit the market at an affordable \$125

Agent 001

**Q** I want to buy a desktop under Rs. 35,000. I have looked for many and narrowed down on the IdeaCenter B500. Can I get a better assembled PC under my budget. If yes, can you please send me a list of its configuration. I will be used for programming and watching movies and also for some occasional gaming.

Shubham Kesarwani

**A** You can build a much better assembled PC. Here is my suggested configuration for under Rs. 35,000.

	Components	Price (in Rs.)
Processor	AMD Athlon 2 X4 620	5,050
Motherboard	Gigabyte MA78GM-US2H	4,200
RAM	2 x 1 GB DDR2 800 MHz (Kingston)	2,000
Graphics Card	Zotac GeForce 9600GT	4,750
Hard Drive	Seagate 500 GB 7200.11	3,100
Hard Drive 2	-	-
Monitor	AOC 2236Vw	8,400
Sound Card	None	-
Cabinet	Zebtronics Antibiotic	2,100
Power Supply	VIP 400W Gold	850
Speakers	-	-
Keyboard	Logitech Multimedia	400
Mouse	Logitech 3 button scroll	300
	<b>Total</b>	<b>31,150</b>

**Q** I am planning to buy a new video card. My budget is Rs. 10,000. Please suggest a video card from NVIDIA. I don't want to buy a card from ATI. Thanks in advance! Great work!

Barath Pandian

A: I would have recommended the ATI Radeon HD 5770, but you have mentioned that you don't want ATI. In that case look for the NVIDIA GTS 250 for around 8K. If you can spend a little more, the GTX 260 for Rs. 12,500 will be quite a bit faster. Brands to look at are ZOTAC, XFX, Palit and ASUS.

**Q** I have few queries regarding sound card. I have recently purchased a PC with the following configurations: Motherboard: Biostar G41D-M7 Processor: Intel Core2Duo E7500 GPU: XFX 9800GT 512 MB RAM: 2 x 2 GB Kingston DDR2 800Mhz I have bought myself a 5.1 Speaker. It's iBall Speaker Booster. I would

mostly use it for gaming and watching movies. It does not have a great deal of surround effect.

I wanted to know if adding a sound card will do justice?

I have a limited budget of around Rs. 3,200. I was looking for ASUS Xonar DX. Is there any better option in this budget? I want to know what kind of performance increment will I get to see using this card.

Rimo Paul

**A** There is no performance increment to be seen when using a sound card. At least, not one that is definitely measurable. But any good sound card uses better quality components and delivers a generally better quality, more neutral sound. By more neutral, I mean a sound that has no exaggeration of any particular frequency i.e. bass, mid-range and treble, but reproduces in an unbiased manner. I do not think you will see a huge difference in your sound quality simply because you have purchased very mediocre speakers. Something like an Altec Lansing MX 5021 will definitely benefit from a good sound card. In general, when using good speakers, the sound quality will be better, you will also get slightly higher volumes at the same volume setting.

**Q** Can you please recommend a smart phone (not business type) within the range of Rs. 15,000 to Rs. 25,000. It should have a minimum 5 MP camera with maximum resolution, a multi-touch screen, good long lasting battery with minimum 8 GB expandable memory and 3G. Thank you

Stanzin Namgyal

**A** You might want to take a look at Sony Ericsson's new Satio. It's priced around the Rs. 28,000 mark, but you may be able to find some really nice deals on the street. It meets all your criteria.

**Q** I am planning to buy a new CPU and motherboard within Rs. 18,000. I need it for playing CPU hungry games such as GTA-4 and Crysis. Is Core i5 750 + Gigabyte GA-P55M-UD2 a good combo?

Also, can CoolerMaster 460W extreme power handle quad-core CPU? My current system configuration as follows: Intel Pentium IV 3 GHz 630 processor Intel 915GEV motherboard XFX 9600GT 512MB graphic card 1GB DDR 2 + 512 MB RAM 500 GB WD Green Edition + Seagate 250 GB SATA HDDs Coolermaster 460W Extreme power PSU

Satpal Singh

**A** Remember that you will also need DDR3 RAM, which will also cost Rs. 2,500 for 2 GB. The combination of processor and motherboard is good. It will see you through the next 2-3 years. If you could consider spending more and getting the Core i7 860, which would cost around Rs. 4,500 more. I also recommend upgrading that power supply to at least a Corsair VX 450 that will cost you Rs. 3,600.

**Q** Which is world's best performer high speed 32 GB pendrive

Bhaumik Gohel

**A** Look for Corsair's Voyager GT 32 GB or OCZs ATV 32 GB. These are the fast ones available in India. Kingston's HyperX 32 GB is also available, but it's very costly, at least double the price of the other two mentioned here.

**Q** I want to buy a digital camera in the price range of Rs. 8,000 - Rs. 12,000. I want it primarily for capturing photos (indoors) of spectacular picture quality which is crystal clear even in low light conditions. The camera must have good overall performance. I've decided on the Canon IXUS 100 IS. Have I made the right choice? Please tell me about the best within the criteria I mentioned above.

Neelkamal

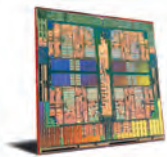
**A** You may want to look at Canon's PowerShot SX 110IS and SX 120IS for better performance in low light, owing to slightly larger sensors. Just note that crystal clear clarity in low-light conditions is not possible even with some high-end dSLRs. But both these cameras are more detailed than the IXUS you have mentioned and will offer more manual controls. **d**



# KILLER RIGS

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

## PRIMARY COMPONENTS



### PROCESSOR

- AMD AthlonII X2 240 / Rs. 3,000
- AMD Athlon 2 X4 620 / Rs. 5,050
- Phenom X4 945 / Rs. 8,100
- Intel Core i7 920 / Rs. 14,400



### MOTHERBOARD

- ASUS NVIDIA 7025 M2N68-AM / Rs. 2,250
- Gigabyte MA78GM-US2H / Rs. 4,200
- ASUS M4A78-PRO / Rs. 5,850
- MSI X58 Pro-E / Rs. 11,400



### RAM

- 2 x 1 GB DDR2 800 MHz (Kingston) / Rs. 2,000
- 2 x 1 GB DDR2 800 MHz (Kingston) / Rs. 2,000
- 2 x 2 GB DDR2 800 MHz (Corsair) / Rs. 4,000
- 2 x 3 GB Corsair Dominator 1600 MHz DDR3 / Rs. 8,000

### GRAPHICS CARD

- None
- ZOTAC GeForce 9600GT / Rs. 4,750
- Sapphire Radeon HD 4850 / Rs. 6,900
- Sapphire Radeon HD 5870 / Rs. 25,500



### HARD DRIVE



- Seagate 500 GB 7200.11 / Rs. 3,100
- Seagate 500 GB 7200.11 / Rs. 3,100
- Seagate 1 TB 7200.12 / Rs. 4,400
- WD Black Edition 1 TB / Rs. 6,500

### MONITOR

- Acer H203H / Rs. 7,250
- BenQ G2220HD / Rs. 9,200
- BenQ G2220HD / Rs. 9,200
- BenQ G2420HD / Rs. 12,500



### CABINET



- Zebronic Antibiotic / Rs. 2,100
- Zebronic Antibiotic / Rs. 2,100
- CoolerMaster 690 / Rs. 4,400
- Antec 900 / Rs. 6,500

### SOUND CARD

- None
- None
- None
- ASUS Xonar DX / Rs. 3,700



## SECONDARY COMPONENTS

### POWER SUPPLY



- VIP 350 Watts / Rs. 850
- VIP 400W Gold / Rs. 850
- Corsair VX 450 / Rs. 3,800
- Corsair HX 620 / Rs. 7,100

### SPEAKER



- None
- Altec Lansing VS2421 / Rs. 2,200
- Altec Lansing VS2421 / Rs. 2,200
- Altec Lansing MX 5021 / Rs. 6,500

### MOUSE



- Logitech 3 button scroll / Rs. 300
- Logitech 3 button scroll / Rs. 300
- Logitech MX518 / Rs. 1,300
- Logitech MX518 / Rs. 1,300

### OPTICAL DRIVE



- LG H55N / Rs. 1,100
- LG H55N / Rs. 1,100
- LG H55N / Rs. 1,100
- ASUS BC-1205PT / Rs. 11,010



### KEYBOARD

- Logitech Multimedia / Rs. 400
- Logitech Multimedia / Rs. 400
- Logitech G15 / Rs. 4,400
- Logitech G15 / Rs. 4,400

## MISCELLANEOUS

### TABLET



- None
- iBall Design Tablet PF1209 / Rs. 8,900
- Wacom Intuos4 Medium (PTK-640) / Rs. 21,280

### MOUSEPAD



- None
- Razer Goliathus Speed (Oversized) / Rs. 1,400
- Steel Series Qck Heavy / Rs. 2,000

### HEADPHONES



- None
- Sennheiser HD 201 / Rs. 1,500
- Sennheiser HD 280 Pro / Rs. 5,500

### GAMING CONTROLLERS



- Xbox 360 controller / Rs. 1,350
- Logitech Momo / Rs. 5,500
- Logitech G25 / Rs. 17,500

### PRINTING SOLUTIONS



- Canon PIXMA iP1980 / Rs. 2,695
- Canon iP3680 / Rs. 5,595
- Epson B-500DN / Rs. 22,999

### POWER PROTECTION



- None
- APC 550W / Rs. 2,400
- Numeric 1 KVA / Rs. 4,200

## More Fermi delays

NVIDIA's Fermi rumoured to be delayed by a couple of months more

## M-M-Multi-Monitor!

S3's new Chrome 5400E X2 card will support up to 8 monitors

## Spend smart

The latest peripheral prices updated every month. Go ahead, plan your configuration today



## Digital Cameras

Model	Market Price	Tested in	Sensor	Optical Zoom	LCD Screen Size
Canon Powershot SX120	Rs. 14,995	October 2009	10 MP	10x	3.0 inches
Canon IXUS 100IS	Rs. 12,999	October 2009	12 MP	3x	2.5 inches
Canon Powershot A480	Rs. 7,499	October 2009	10 MP	3.3x	2.5 inches
Canon A1100IS	Rs. 9,499	October 2009	12 MP	4x	2.5 inches
Canon IXUS 95IS	Rs. 10,500	October 2009	10 MP	3x	2.5 inches
Canon SX200IS (BEST PERFORMER)	Rs. 21,500	October 2009	12 MP	12x	3.0 inches
FujiFilm FinePix F200	Rs. 17,999	October 2009	12 MP	5x	3.0 inches
FujiFilm FinePix S1500	Rs. 12,500	October 2009	10 MP	12x	2.7 inches
Kodak C140	Rs. 4,999		8 MP	3x	2.4 inches
Nikon P90	Rs. 23,995	October 2009	12 MP	24x	3.0 inches
Nikon Coolpix L20	Rs. 7,750	October 2009	10 MP	3.6x	3.0 inches
Nikon S220	Rs. 8,500	October 2009	10 MP	3x	2.5 inches
Olympus FE25	Rs. 5,995		10 MP	3x	2.4 inches
Panasonic FS4	Rs. 6,750		8 MP	4x	2.5 inches
Samsung ES55 (BEST BUY)	Rs. 6,990	October 2009	10 MP	3x	2.5 inches
Sony HX1	Rs. 29,800	October 2009	9 MP	20x	3.0 inches
Sony S930	Rs. 7,800		10 MP	3x	2.4 inches
Sony H20	Rs. 17,500		10 MP	10x	3.0 inches



## External HDDs

Model	Market Price	Capacity	Interface	Warranty (Years)
Seagate Freeagent GO	Rs. 5,150	500 GB	USB	5 years
Seagate Freeagent GO	Rs. 3,250	250 GB	USB	5 years
Maxtor One Touch 4 Mini	Rs. 3,200	250 GB	USB	5 years
Transcend StoreJet	Rs. 2,725	160 GB	USB	2 years
Western Digital MyPassport	Rs. 2,850	160 GB	USB	3 years
Western Digital MyPassport Essential	Rs. 4,100	640 GB	USB	3 years
Western Digital MyPassport Studio Edition	Rs. 7,800	1 TB	USB, FireWire, eSATA	3 years



## Input Devices

Model	Market Price	Tested In	Features / Technology	Interface
Microsoft Wireless Optical Desktop 1000	Rs. 1,950	NA	Wireless (optical mouse)	RF
Microsoft Wireless Optical Desktop 700 V2	Rs. 1,400	NA	Wireless (optical mouse)	RF
Logitech Internet Pro Desktop	Rs. 750	NA	Optical Mouse	USB 2.0
Logitech Cordless Desktop MX5500	Rs. 10,800	NA	Bluetooth, laser mouse with extra buttons, LCD display on keyboard	RF (Bluetooth)
Logitech Cordless Desktop Wave	Rs. 4,650	NA	Ergonomic keyboard, with soft palm rest, laser mouse	RF
Logitech Wireless Desktop MK250	Rs. 1,200	NA	Wireless (optical mouse)	RF
Zebronics Mmkeyboard + Mouse	Rs. 450	NA	Optical mouse	USB
Microsoft Wired Desktop 600	Rs. 850	NA	Optical mouse	USB
Belkin n52te	Rs. 3,500	February 2010	Gamepad, macro keys	USB
Logitech G13 Advanced Gameboard	Rs. 4,000	NA	Gamepad, macro keys, LCD display	USB
Logitech G15 gaming keyboard	Rs. 4,400	NA	Macro keys, backlit display	USB
Microsoft Sindewinder X6 keyboard	Rs. 3,600	NA	Backlit keys, macro keys	USB
Microsoft Sidewinder X5	Rs. 2,400	NA	2000 dpi, laser sensor mouse	USB
Logitech MX 518	Rs. 1,300	NA	1800 dpi, IR sensor mouse	USB
Logitech G5	Rs. 2,200	NA	2000 dpi, laser sensor mouse	USB



## AMD's new 12-core

AMD's 12-core server processor codenamed Magny-Cours expected to ship this year

## Performance laptop HDDs

Toshiba to introduce 10,000 RPM drives in the 2.5-inch format

Price watch

### Power supplies

Model	Price	Tested in	Capacity	Modular
Cooler Master Real Power Pro 460W	Rs. 3,705		460W	N
Cooler Master eXtreme Power 650W	Rs. 4,200		650W	N
Corsair CX400W	Rs. 3,200	September 2009	400W	N
Corsair HX620W	Rs. 7,650		620W	Y
Corsair TX650W	Rs. 6,700		650W	N
Corsair VX450W	Rs. 3,950		450W	N
Corsair VX550W	Rs. 5,700		550W	N
FSP Blue Storm Pro 500	Rs. 3,650		500W	N
Seasonic PS S12II-430	Rs. 3,850		430W	N
Silverstone 400W	Rs. 3,100		400W	N
VIP 600W	Rs. 2,900		600W	N
Zebronics Pro 600W	Rs. 4,000		600W	N



### Cabinets

Model	Price	Tested in	5.25-inch bays	3.5-inch bays	Bundled fans	Expansion slots
Antec Nine Hundred	Rs. 7,100		6	3	4	7
Antec NSK4400	Rs. 1,700	May 2008	3	5	1	7
Antec Three Hundred	Rs. 3,900	October 2008	3	6	2	7
Cooler Master 690 (with sidepanel)	Rs. 5,000		5	5	3	7
Cooler Master ATCS 840	Rs. 16,100	November 2009	6	7	4	7
Cooler Master Cosmos	Rs. 15,000		5	6	1	7
Cooler Master Elite 100	Rs. 3,100		1	1	0	0
Cooler Master Elite 310	Rs. 1,600		4	7	1	7
Cooler Master HAF 932	Rs. 10,000		6	6	4	7
iBall Baby 306	Rs. 2,000		1	3	2	0
Thermaltake Armor+	Rs. 13,700		7	7	3	10
Thermaltake Armor+MX	Rs. 7,800		5	5	3	7
Thermaltake M9	Rs. 4,800		6	3	2	7



### Cell Phones

Model	Price	Tested in	Screen size	Camera resolution	Platform
HTC Hero	Rs. 26,500	February 2010	3.2-inch	5 MP	Android 1.5
HTC Touch HD	Rs. 33,000		3.8-inch	5 MP	Windows Mobile 6.1
LG KP500	Rs. 7,300	June 2009	3.0-inch	3.15 MP	-
Nokia E55	Rs. 17,000		2.4-inch	3.2 MP	Symbian S60
Nokia E63	Rs. 9,700	November 2009	2.36-inch	2 MP	Symbian S60
Nokia E71	Rs. 15,700		2.36-inch	3.15 MP	Symbian S60
Nokia E72	Rs. 19,500		2.36-inch	5 MP	Symbian S60
Nokia N97	Rs. 31,000	August 2009	3.5-inch	5 MP	Symbian S60
Nokia XpressMusic 5330	Rs. 10,000		2.4-inch	3.15 MP	-
Nokia XpressMusic 5800	Rs. 14,000		3.2-inch	3.15 MP	-
Samsung Omnia HD i8910	Rs. 29,500		3.7-inch	8 MP	Symbian S60
Sony Ericsson Satio	Rs. 30,000		3.5-inch	12 MP	Symbian S60
Sony Ericsson Yari	Rs. 12,800	February 2010	2.4-inch	5 MP	-

# Sony VAIO X

The new size zero



**D**espite common sense attesting to the fact that most really slim, sleek products are typically mediocre, this one caused our hearts to skip at her profile. The VAIO X oozes calorie consciousness. Sorry Apple, but this trashes the Macbook Air in terms of sleekness and weight. At just

655 grams including the battery the VAIO X is super light. Build quality is good though the plastics have flex. The surface finish conveys a decidedly up-market feel. The segregated keypad is taken from other VAIO's, and while key spacing is the same, the keys are much smaller – obviously since the screen is only 11.1-inches. We do

feel Sony could have provided a larger keypad; the VAIO X's keypad looks good, but it isn't the most ergonomic. Tiny keys are never good for smaller notebooks. Typing is a pain till you get used to it. Key feedback is flat. The trackpad is not the typically accurate stuff we expect from Sony, in fact it overtracks at times.

Performance is as basic as we'd expect from an Atom processor - the innards are very mediocre, aside from the 64 GB SSD, but it's a PATA drive.

At Rs. 64,990, the VAIO X is expensive for a netbook, which brutally speaking it is. But then you wouldn't get something half as sleek.

## Specifications

CPU - Intel Atom Z540, RAM - 2 GB DDR2, Graphics - Intel GMA 500, Storage - 64 GB SSD, Screen - 11.1-inches, 1366 x 768 pixels, weight - 655 g with battery

## Contact

**Sony India**

**Phone:** 1800-103-7799

**Email:** sonyindia.care@ap.sony.com

**Web site:** www.sony.co.in

**Price:** Rs. 64,990

5.5  
10

**Features**..... 6.5  
**Performance** ..... 5  
**Build Quality** ..... 6.5  
**Value** ..... 4

## Specifications

Formats supported:  
 MPEG, VOB, AVI, MKV,  
 AVCHD, MOV, FLV,  
 FLAC, OGG, etc, Wi-Fi  
 802.11n optional, 10/100

Mbps Ethernet port

Dimensions: 180 x 32 x

82 mm, Weight: 1 kg

## Contact

**Mukesh Goel**

**Phone:** +91-11-2751 5000

**Email:** india.sales@xtreamer.in

**Web site:** www.xtreamer.in

**Price:** Rs. 8,990 / Rs. 9,990  
 (with Wi-Fi 802.11n adapter)

7.5  
10

**Features**..... 8  
**Performance** ..... 7.5  
**Build Quality** ..... 8  
**Value** ..... 7

# Xtreamer

Xtremely nice

**I**n a world that's quickly going HD, there's a growing need for hardware to play HD content. One of the more popular HD players being talked about is the Xtreamer.

The product is well built and very sturdy and is pretty compact for what it does. It has a small fan at the rear that gets a little noisy if you set the speed to the highest from the user interface. The UI is very simple, but not as classy as other HD players.

The Xtreamer has loads of features. It can play all of the commonly found media formats and can access content over the network through its

wired connection over Wi-Fi if you opt for that model. Support for online services such as YouTube or Flickr is also present.

Other than being a media player, it also acts as a NAS device. It supports remote controlling over various mediums as well. The remote control is compact, has lots of buttons, but using the Xtreamer is still easy. The video performance is fine although initial startup of the device takes a while.

Whatever few points the Xtreamer loses in design, it makes up with the sheer number of features. And the price is not bad either. At Rs. 9,900 for the model with a



Wi-Fi 802.11n adapter, it's a lot of features for a considerably low price. It's definitely great value for money and we give it our thumbs up!



## Game launch

Starcraft II closed beta to be launched soon by  
Blizzard Entertainment

## Alan Wake

The game is not expected to hit PCs; Xbox360  
exclusive only

Bazaar

# Creative Zen X Fi 2

Great sound with disappointing touchscreen

**Z**en X Fi 2 is Creative's first touch screen MP3 player. Its design resembles the Apple iPod touch, with a grey matte finish on the rear and a 3-inch display screen. The player is light and has a good grip. It has a micro SD card slot on the top that can increase the memory, an audio jack and a micro USB port on the right hand side. With the square button next to the screen, you can go to the home menu. A power button is attached to the chassis and does not jut out.

Zen X Fi2 has a simple user interface showing menus such as music, video, radio, photos among others that make the navigational task very easy. It



supports MP3, WMA, WAV, AAC and FLAC. The sound quality is good; the Expand EQ option gives 3D surround sound effect, thus bringing to life flat music.

While playing videos, you don't need compression while transferring video files to the player. It has a good 5 hours of video playback.

However, the resistive touch screen was disappointing. The sluggish response is a nightmare. Moreover, there are no external volume control buttons making it extremely clumsy to adjust volume or change tracks when the player is in your pocket.

At Rs. 8,999 we feel this is too high a price for a product with glaring flaws.

## Specifications

Display Resolution: 240 x 400 pixels, Memory: 8 GB, Battery: Lithium Ion, Battery life: 26 hours (audio), FM radio

## Contact

**Creative Technology**

**Web site:** www.in.

creative.com

**Price:** Rs. 8,999

5.5  
10

Features.....7  
Performance ..... 6.5  
Build Quality .....4  
Value .....4

## Specifications

Inputs - iPod / iPhone,  
3.5mm audio connects, USB  
(for firmware upgrade)  
Dimensions: 221 x 432 x  
244 mm, weight: 8.4 kg

## Contact

**Bose India**

**Phone:** 1-800-11-2673

**Email:** pr@boseindia.com

**Web site:** www.

boseindia.com

**Price:** Rs. 40,388

6.5  
10

Features.....7  
Performance .....7  
Build Quality .....8  
Value .....3

# Bose SoundDock 10

Expensive iPod companion

**B**ose has extended their exotic offerings into accessories for Apple's iPod as well. The SoundDock 10 is one of their newer releases that sports a pricey Rs. 40,000 price tag.

The design is sturdy, but what's noticeable is the weight. It's 8.4 kg that makes it one of the heavier docks around. The connects are straight forward - a dock for the iPod and a 3.5-mm jack to connect a PC, PMP or any other device to it.

The device performs rather well for its size, but it is by no means a replacement for proper desktop speakers. Separation

of audio channels is one of the first problems. There is some distortion with the volume set to high. A larger room improves the performance a bit. Although you can't expect a whole lot from small iPod docks, this one is pretty good for a decent sized room. The remote has few buttons and is simple to use; range is pretty decent as well.

Overall, it's a very sensible purchase only if you can afford it. For most people, a 3.5-mm



connection to a very good desktop setup would be better. 8.5 kg is too much to even call it portable. However, it is a good solution for iPod users who want something that fits well into a medium-sized living room or bedroom. It even makes using the iPod simpler.

**Stiff competition**

6-core processors from Intel and AMD expected in the next couple of months

**Medal of Honor**

Will use two game engines – UE3 and Frostbite, used in Bad company 2



## WD My Book 3.0

Taking the SuperSpeed highway

**W**estern Digital's My Book 3.0 is its foray into tapping the superspeed USB 3.0 standard. My Book 3.0 with a black matte finish has a simplistic design with no screen in the front panel like its My Book Studio and My Book Elite counterparts in the 1 TB segment. There is only one tiny pinhole white indicator in the front. The remaining three edges are surrounded by air vents.

USB 3.0 is the future standard for data transfers

and all the major external drive manufacturers are supporting it. The drive has a power connection port along with a USB 3.0 connection port on the rear. After installing the USB 3.0 drivers from the software CD the device is ready for use.

As expected, the USB 3.0 really enhances data transfer speeds. In the real life tests, it took under 90 seconds for 4 GB file transfers which is unheard of on USB 2.0. This is one of the first few drives of its kind and as expected, it's priced at a hefty Rs. 11,190.

**Specifications**

Usable capacity: 931.5GB, USB 3.0 interface, 7200 rpm, 32 MB buffer

**Contact**

**Amarjeet Singh**

**Phone:** +91-93210 29204

**Email:** amarjeet.singh@wdc.com

**Web site:** www.wdc.com

**Price:** Rs. 11,190

6.5/10

**Features.....7**  
**Performance ..... 6.5**  
**Build Quality .....7**  
**Value .....6**

**Specifications**

40mm neodymium drivers, 32 Ohm impedance, Frequency range: 20Hz to 22kHz, 1.2m cable, noise cancelling -20dB at 200Hz

**Contact**

**Philips India**

**Phone:** +91-11-6600

1111 / 1860 180 1111

**Email:** customercare.

india@philips.com

**Web site:** india.philips.com

**Price:** Rs. 5,999

6/10

**Features.....6.5**  
**Performance .....3.5**  
**Build Quality .....7.5**  
**Value .....6.5**

## Philips SHN 9500

Bold newcomer to shhh territory

**T**he SHN 9500 is a value offering in noise cancellation, although this isn't apparent from the solid build. Brushed aluminium for the outer cups, strong plastic everywhere, except the slightly flimsy headband fastening on the cups. The mute button works well and will cut off all sound of whatever you are listening to, so you can listen to (for example) someone talking to you. A single AAA battery powers the noise cancelling (NC) circuitry.

NC is decent, because even with no music playing, it takes the bassiness out of intrusive sounds, however it doesn't fully remove ambient sounds like a noisy fan. Sound quality is something that should not be compromised, however, this

is typically a tall order for NC headphones, especially entry-level ones. The SHN 9500 is no exception – quality is very mediocre. The sound staging is congested, instruments do not have that air to them and the sound seems to be coming from inside your head, towards the top. Turning NC on and off also affects sound – with it off, bass notes seem a little tighter. With NC on, the background is a little darker, which is good, and female vocals seem to gain some character and presence. The overall tone of the music is slightly warm, but it's not enjoyable for the discerning. A mixed bundle really, discerning music lovers will not be interested. With slightly boomy bass, this SHN 9500 is better for less critical applications, like movies.



Priced at Rs. 5,999, these are certainly cheaper than what most NC headphones are priced at, moreover they're decidedly upmarket looking. But performance is strictly decent for most users, and a disaster in audiophile terms. If you're looking for "decent" travelling cans, look them up.



## Cinebench 11.5

The popular multicore rendering benchmark released

## OpenOffice 3.2

The free and open source productivity suite has released with performance enhancements

Bazaar

### Specifications

Intel P55 Express chipset, 4 DDR3 slots, 2 x PCIe x16 (SLI / CrossFire support), 3 x PCIe x1, 2 x PCI, Realtek 8112L NIC, VIA VT2020 audio contro

### Contact

ASUS

Phone: 1-800-209-0365

Email: media\_india@asus.com

Web site: www.asus.in

Price: Rs. 17,700

7/10

Features.....7.5  
Performance .....7.5  
Build Quality .....7.5  
Value .....5

# ASUS Sabertooth 55i

## Ruf-n-Tuf

ASUS launches its new enthusiast range of boards called The Ultimate Force. The Sabertooth 55i is based on the P55 chipset and is one of the first boards from this range.

One of its key feature is the ceramic layered cooling solutions. The southbridge has the biggest chunk of the ceramic layered heatsink that stays luke warm throughout. The other lot of ceramic goes on the power filters around the processors.

The PCI-e slots can be used in SLI and CrossFire configuration. There's ample space in between the two slots which

makes it easy to use double slotted cards without worrying of the congestion. Three PCI-e x1 slots and two PCI slots are also present for any other expansions. Good quality capacitors are used all throughout. One of the other differences are the use of VIA VT2020 audio controller over Realtek ones.

In performance, the Sabertooth 55i performs well. The data transfer rates in the file transfer test were an average of 48.8 MB/s which is pretty good for a real world scenario test. PCMark 05 gave an overall



scores of 9297. Performance across games also matches other P55 boards running the Core i7 870.

While the board doesn't do anything spectacular in performance, ASUS claims that it's been designed and tested to be reliable. It better be, especially when you're expected to shell out Rs. 17,700 for one of these.



### Specifications

LCD XGA projector, brightness - 4000 lumens, contrast - 20000:1, throw - 0.94 to 16.25 m  
Connects - RJ45, USB B type, S-Video, HDMI x1, Composite, 2 x D-Sub in, 1 x D-Sub out, 2 x line in, 1 x line out, 1 x 12v out, RS 232

### Contact

Epson India

Phone: +91-80-3051 5032

Email: emp@eid.epson.co.in

Web site: www.epson.co.in

Price: Rs.1,56,900

Touted as a multimedia projector the EB-1915 occupies a large footprint in comparison to the Viewsonic PJD6221. The larger body means less venting. The EB-1915 is the hotter of the two projectors but is slightly quieter than the Viewsonic. The EB-1915 also has a better remote unit with more functions on it and it's easier to use. The focus adjustment uses two buttons and not the traditional focus adjustment ring. While this may seem better, the ring allows pinpoint accuracy. The

# Epson EB-1915

## Overpriced performer

menu system is good, and LAN and WLAN connectivity is possible.

The EB-1915 is much brighter than the Viewsonic on default settings, unfortunately it loses out on some detail. Lower the brightness and it misses out on the darker greys. Increase the brightness and lower the contrast to compensate and you will lose detail in the lighter shades - the margin for error is lower than on the PJD6221. The greyscale intensity test was not as impressive. There was also a lot of moiré in the relevant Display Mate tests. Colour rendition is good, however, although the reds may be a little saturated.

The movie experience was

good with nice vivid colours and good brightness levels but we found some of the darker areas lose a bit of detail as different shades blend into one. Overall, there is also a slight blue tinge. There is no banding except for in one of two test scenes involving darker shades of blue. Per pixel detail is good. Although a great performer, it's overpriced with a price tag of Rs. 1,56,900.

6.5/10

Features.....7  
Performance .....7.5  
Build Quality .....8  
Value .....3

**PL-2200**

An educational pen display designed by Wacom exclusively for institutes

**Opera Mini**

The popular mobile browser surpasses 50 million users

# Kensington Rechargeable pocket booster

Mobiles living a long life

There's nothing more annoying than running out of battery charge for your mobile. There is a solution for such problems. The Kensington Rechargeable Pocket Booster is a small USB battery dongle that looks like a flash drive and charges two AAA rechargeable batteries. The product is sturdy and comes bundled with two AAA batteries. You can charge the

batteries using a USB port on your PC. Once it is fully charged, you can charge any mini-USB mobile phone or PMP. It is mostly useful for those who forget or don't get time to charge their mobile phones at home.

At Rs. 1,500, it's a bit expensive but it shouldn't bother anyone who values longer battery life on their phones. Our only complaint is the lack of other connectivity options.

**Specifications**

Supports two AAA batteries, mini-USB cable provided

**Contact**

**Milestone Interactive Private Limited**

**Phone:** +91-22-28203319

**Email:** kensingtonsales@milestoneinteractive.com

**Web site:** www.kensington.com

**Price:** 1,499

6.5/10

Features.....6  
Performance .....7  
Build Quality .....7  
Value ..... 6.5

**Contact**

**ViewSonic India**

**Phone:** +91-11-4260 3195

**Email:** bishakha.dm@in.viewsonic.com

**Web site:** ap.viewsonic.com/in

**Price:** Rs. 55,799

**Specifications**

DLP XGA projector, brightness – 200 lumens, contrast – 2800:1, throw – 1.2 to 10 metres, 3D support (120 hertz) Connects – RJ45, USB B type, S-Video, Composite, 2 x D-Sub in, 1 x D-Sub out, 2 x line in, 1 x line out, 1 x 12v out, RS 232

7.5/10

Features.....7.5  
Performance .....7  
Build Quality .....8  
Value .....7

# Viewsonic PJD6221

3d gaming bliss

The Viewsonic PJD6221 is well constructed and looks good too. With the flat-top and ridges running across the front and the large ducts on the side, the PJD6221 conveys a mean, no nonsense look. It's fairly compact and the unit does get pretty hot. Ventilation is really good and we saw the unit dissipating heat nicely, especially since it has two large fans. Since it's compact the footprint will not

be much of a worry to most people. The remote unit is tiny and pretty neat with small buttons that have decent feedback. Buttons are rubber but work well for the most – it's clearly a budget remote unit.

Support for 3D vision is a huge plus for gamers. The projector can also be set up to be mounted at various angles, even from the ceiling. It does good colour reproduction. The contrast seems to be slightly deficient. Adjusting the brightness

to lower levels will ensure you lose out on the darker shades, as greys and blacks combine and make a mess of things, particularly for movies. The problem with this was the intensity was too much for desktop usage. With the contrast kept at 50 per cent and brightness at 55 per cent we struck a good balance between brightness and contrast for both desktop usage and gaming. Colours are slightly muted by default, but this makes for a natural viewing experience.

Text rendition is sharp. The PJD6221 also does well at gaming. F.E.A.R. looks pretty good, complete with good shadows and good detail around darker regions.

The PJD6221 is touted as a projector for homes and business. With its performance in games and movies, it sure is.





## ARES

ASUS to launch \$1,000 dual-Radeon 5870 graphics card called the ARES

## Sagem Orga

Has introduced a hybrid SIM card with Wi-Fi connectivity option called SIMFI

Bazaar



# ATI Radeon 5670

DX11 for the entry-level gaming PC

**A**TI new launches continue with their Radeon HD5670. It's a card targeted at entry-level gaming enthusiasts.

Unlike the 5450, a more active cooling solution is provided on the card. The heatsink

is thin with a small fan attached to it. This means, you truly only need a slot of space on the board and the chassis.

The downside is that the warm air is blown around within the cabinet instead of outside. The card stays very calm under desktop load, but

gaming for more than 10 minutes causes it to heat up – still within acceptable limits.

On our test setup of an Intel Core i7 975 with 3 GB of DDR3 RAM, it scores 5092 GPU points in 3D Mark Vantage. With low settings and medium settings, games like Crysis Warhead are a breeze. It's only with high settings with massive antialiasing that you notice a drastic drop in frame rate. Overall, the performance of the card almost matches that of the popular GeForce 9800GT across all platforms. There's also a small difference in DX9 and DX10 performance which is a good thing. It's a decent jump up from the HD4670 as well.

With a maximum power consumption of just 75W, it has no special requirements either. At Rs. 6,500, it's good for those looking for a decent entry-level gaming card for a 17-inch or 19-inch display.

## Specifications

DirectX 11, SM 5.0, Direct-Compute 11 support, 775 MHz clock speed, 512MB GDDR5 RAM, 400 stream processing units. 1 x D-Sub, DVI, Displayport connects

## Contact

AMD

Phone: 1800-425-6664

Email: fusion.india@amd.com

Web site: www.amd.com

Price: Rs. 6,500

7/10

Features.....	7
Performance .....	7
Build Quality .....	7
Value .....	7

## Specifications

Capacity: 550W, connects: 6 x SATA, 6+2 x 2 PCI-e; 120mm fan, Dimensions: 150 x 140 x 86 mm

## Contact

Cooler Master

Phone: +91-94225 01592

Email: Tanmay\_L@Coolermaster.com

Web site:

www.coolermaster.com

Price: Rs. 4,500

7/10

Features.....	7
Performance .....	7
Build Quality .....	7.5
Value .....	7

# Cooler Master GX 550

Affordable option for a dual GPU setup

**C**ooler Master's new GX range of power supplies come in a new avatar. It's an 80 Plus rated product with active PFC.

It starts with the packaging being more colourful and more appealing and the pricing more affordable. This means no fancy freebies inside the box – no manual, carry pouch or ties, but does anyone really use those? The power supply itself is sturdy but not as heavy as one would think. The 120 mm fan is positioned at the top of the PSU.

This isn't a modular design power supply though. The cables are well sheathed and of good quality. The cables are more than 2 ft long and perfect for super towers. All the SATA power connects are T-shaped so they are easy to plug in and also causes less clutter.

Cooler Master has gone with a more aggressive pricing with the GX series. The GX 550 is priced at Rs. 4,500 and that makes it a good cheap solution for those building a SLI/CrossFire system.



**Vivaz Pro**

Sony Ericsson to launch the Vivaz Pro having a slide out QWERTY keypad

**Latest browser**

Opera 10.50 beta and Firefox 3.7 alpha released online



# Cowon iAudio 9

## Nano-competition

The Cowon iAudio 9 has an 2-inch TFT screen with a QVGA resolution of 320 x 240 pixels. A touch sensitive diagonal scrollbar capacitive controller is placed below the screen. Play/Pause and Back controllers are present on the other two ends of the diagonal. The white backlight on the black glass screen makes the controller visible even in the dark. A speaker is placed just below the touch surface.

A volume rocker is placed on the left hand side with a small opening for the microphone, whereas a shortcut button to the main screen

menu is located on the right hand edge above the notch for the player's keypad lock. We tested the 8 GB model.

Audio quality of the player is good. It can play MP3, WMA, OGG, APE, WAV and even FLAC files. Video quality is excellent, viewing videos on a small screen just isn't fun.

The menus are displayed diagonally. The iAudio player has support for documents, radio with FM recording at upto 256 kbps, and photos. This is one of the few portable media players that can play flash videos.

For audio enthusiasts, this is a good player. At Rs. 7,750 it is quite competitively priced.

**Specifications**

Capacity : 8 GB; Weight : 40 gms; Display : 2 inch TFT, QVGA (262K colours) ; SNR : 95dB; Battery : Lithium Polymer rechargeable

**Contact**

**Sonu Rawat**

**Phone:** +91-22-4003 2653

**Email:** iaudio@lipap.com

**Web site:** www.cowonindia.in

**Price:** Rs. 7,750

8/10

Features.....8  
Performance .....8  
Build Quality .....8  
Value .....8

**Contact**

**Nitish Singhal**

**Phone:** 1800-425 4999

**Email:** nitish.singhal@hp.com

**Web site:** www.hp.com

**Price:** Rs. 55,000

**Specifications**

Windows 7 Premium, 3 GB DDR3 RAM, Intel Core 2 Duo P9300 processor, NVIDIA GeForce G105M graphics solution, 13.3 inch screen, 1366 x 768 maximum resolution, Bluetooth, WiFi, no optical drive

7.5/10

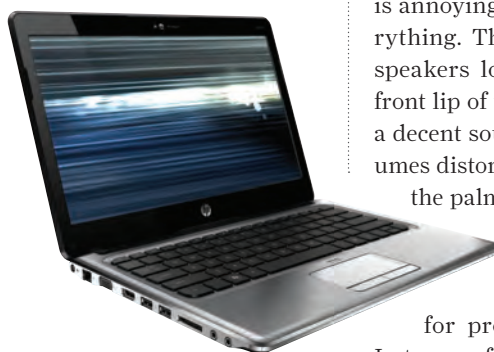
Features.....7.5  
Performance .....7  
Build Quality .....8  
Value .....7

# HP Pavilion dm3

## A notebook in shining armor

HP Pavilion dm3 is one notebook that will blow you away at first sight. A dark grey brush metal finish on the panel and the body surrounding the keypad, isolated keys lending themselves to a smooth typing experience, a mirrored mouse trackpad and click buttons are just some of the features that will make you smile. The edges of the notebook are made of silver reflective surface. It has a notch for the power connection and another button to enable Wi-Fi on the right edge.

It comes bundled with Windows 7 Home Pre-



mium. The HP media dock on the desktop helps you manage photographs, video, and music efficiently. The notebook has four USB ports, an HDMI port, and an external DVD drive. The trackpad can get annoying to use, as it is sluggish. The reflective screen on the dm3

is annoying and reflects everything. The Altec Lansing speakers located under the front lip of the notebook give a decent sound but high volumes distort the sound. Also,

the palm rest on the body tends to get hot if the notebook is used for prolonged periods.

In terms of performance, the HP Pavillion dm3 is much better than the HP EliteBook 2530P especially in synthetic benchmarks. HD movie viewing experience is good, but the reflective screen kills it. At Rs. 55,000 we feel it is a bit overpriced, but considering the beautiful design, it's worth it.



## Kingston earnings

Kingston Technology announces increase in revenue over 2008

## GTX 480

NVIDIA changes badging on GeForce; calls new cards GeForce GTX 480

Bazaar

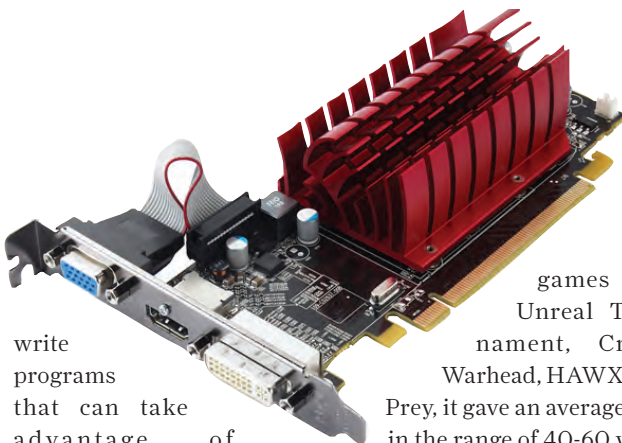
# ATI Radeon 5450

Built for the HTPC

The most noticeable feature of the new ATI Radeon 5450 is its unconventional heat sink. This little DX 11 card supports upto three monitors. It has a DVI port, an HDMI port and a D-Sub port providing enough flexibility to use a range of monitors.

The display connectors output multi channel sound as well, thus increasing its versatility.

The HD5450 has a core clock speed of 650 MHz and memory clock speed of 800 MHz. HD playback isn't an issue. The Stream technology supports OpenCL which allows software vendors to



write programs that can take advantage of the untapped parallel processing power of the GPU.

On a system running an Intel Core i7 975 3.33GHz with 4 GB DDR3 memory, it gave an overall 3D Mark score of 4032. It performed fairly well in the gaming benchmarks. It gave an FPS of 60 for Crysis on a low 1024 x 768 setting. In other

games like Unreal Tournament, Crysis Warhead, HAWX, and Prey, it gave an average FPS in the range of 40-60 when operated in low to medium settings. This is quite good for a card that is not meant for gaming. This is a good HTPC solution but DirectX 11 might not be the necessity of the day. The price as of now is Rs. 4,000 which makes it a tad expensive. We expect to see some price drops.

## Specifications

Core Clock : 650 MHz,  
Memory Clock : 800 MHz,  
Stream Processors : 80,  
Memory : 512 MB DDR3

## Contact

AMD

Phone: 1-800-425 6664

Email: fusion.india@amd.com

Web site: www.amd.com

Price: Rs. 4,000

7/10

Features.....	7.5
Performance .....	7
Build Quality .....	7
Value .....	7

## CORRIGENDUM

On Page 58 of the January 2010 issue, cartridge colours for all printers should be read as Black.

# Skullcandy Lowrider

Candy, but that's all

The Skullcandy Lowrider like all the many other models is designed to be a fun product with its bright colours and designs.

The design is very basic and the build quality average. The design allows the ear pads to be flattened so they are easy to transport. They are a supra-aural pair which fit on your ear rather over it.

There is padding at the top of the headband to make the set comfortable to wear for long hours. However, they aren't tight enough so they easily fall off. It's not easy to walk and jog around with these for sure.

The bass response is poor

and one has to press on the earphones to get more bass from it. This isn't practical. The mid range is recessed with more emphasis on the highs.

The set also has an inbuilt microphone that extends from the side. The audio connector on the headset is a 3.5mm analog but the microphone only plugs into the Xbox360 controller. This allows you to use voice over Xbox's online gaming service. The microphone quality is good. It isn't loud and crisp but at least there is no noise or



hissing which makes it ideal for online gaming. The cable provided isn't long enough.

The Skullcandy Lowrider is a set for very casual gaming and for non discerning users. Still, you won't feel the pinch so much because of its pretty decent price tag of Rs. 1,899. It's a nifty thing to have while playing multiplayer games.

## Specifications

100 Hz - 18 kHz frequency range, 40 mm drivers, built-in microphone, 3.5 mm connect for headphones, 2.5mm for recording, compatible with Xbox 360.

## Contact

MB Accessories Pvt. Ltd.

Email: vd@mbaccessorize.com

Web site: www.skullcandy.in

Price: 1,899

6/10

Features.....	6.5
Performance .....	6
Build Quality .....	5
Value .....	6.5



# Crystals & Pixels

**LCDs continue to get cheaper as more people adopt a flat panel. Which brings up the inevitable dilemma of a choice. That's where we come in**

Michael Browne  
[michael.browne@thinkdigit.com](mailto:michael.browne@thinkdigit.com)

No two LCDs are created equal, the adage goes. From the type of panel used, to the grade of the panel used, to the integrated electronics and processing included — all contribute to changes in display output characteristics and this difference is akin to the difference between

night and day.

With a vast majority of manufacturers just looking to move volumes in bulk, very little attention is paid quality, given its inverse relationship to price. A group of five models with similar panels will be made to look different with body styling, a few features will be changed around and voila — you have five different products, five different product categories, at five

varying price points. Another trend is to overstate specifications and manufacturers frequently flirt with dishonesty. A good example being the term *dynamic contrast ratio*, a well hated bit of jargon in our test centre. It's misleading to the core, for a monitor stating a DCR of 60000:1 is typically found to have a contrast ratio of 600:1, or less. Another example is the *true* number of reproducible colours. Yet another

example — brightness levels on LCDs. Some people are more honest, but it's hard to know what and whom to believe, and when.

We're pleased to note a continuing trend towards larger screens. Eight out of twenty monitors were 23/24-inches in size. Another trend is the move towards 16:9 as an aspect ratio in lieu of 16:10.

As for the people who didn't make it here — HP didn't wish



## Objectionable content

Apple is in the process of removing overtly sexual content from its App Store after receiving a barrage of customer complaints

## LCD monitor test



to participate in a comparison test with other brands, Dell said they had no review-stock, though we did manage to sneak in an Alienware monitor from them, while NEC and AOC just couldn't get us products before our deadline. LG opted out of the test, citing an inability to participate.

### 24-inches: Live life king size

Anyone who has used a 24-inch monitor will testify that it's very tough to move back to something smaller afterwards. 24-inches is by no way the

norm, 22-inch monitors still outsell these ten to one, but this should gradually change over the next 12 months or so. There is typically a difference in resolution as well. Traditionally 22-inch monitors have a lower resolution, although we had mostly 1920 x 1080 pixel displays across both size categories.

### Features

Viewsonic had two monitors in this size category — the VX2433wm and the VG2427wm, and from first glance it was evident that the latter was more upmarket. Although separated by a mere Rs. 1,000, the VG2427 has a very slim bezel and the stand features a slick height-adjust mechanism. Build quality is much better than its cheaper sibling and the VX2433wm's stand feels cheap and flimsy in comparison. A slight jolt on the table will cause the monitor to shake. The menu buttons on the VG2427wm are on the front and being silver, are much easier to access than the VX2433wm that has black buttons placed on the side and the absence of backlighting of any sort makes them pretty hard to use. BenQ sent us three monitors. The M2400HD

deviates from common black with a piano white finish and a neat, detachable 2.0 megapixel USB webcam. The stand is very solid and heavy, and the power button and menu buttons are well laid out and the lettering on the side menu buttons is helpful, though not in dim-lit conditions. USB ports and a headphone out are on the side, making access to

these features convenient. The BenQ V2400 Eco also sported a white finish but in matte rather than glossy. A slim bezel pretty slim adds to its looks. The controls are on the side and will not be visible unless your room is well lit. The stand design is unique — it's large and flat and has an indent that looks like it would hold a glass — gamers can stow a Red Bull here.

The third BenQ monitor, the G2420HD is much cheaper than its siblings and unfortunately this shows in the quality of the stand. The bezel is reasonably slim and the monitor looks good, but it feels built to a budget. ASUS' VH242 is a well-built monitor with a simple rounded base and a glossy bezel that is very distracting. Menu buttons are located conveniently and large — therefore easy to use — but they're very clicky and hard to press. The SP/DIF connect for audio is a novelty, something we've not come across often.

Apple sent us their 24-inch Cinema Display — this could not be set up on our test machine because of the lack of anything more than a mini Display Port connect, so we hooked it up to our Macbook Pro. The Alienware OptX AW2310 is a 23-inch display and quite obviously aimed at gamers. It's beautiful to look at —

with a very nice stand that has a super slick slide mechanism for height adjust. The monitors tilt mechanism is also very good. The bezel is slim and the entire body is finished in smooth but non-glossy black, so it's bye-bye to reflections and smudges. The power button oozes sex appeal — it's softly backlit in white. The menu controls are on the side, but touch-based and backlit and work flawlessly. In fact the menu system is pretty much perfect and adjusting settings never feels like a chore. Additionally this monitor is 120 hertz, with support for NVIDIA's 3D Vision — this is perhaps the biggest plus point for anyone looking to invest in a great gaming monitor with this feature.

### Performance

The Alienware OptX impressed us the most — the brightness and contrast are both good and this pushes it ahead. Movies have a lot of detail in darker scenes, especially in one area in our cave scene, where we could make out the structure of stalactites amid the darker regions of the ceiling. There is a slight orange halo around very dark regions of the screen, we're not sure why. The reds are slightly oversaturated and higher intensities tend to blend but this is not noticeable for most applications. Crysis looked

good — great detailing, good highlighting on the suit and weapons and the environment looked pretty splendid. The M2400HD from BenQ trailed the OptX in the real world tests by a small margin, but in the shade intensity tests there was more separation between higher intensities of



BenQ G2420HD

## Google Energy

Federal Energy Regulatory Committee has approved Google's request to buy and sell electricity to its newest subsidiary named Google Energy

## New smoke alarm

A fire extinguisher company and a bioventure in Tokyo have launched a smoke alarm for deaf people that emits a pungent smell when smoke is detected

red. Vertical viewing angles are poor, horizontal angles are a bit better but loss of colour fidelity happens when viewing from any incline. There is lots of noise in dimmer scenes as well as a problem with banding in lighter intensities of blue. The BenQ G2420HD proved that looks aren't an indicator of performance, as it belied the cheap build to post some impressive scores.

The BenQ V2400 Eco had loads of issues — slight loss of darker shades, with banding. Reds and browns appear oversaturated. Orange looks a little too bright and artificially radiant. Highlighting is good, but due to oversaturation of reds there is loss of fine detail. In the reverse text tests, light green on grey looks blurry. In Display Mate, the reds blend in higher intensities. There is also an issue with pure green, where the gamut is not as wide, causing some banding. Red is also overly bright with very little detail and very little variation in shade intensity. Both Viewsonic monitors performed very similarly, with the VX2433wm showing decent colour rendition for a TN panel but the reds look artificially bright. In movies, there is a noticeable lack of contrast and darker shades tend to blend. Banding is noticeable in such cases

## HOW WE TESTED

Monitors were divided on the basis of screen size. On the features front we logged all the physical specifications including connectivity and extras if any. We also rated the build quality, menu system and bezel thickness of each panel, after all, usability and aesthetics are important. The stand mechanism is also graded.

Our test system consisted of an Intel Core 2 QX9650 CPU, ASUS P5Q3 Deluxe motherboard, ASUS Radeon EAH 5850 graphics card, 3 GB of DDR3 RAM, and a Western Digital 10,000 rpm Velociraptor hard drive. We used our Spyder 3 Elite to calibrate each display and also give us the actual contrast ratio and luminance figures. For measuring maximum luminance we kept the brightness at 100 per cent for all displays. For getting a regular luminance value and for all other Spyder 3 Elite scores we set the brightness and contrast at 50 per cent each. Luminance of white and black was also logged. The higher the white point the better — for this means a display will do really bright colours and highlighting and HDR will look more realistic. The lower the black point i.e. closer to zero,

and in general wherever there is a lot of a particular shade in varying intensities. The VG2427wm had issues in the reverse text tests, where dark yellow on dark grey is not very visible. Bright yellow on white is also barely legible. When a dark image is viewed from a slight angle there is purple/copper hue. Smudging and banding occurs in darker scenes in movies. Games were decent on these monitors and the pixel response is good. The ASUS VH242

let down in games — surprising, really, for we felt it was aimed at that fraternity. There was an issue with a delay in backlight adjustment. This spoils Crysis, as it was noticeable if you are turning away from facing a bright spot, to face a dim region.

the better is the ability of the display to produce deepest blacks. Therefore a black luminance of 0.12 is better than 0.20 or 0.15.

Post calibration we ran Display Mate to judge the contrast ratio for ourselves via the grey scale intensity test which consists of checking visibility of grey squares of varying intensity on a black background. Display Mates colour test suite allowed us to check for colour gamut and shade intensity. In the colour gamut test we test for the wideness of the colour gamut where the primary colours are separated by the secondary colours and the entire spectrum is presented on-screen. Colours should smoothly merge into others without vertical lines called "banding". When testing for purity of the primary colours and individual shades we use the 16-shade ramp test and the 256-ramp test. 16 and 256 bands (respectively) are presented for each of the primary and secondary colours one colour at a time and these bands vary equally in intensity moving from highest intensities to lowest intensities. We check for uniformity of change in intensity

and adequate separation between each band — this tells us that the monitor is able to display a variable intensities of a particular shade well. Generally IPS and PVA panels that are natively 8-bit are better performing than 6-bit TN panels that use dithering to make up for additional colour intensities that they cannot produce.

Our movie test consisted of a set of four HD 1080p clips encoded in WMV format. A lot of scenery which allows for checking colour and contrast, fast action scenes which allow us to test the pixel response. There is a volcano eruption scene after dark, this has a lot of grey on black as smoke rises and this allows us to check for detail in darker scenes i.e. contrast and blackness level. Underwater scenes allow for testing per pixel detail banding and a scene shot in caves allow us to check for colour accuracy and detail in darker areas. Crysis was used for game tests and we patched it to the latest version. We looked for detail in darker areas, the colour of scenery, highlighting and HDR and pixel detail as well as tonal accuracy of colours.

At 50 per cent brightness and contrast, this display is also dimmer than other monitors. Yellow on white and cyan on green are colour registration problem areas for reverse text. The gamut for green is wide though not so for blue and red.

## And the award goes to

The BenQ M2400HD and G2420HD were very close to each other in all the tests but the M2400HD has a lot more features that puts it ahead. But the pricing brings them closer in terms of overall value and in this regard they're inseparable — a joint Best Buy award for BenQ. The G2420HD also wins our Editor's Pick award owing to its great pricing of Rs. 12,500 — superb value. The Alienware

**BEST BUY**  
**digit**  
MARCH 2010



BenQ M2400HD

**BEST PERFORMER**  
**digit**  
MARCH 2010



Alienware OptX AW2310

OptX AW2310 wins our Best Performer award owing to its great all round performance.

## 22-inches: Jacks-of-all-trades?

22-inches is the magical category at the moment, the one that is moving volumes, making profits and also subject to the most competitive tactics as brands try to outthink each other and guess what users



## Paypal-Facebook tieup

Facebook has announced a partnership with PayPal to use its technology for the purchase of self service ads and also the Facebook Credits currency

## Typo money

Google earns approximately \$497 million per year due to URL typos according to a Harvard study

LCD Monitor

are most looking for. Unfortunately this also means this is a category subject to the most purple prose. Recently 22-inch monitors have been featuring 1920 by 1080 pixel resolutions — which is good for movies but not always the best option for someone looking for a desktop monitor. Fonts become finer, and although the densely packed pixels give the impression of far greater clarity and crispness this is actually misleading. Of the four monitors we tested, only one featured the de facto 16:10 aspect ratio with 1680 x 1050 pixels, the others had resolutions of 1920 x 1080 pixels.

BenQ's G2220HD is similar in looks to the 24-inch version with a similar name (the G2420HD) but owing to its smaller size it felt a little sturdier. The menu system is the same, which is mediocre. Intex's IT2203W was the only monitor with a resolution of 1680 x 1050 pixels. The stand feels flimsy and does not stop the monitor from moving at the slightest nudge. The bezel is narrow on the top and sides and broad at the bottom. The pale pink trim on the bottom bezel adds a bit of colour, to an otherwise black product. The controls work well for the most part and the menu is pretty simple even for a newbie. The Viewsonic

VX2233wm is a smaller version of the VX2433wm, the first two numbers denoting the screen size. It's built to a budget, with mediocre quality and the menu button indents are not at all visible on the front bezel making using the menu confusing and a hit and miss affair. Although the buttons have good feedback, they're too pointy — this hurts the fingerpads forcing use of nails. Samsung's SyncMaster B2230 has a very basic look, with a very mediocre stand. The touch controls for the menu are neat works pretty well, though it's still a bit away from the brilliant Alienware OptX. Button spacing is important and Samsung has handled this well. On a negative note, the buttons are impossible to use in the dark thanks to absence of backlighting.

### Performance

The Samsung B2230 registers a lot of issues in the reverse text



## APPLE 24-INCH LED CINEMA DISPLAY

The only display to ship with an S-IPS panel and the price reflects this — Rs. 52,000 is very steep, especially when you can buy a 27-inch monitor from Dell with the same panel for a lot less. But one look at this one will tell you it doesn't like to run in the rat race. Hell, it's not even on the same race-track — solid aluminium — this is a lethal weapon, and would bludgeon an ox with no apparent ill effects. There are 3 USB ports, but no display ports other than a measly mini display port connector that only Apple notebooks can accommodate.

We also feel this monitor would do better with the traditional CCFL backlighting, which we know is better for colour and contrast in comparison to LEDs and this hampers the performance. We got a contrast ratio of 565:1, which is kind of shy of what we expected. An S-IPS panel should have a contrast of at least 800:1 — Apple's backlighting technique is letting them

down. When paired with a Macbook you can enjoy extended desktop space and the superb resolution of 1920 x 1200 pixels feels so much better than the ultra wide 1920 x 1080 pixels. Surfing is fun. Movies are even more fun, thanks to the great colour rendition and viewing angles. This is a bright display — the average brightness is 190 cd/m2, pretty good but below par with other S-IPS panels that can have brightness levels nearing a retina-searing 350 cd/m2. If you've got the moolah to blow and have a Macbook Pro, go with the 30-inch version, which is pretty much sublime. If not, then the 24-inch is a decent buy, albeit a costly one. That being said, you could pick up a monitor with a Display Port connect and buy a display port to mini display port adapter cable. This would be a cheaper alternative that might even perform better, but we're pretty sure nobody makes aluminium-body LCD monitors!

test — green on cyan, cyan on green, magenta on red are problematic. In movies, for a dim screen the brightness is decent. Vertical viewing angles are bad, although no TN panel has good vertical viewing angles, Samsung took the cake here with some slightly worse scores. Banding with the colour blue adds a weird yellowish hue to the region where the banding occurs. Highlighting in movies is good for a TN panel. In games at the 50 per cent brightness and contrast settings, things are way too dark. Night scenes look even

darker and the highlighting looks artificial.

The Intex IT2203W had its own problems with DisplayMate's reverse text tests as red on magenta, yellow on white also, white on yellow, cyan on blue and blue on cyan are nearly illegible — this was one of the worst results for this category of test, surpassed only by its smaller sibling as you'll see later. There was noticeable moiré with the colour pink, and to a lesser extent with blue and red. Movies are good, apart from minor banding issues and there is a noticeable lack of variation in darker shades — no doubt owing to the mediocre

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## Buzz complaints

A class action complaint was filed in the San Jose federal court accusing Google Buzz of breaking law by sharing data without users consent

## Google Aardvark?

Google to acquire a social search engine Aardvark which was a startup by former Google employees indulging in social media search

contrast ratio. There is a fair bit of detail to the textures in Crysis, although we'd like a little more highlighting and some more crispness to the colour. Surprisingly, we noticed text on the Windows desktop seemed to look a little blurry with true type font enabled. BenQ's G2220HD had a really good contrast and the brightness level was also pretty good. Owing to this, we found it to be a good performer in movies — very minor banding in underwater scenes with the colour blue and this could be a result of the non-native 8-bit panel as well, which is a theoretical limit to its colour-producing ability. Crysis looked good — good highlights and detailing. Foliage looked very crisp and vibrant. It also did well in DisplayMate, except for the 256-shade intensity test.

## Trophy time

The BenQ G2220HD trounced the others in this roundup and by no small margin. Such as it stands, mentioning the others in this award space makes no sense. It wins our Digit Best Buy award for its great performance at a very competitive price of Rs. 9,200 — the cheapest in this category. A classic example of less being more.

## 20-inches:

### Endangered species or survival story?

There was a time when we predicted 20-inch monitors would be history. The tenacious things proved us wrong. And you can't blame us, for 22-inch monitors were offering similar prices and an identical screen resolution. It seems 20-inchers have carved their own niche.



Viewsonic VX2233wm

They sport a resolution of 1600 x 900 pixels these days, just below the 1920 x 1080 that 22-inch LCDs ship with. This makes them less of competitors and more like a cheaper option.

The Fujitsu L20T-1 ECO was the sole piece from this brand. Although it's well built, the stand is tacky and feels cheap with quite a bit of flex. The menu buttons on the bottom but the OSD is good and tells you where the button will be. The Acer H203H has a small stand though the base is pretty solid and heavy owing to thick plastics. The tilt mechanism is hard. Sadly, a glossy on the screen makes it reflective. The OSD buttons are well laid out although on the side. The menu system is a little weird since you have to press the button corresponding to the on screen display and this usually works well when the buttons are right next to the screen, not on the side of it — usability isn't intuitive. Power button looks neat with a circular white backlight that isn't intrusive.

Samsung's B2030 is similar to its larger sibling, though the stand feels solid. Samsung doesn't care much for slim bezels and the B2030 doesn't break the mould. ASUS' VH202D too shares a similar look to its larger

sibling, though it is actually tackier.

## Performance

The Fujitsu L20T-1 ECO is aggressive with its power saving mode, thereby living up to the emphasis on the word in its name. With eco mode on, the brightness falls to 141.8 lumens; with eco mode off it rises to a respectable 245.3 lumens. Cyan on green is really bad, ditto magenta on red and yellow on white also problematic — poor performance in the reverse text tests. In the 16-shade intensity test, the two highest intensities of red nearly blend — besides

intensity shades, but it's the lower intensity ones that lose out on detail. Greys tend to merge. In Crysis the foliage look crisp — better than the Fujitsu L20T-1 ECO and with great detailing. However, highlights are still not as good as we'd like.

For the Samsung B2030, cyan on green, green on cyan, yellow on white, white on yellow all look bad. Brighter intensities of red tend to look similar with less variation. Movies have good detail and highlighting, there is less detail in darker scenes, though the contrast ratio is good and so is the blackness level of this monitor — in fact the latter specification

was the best among all the monitors at 0.15 (the BenQ G922HDL was the only other monitor with this blackness level) — pretty good for a TN panel. Colours are vivid, yet not over rich, the one exception being red, which looks overdone at times. In Crysis, the delay in backlight adjusting is a problem and the game seems a little too dark on 50 per

cent brightness and contrast. The ASUS VH202D manages to clear the movie and game tests but Display Mate was harsh with poor results in the reverse text and shade intensity tests.

## And the winners are

Acer's H203H sweeps up our Best Buy award. Priced at Rs. 7,250 it's ideal for someone looking to buy a good monitor for their desktop usage and would serve well for movies too. The Fujitsu L20T-1 ECO would be our second option, but really as long as you can get your hands on the Acer, we



Acer H203H

this we also ran into the usual gamut of problems for our movie tests — banding, loss of detail in darker scenes, but this wasn't as bad as some of the other panels. Crysis looked good, surprisingly so, and the highlighting was pretty nice. The Acer H203H has a really good whiteness level. White on yellow is a problem in the reverse text tests. Banding noticeable with blue, in fact slight compression with the colour blue was also noticeable in some scenes. Movies look good with the extra brightness lending some detail higher



## Social media news

Peter Horrocks, director BBC Global News to make social media use by journalists mandatory

## Facebook crime

An 18 year-old was sentenced to jail in Jakarta, Indonesia for posting insulting comments on a rival's Facebook page

LCD Monitor

wouldn't recommend anything else for this screen size.

### 19-inches:

#### The new minnows

We reckon this should be the smallest size of monitor you shop for. Although the difference in size isn't much, the difference in resolution between a 19 and 20-inch display justifies switching to the larger size. The price difference is also minimal, and the ASUS VH202D was actually cheaper than all the 19-inch monitors here, which is rather surprising. However, there are some that may just not need the extra desktop space, or simply not want a 20-inch monitor.

The Acer G195HQL has a neat stand with protruding feet that give it an aggressive look. It's not too steady owing to the lightweight materials used. The Intex 1806W was also plagued by a shaky stand and looks like a clone of its bigger sibling. The BenQ G922HDL is a simple looking thing, with a very plain base that is nonetheless very firm. The bezel is pretty slim and the area around the buttons has a little bulge, making the bezel around the buttons a little larger. The other BenQ, the G920WL looks pretty much like its sibling, but has a much nicer resolution of 1440 x 900 pixels

#### CONTACT DETAILS

Brands	Phone	Email	Web site
ASUS	+91-22-6766 8800	media_india@asus.com	www.asus.in
Fujitsu	+91-22-6709 0828	response@rptechindia.com	www.rptechindia.com
Intex	1800-116-789	info@intextechnologies.com	www.intextechnologies.com
Apple	1800-425-4646	indiasales@mac.com	www.apple.com/in
Acer	+91-80-4070 8700	ravi_Hansdak@acer.co.in	www.acer.co.in
Samsung	+91-124-4181234	sabharwal.a@samsung.com	www.samsung.com/in
Viewsonic	+91-11-4260 3195	bishakha.dm@in.viewsonic.com	http://ap.viewsonic.com/in
BenQ	1800-419-9979	sales.enquiryin@BenQ.com	www.benq.co.in
Alienware (Dell)	1800-425-4026	NA	www.dell.co.in

- which is pretty much de facto for a 16:10 aspect ratio in this size category.

### Performance

The Acer G195H exhibits good colour, contrast and brightness in Crysis with some neat highlighting. Movies were also good owing to the slightly better contrast ration - good colours and good colour tones, although we did notice some banding visible in greys and there was more in blue, especially with the underwater scenes. The Intex IT1806W had less visible banding in movies, good colour, but the overall presentation

was tonally over-rich with saturated colours. The reverse text tests saw white on cyan, yellow on white, cyan on green, green on cyan, red on blue to be problematic

- making this the worst monitor in this particular test. Darker intensities of blue and red tend to show very little disparity. The desktop looks a little blurry, especially true type fonts. The BenQ G922HDL has a good

contrast ratio, but there is less detail on the darker greys and darker intensities of these colours will blend. Yellow on white and cyan on green poor were rendered poorly. The colour magenta has a pinkish hue. Higher

intensities of red also tend to blend. It misses out on the finer details in our cave scene, the darker regions are void of

detail. Banding in blue and some moiré in blue also noticed. It was superseded by its sibling, the BenQ G920WL, in the grey scale intensity test. The G920WL

also had good detail in the darker scenes with our cave and volcano eruption at night scene. In fact it was pretty much at par, although the G922HDL had a better blackness level.

### Who won, who lost

Our Best Buy award went to the BenQ G922HDL, although we figure you could just as easily go with its sibling the G920WL. The latter was actually better in some of the real world tests, but it was very close to call and the marginally lower price of the G922HDL makes it inch ahead, but only just! **d**



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MARCH 2010



BenQ G922HDL

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## LCD MONITORS

BRAND	ACER	BENQ	BENQ	INTEX	ACER	ASUS	FUJITSU	SAMSUNG	
Model	G195HQL	G922HDL	G920WL	IT1806W	H203H	VH202D	L20T-1 ECO	SyncMaster B2030	
Price (Rs)	Rs. 6,700	Rs. 7,000	Rs. 7,200	Rs. 7,080	Rs. 7,250	Rs. 6,250	Rs. 7,100	Rs. 8,700	
Grand Totals (Out of 100)	45.97	50.74	50.66	42.41	50.10	43.25	45.25	46.74	
Features (Out of 35)	9.47	11.74	11.74	8.68	11.93	9.14	9.25	11.94	
Performance (Out of 65)	36.50	39.00	38.91	33.73	38.17	34.12	36.00	34.81	
<b>Features</b>									
Display Size (inches)	19	18.6	18.6	18.6	20.1	20.1	20.1	20.1	
Panel technology (TN/S-IPS/MVA/PVA etc)	TN	TN	TN	TN	TN	TN	TN	TN	
Native resolution (H. Pixels x V. Pixels)	1366 x 768	1366 x 768	1440 x 900	1360 x 768	1600 x 900	1600 x 900	1600 x 900	1600 x 900	
Screen aspect ratio	16:9	16:9	16:10	16:9	16:9	16:9	16:9	16:9	
Type of panel (Matte/Glossy)	Matte	Matte	Matte	Matte	Glossy	Matte	Matte	Matte	
USB hub (Y/N) / No. Of USB Ports	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	
Card reader (Y/N) / Type of cards supported	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	
Type of memory cards supported	NA	NA	NA	NA	NA	NA	NA	NA	
Built-in speakers (Y/N)	N	N	N	N	N	N	N	N	
VESA wall mount	Y	Y	Y	Y	Y	Y	Y	Y	
Swivel base (Vertical / Horizontal Axis)	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	
Height adjustment (Y/N)	N	N	N	N	N	N	N	N	
Portrait (Y/N)	N	N	N	N	N	N	N	N	
Input interfaces (D-Sub/DVI/Component/S-Video/ HDMI)	D-Sub x 1	D-Sub x 1, DVI x 1	D-Sub x 1, DVI x 1	D-Sub x 1	D-Sub x 1, DVI x 1	D-Sub x 1	D-Sub x 1	D-Sub x 1, DVI x 1	
Audio connects	NA	NA	NA	NA	NA	NA	NA	NA	
Extra features if any (WebCam, Ipad dock etc)	NA	NA	NA	NA	NA	NA	NA	NA	
<b>Miscellaneous (So 10)</b>									
Bezel thickness	4.5	6.5	6.5	5	5.25	6	5.25	4.5	
Quality of moving parts	6	6.5	6.5	3.5	7.5	4.5	4.5	5.5	
OSD usability and layout	5.5	6	6	7	4.5	6.5	7.5	8.5	
Menu buttons	6.5	6	6	6.5	6.5	6.5	6.75	8.25	
<b>Performance</b>									
Contrast Ratio as per Spyder 3 Elite	635.22 : 1	767.33 : 1	725 : 1	554 : 1	616.15 : 1	382.5 : 1	529 : 1	494.67 : 1	
Maximum Luminance as measured by Spyder 3 Elite (cd/m <sup>2</sup> )	254.1	224.5	241	248.8	333.8	330.8	141.8	209.4	
Luminance as measured by Spyder 3 Elite (cd/m <sup>2</sup> ) 50 % brightness and contrast	162.6	124.3	161.8	143.2	166.1	98.7	117.5	81	
Actual temperature at 6500K	6905K	6777K	6789K	7729K	6382K	7165K	6455K	6764K	
Luminance (Calibrated, White)	146.1	115.1	145.1	138.5	160.2	91.8	105.8	74.2	
Luminance (Calibrated, Black) #	0.23	0.15	0.20	0.25	0.26	0.24	0.20	0.15	
<b>Displaymate Video Edition Colour Tests (So 10)</b>									
RGB Colour Purity Tests	5.5	6	6	4.75	6.25	5.5	6	6	
Reverse Text Tests	5	6	6	2.5	6	4	5.5	5.5	
16 Intensities Levels	5	6.25	6.25	4.25	5.75	5	5	4.25	
256 Colour Ramp Test	3	3.75	3.75	2.75	4.25	4	4	3.25	
<b>Multimedia and Game Tests (So 10)</b>									
HD Video Clip Pixel Persistence	6	6.75	6.75	6.25	6.75	5.75	6.5	6.75	
HD Video Clip Colour Rendition	6	6	6.25	5.75	6	6.25	6	6	
HD Video Clip Contrast	6	6.25	6.25	5.5	6.25	6	6.5	5.75	
HD Video Clip Overall Viewing Experience	6	6.25	6.5	5.5	6.25	6.25	6.5	6.25	
<b>Crysis</b>									
Detail in low light	6	5.5	5.5	5.5	5.75	6	5.5	6	
Colours, Contrast & Environment realism	6.25	6	6	5.5	6.25	6	6	5.25	
Highlighting & HDR	6.25	5.75	6	5.25	6.25	5.5	6.25	5	
<b>Viewing Angles (So 10)</b>									
Text	5	5.5	5.5	5.5	5.5	5.5	5.75	5.5	
Movies	4.5	5	5	5	4.75	5	5	5.5	
Games	4.75	5	5.25	5	5	5	5	5	
# less is better									





# LCD Monitor

	BENQ	INTEX	SAMSUNG	VIEWSONIC	ALIENWARE	ASUS	BENQ	BENQ	BENQ	VIEWSONIC	VIEWSONIC
	G2220HD	IT2203W	SyncMaster B2230	VX2233wm	OptX AW2310	VH242H	M2400HD	V2400 Eco	G2420HD	VX2433wm	VG2427wm
	Rs. 9,200	Rs. 9,370	Rs. 11,000	Rs. 11,999	Rs. 25,000	Rs. 14,990	Rs. 16,500	Rs. 17,500	Rs. 12,500	Rs. 14,999	Rs. 15,999
	52.16	42.04	43.77	45.45	61.16	48.80	59.32	47.13	49.61	50.58	56.52
	11.90	9.24	11.94	11.12	19.99	14.74	21.67	12.35	12.35	15.51	21.48
	40.26	32.80	31.83	34.33	41.17	34.06	37.65	34.79	37.27	35.08	35.04
	22	22	22	22	23	23.6	23.6	23.6	23.6	23.6	23.6
	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN
	1920 x 1080	1680 x 1050	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080
	16:9	16:10	16:9	16:9	16:9	16:9	16:9	16:9	16:9	16:9	16:9
	Matte	Matte	Matte	Matte	Matte	Matte	Matte	Matte	Matte	Matte	Matte
	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	Y / 2	N / NA	N / NA	N / NA	Y / 2
	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA	N / NA
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	N	N	N	N	N	N	Y	N	N	Y	Y
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical, horizontal
	N	N	N	N	N	N	N	N	N	N	Y
	N	N	N	N	N	N	N	N	N	N	N
	D-Sub x 1, DVI x 1	D-Sub x 1	D-Sub x 1, DVI x 1	D-Sub x 1, DVI x 1	D-Sub x 1, DVI x 1, HDMI x 1	D-Sub x 1, DVI x 1, HDMI x 1	1 x DVI, 1 x D-Sub, 1 x HDMI	1 x D-Sub, 1 x HDMI	1 x D-Sub, 1 x HDMI	D-Sub x 1, DVI x 1, HDMI x 1	D-Sub x 1, DVI x 1
	NA	Line in	NA	Line in	Line in, mic	Line out, mic, SP/DIF	Line in, headphone out	headphone out	headphone out	Line in, Mic	Line in
	NA	NA	NA	NA	NA	NA	webcamera (2.0 MP)	NA	NA	NA	NA
	7	5	4.5	5.25	7.75	6.75	5	7.25	7.25	5	7.75
	6.75	4	5.5	5.5	8.5	7	7.25	6.75	6.75	4.5	6
	6	7	8.5	6	9	6.5	6	6	6	6	6.75
	6	6.5	8.25	4	9	6.5	6	6	6	4	6.75
	774.76 : 1	343.21 : 1	283.21 : 1	288.97 : 1	629 : 1	344.74 : 1	668 : 1	418.3 : 1	561.67 : 1	529.26 : 1	508.18 : 1
	295	208.5	285.9	276	413.9	301.1	295.5	222.7	288.9	297.3	301.3
	170.7	100.5	84.7	91.3	265.4	75.4	175.8	127.5	151.3	147.3	113.5
	6580K	6246K	6411K	6627K	6900K	9914K	6512K	7505K	5963K	6635K	6821K
	162.7	96.1	79.3	83.8	251.6	65.5	167	100.4	134.8	142.9	111.8
	0.21	0.28	0.28	0.29	0.40	0.19	0.25	0.24	0.24	0.27	0.22
	6.25	6	6.5	6.25	6.5	6	6.5	5.75	6.5	6.25	6.5
	6	3.5	5.25	5.5	6.5	6	6	5	6.25	7	6
	6	6	6.25	5.75	6.25	6.75	6.75	5.5	6.75	6.75	7
	4	4	4.5	4.25	4.25	4	4.25	4	4.25	4	3.75
	6.75	6.5	6.75	6.5	6	6.5	6.5	6.5	5.75	6.5	6
	6.25	5.75	5.75	6	6.5	5.5	5.5	5.75	6	5.5	5.75
	6.25	5.75	6	6.25	6.75	5.75	4.75	5.25	5.75	5	4.5
	6.5	6	6.25	6.25	6.75	6.25	5.75	6.25	6.5	6	5.75
	6	4.75	4	6	6	5	5	5.5	5.5	4.5	5
	6.25	6	4.75	6.25	6.5	5.5	6.5	6.5	6.25	5.75	6.25
	6.25	5.5	4.5	6.25	6.5	5.5	6	7.25	6.5	5	5.5
	5.5	5.5	5.75	6	6	6	6	5.5	5.5	5.5	5.5
	5.25	5	4.5	5	5.5	4.75	4.75	4.5	4.75	4.5	4.75
	5.5	5	5	5.25	5.5	5.25	5	5	5	5	5

## HBO Go

HBO launches its online streaming movie services called HBO Go

## Starcraft II Beta

Blizzard begins closed beta for Starcraft II



# Multitasking masters

We take a look at some interesting and economical multifunctional devices that are a one stop shop for printing, scanning and copying.

## 3D printing

Fuji film has announced a 3D Print System which will allow printing 3D images on the spot in early summer of 2010

## Bio-printer

Invetech has developed the first 3D bio-printer that makes human tissues

MFD test

Nimish Sawant

[nimish.sawant@thinkdigit.com](mailto:nimish.sawant@thinkdigit.com)

**M**ulti-tasking has become the mantra of our life. We try to do many things simultaneously all the time. So it's only natural that we expect our digital devices to follow suit. Just like a music player is expected to play video, a cellphone expected to have a camera, why should printers stay behind.

Multi-functional devices are slowly but surely becoming an important aspect of our lives. Gone are the days when scanning and copying were things that could only be done at your local copier. Apart from printing, MFDs can scan, copy and

## HOW WE TESTED

All the multifunctional devices that we got were tested on a rather basic system powered by an Intel Pentium 4 with 2 GB of RAM. We divided the MFDs into two broad categories – Monochrome Laser and Inkjet MFDs. For inkjet printers, we also tested photo quality on glossy paper.

After connecting the printers to the rig, we ran a few dry runs before actually starting off with the tests. For both the categories the common tests were carried out for text only document, mixed (text and images) document and copying a document (our magazine cover). We tested the text only document for clarity of the smallest and largest fonts, evenness of the

text at different settings. In the mixed document tests we tested the outputs against each other for clarity of text, merging colours, changing gradations of colours or white to black progression. Finally for the copy tests we compared the output to the source and checked for any flaws like noise, change in colour level, clarity. Each of the above tests was timed to see which printer gave a great output at the quickest speed. Scanning quality and speed was also tested in all the MFDs.

For inkjet printers we also did a photo print test, where we printed an A4 size photo on a glossy sheet.

We checked for the sharpness levels, colour output and also checked for flaws like merging of colours or grains in the output.

Apart from these performance tests, we gave a considerable weight to the features of all the MFDs. We also laid stress on the ease of software installation, cartridge installation, ease of connections of hardware. Also the build quality of the MFDs was given marks accordingly.

We did not perform the fax test, as this functionality was the same in all the MFDs that had them and there wasn't any variation which could allow us to do a comparison testing of this particular function.

some can even double as fax machines. With all these functionalities coming in compact form factors, you won't mind shelling out extra for a device that can take care of all your printing, scanning and copying needs.

Small office setups no

longer need to rely on external sources for their copying functions when they get themselves a compact copier which can perform printing and scanning as well. Moreover, with network connectivity in most of the devices, you have a centralised solution for all your printing and copying functions.

We got around 14 multi-functional devices to test this month which were categorised into inkjet MFDs and monochrome laser MFDs.

## INKJET PRINTERS

This category of MFDs is targeted at home users

and small office setups. We got around seven MFDs in this category. All of them performed functions like printing, scanning and copying. A couple of them were even capable of performing telephone and fax functionality. While testing this category we were looking at decent text and mixed document printing and scanning functionality. We also tested these printers for photo quality as some of these MFDs are positioned as photo printers.

## Features

We got around four Canon Pixma series MFDs namely MP276, MP496, MP648 and MX328. The MP series of printers have very similar designs. Each is square shaped with rounded edges having a glossy light grey finish. The MX328 is the only exception as

**BEST BUY**  
**digit**  
MARCH 2010



Brother DCP 195C

**Ab Zindagi**  
**Masala**  
**TADKA**  
**MAAR KE**



Now life has gone beyond just masala. It needs **Masala, Tadka Maar Ke!** And that's just what you'll get with new **Smith & Jones Instant Masala Noodles.**

Created with a unique technology, these noodles will stay separate and firm after cooking, without becoming soggy - so that more of the delicious masala coats each strand. The masala itself is a flavoursome medley of 52 Indian spices.

So why settle for just masala, when you can get **Masala, Tadka Maar Ke.**

**SMITH & JONES**  
**Masala Noodles**



INKJET MFDS							
BRAND	Canon	Canon	Canon	Canon	Epson	Epson	Brother
Model	Pixma MP276	Pixma MX328	Pixma MP496	Pixma MP648	Stylus Office TX600FW	Stylus Office TX510FN	DCP 195C
Price	Rs. 5,595	Rs. 8,595	Rs. 6,995	Rs. 16,995	Rs. 14,999	Rs. 10,999	Rs. 4,540
Grand total (Out of 100)	39.82	45.52	44.08	57.66	75.99	55.01	56.16
Features (Out of 30)	6.30	9.30	9.00	15.90	21.60	11.40	18.30
Performance (Out of 70)	33.52	36.22	35.08	41.76	54.39	43.61	37.86
Features							
Maximum print resolution (dpi)	4800 x 1200	4800 x 1200	4800 x 1200	9600 x 2400	2400 x 2400	2400 x 1200	2400 x 1200
Power saving mode (Y/N)	N	N	Y	N	Y	Y	Y
Duplex printing (Y/N)	N	N	N	N	N	N	N
Ink saving mode (Y/N)	N	N	N	N	N	N	Y
Zoom / Fit to page (Y/N)	Y	Y	Y	Y	Y	Y	Y
Number of cartridges used	2	2	2	5	4	5	4
Cartridge colours	Colour, Black	Colour, Black	Colour, Black	CMYK, Black	CMYK	CMYK, Black	CMYK
Connectivity							
PictBridge support (Y/N)	Y	Y	N	Y	Y	N	Y
USB flash drive support (Y/N)	N	N	N	N	N	N	Y
Network printing support (Y/N)	N	N	N	Y	Y	Y	N
Wi-Fi support (Y/N)	N	N	N	Y	Y	N	N
Memory card support (Y/N)	N	N	Y	Y	Y	N	Y
Fax (Y/N)	N	Y	N	N	Y	Y	N
Performance							
Text print (on 10)	6.63	5.75	4.88	5.75	4.63	5.63	5.25
Text print (Time)	27.5	11.7	27	12	7	5.1	20
Mixed document print (on 10)	5.14	5	5.5	4.36	4.07	4.36	3.79
Mixed document print (Time)	86	89	86	62	34	65	79
Mixed document print (Speed/Eco) 5 copies (Time)	78	88	87	50	26	59	35
Photo (on 10)	7.14	6.64	6.21	6.71	5.93	2.29	6.86
Photo (Time)	180	180	178	96	129	128	446
Copy test (on 10)	6.29	5.43	6.21	6.86	6.29	5	5.93
Copy test (BW) (Time)	45	27	27	17	16	8.2	33
Copy test (Colour) (Time)	49	57	43	27	20	41	44
Multiple copy test (Speed/Eco) 5 copies (BW) (Time)	NA	62	72	65	28	28.5	34
Multiple copy test (Speed/Eco) 5 copies (Colour) (Time)	NA	87	106	79	32	78	54
Scan test (on 10)	7.75	7.5	7.5	7.25	7.75	8	7.5
Scan test (Time)	26.6	30	26	20	16	41	26
Scan from ADF (5 pages)	NA	NA	NA	NA	85	245	NA
Miscellaneous							
Software supplied	Easy PhotoPrint EX, My Printer	Easy PhotoPrint EX, My Printer	Easy PhotoPrint EX, My Printer	Easy PhotoPrint EX, My Printer	Epson EasyPrint Module, Epson NetPrint, Fax Utility, Easy Photo Print	Epson EasyPrint Module, Epson NetPrint, Fax Utility, Easy Photo Print	ScanSoft Paper-Port SE
Dimensions (W x D x H)(mm)	450 x 335 x 155	458 x 410 x 198	450 x 335 x 155	450 x 368 x 176	461 x 346 x 236	460 x 411 x 235	390 x 365 x 150
Weight (Kg)	5.6	8.6	5.5	8.8	7.2	7.6	7.1
Build quality (Each on 10)							
Body	6.5	7	6	6.5	8.5	7	7
Folding / Hinges	6	6.5	6.5	6.5	7	6.5	5.5
Tray quality	6.5	6.5	6	6	6.5	7	5
Buttons	6.5	7.5	7	6.5	7.5	8	6.5
Ease of Use (Each on 10)							
Hardware connections	7	7	7	7	7	7	7.5
Cartridge installation	6.5	6	6.5	6	6	6	6
Paper loading	6.5	6	6	7	7	6.5	6
Software user interface	6	6	6	6.5	6.5	6	6

## Edible ink cartridges

Kopykake, a company based in California makes edible ink cartridges to be used as frostings on cakes

## Nano printing

University of Illinois scientists have developed a cell copier machine that prints nanoscale biological cells

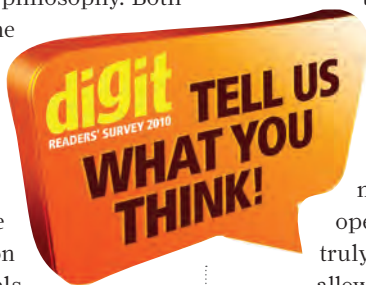
MFD test

it has an added telephone and fax functionality. The MP276 has a very basic design as far as the onboard operational panel is concerned. It has a single monochrome LED display which just shows numbers. With a button on the side to add to the number counter, you can't perform any function on the printer itself.

Canon's MP496 and MP648 both have a lovely colour LCD screen along with buttons on the operational panel. While the MP496 has a 1.8 inch LCD screen on the flap which opens on the right side of the printer, the MP648 has a larger 3-inch colour LCD screen on a flap screen that opens in the middle atop the MFD. Using these screens, you can control a lot of functions, such as paper and image quality, number of copies, scanning to USB or PC, etc., easily. During a print, scan or copy operation, you get live status on the LCD screen. The MP276 and MX328 also had PictBridge support, which allows you to take photo prints directly from a digital camera, without needing a PC.

Epson's Stylus Office series of printers were next in line and probably the most attractive MFDs that we tested. The Epson Stylus series is known for its compartmentalised aesthetics and both the TX510FN and the TX600FW lived upto

that design philosophy. Both of them came in black, sturdy bodies. The operational panel is quite impressive on both models, making navigation through the functions and menus easier. The TX600FW has a large 2.5-inch colour LCD screen, whereas the TX510FN has a more economical 2 line LCD display. Both these MFDs have a fax option along with printing, scanning and copying. The operational panel on



the TX600FW is particularly impressive as it is flexible. With the help of a spring mechanism, the operating panel is truly adjustable. This allows you to place the MFD as you like, and adjust the panel for optimal viewing.

Unlike the Canon Pixma models that we tested, the Epson models had an Automatic Document Feeder (ADF hereon) which can be used for faster scanning as compared to the flatbed scanner. The ADF section above the flatbed scanner has a wavy appearance which is quite impressive.



Epson Stylus Office TX600FW

The Canon Pixma MP648 and the Epson TX600FW were the only two MFDs in the test to feature Wi-Fi. However, setting up the Wi-Fi connection on both these printers can be annoying and tedious.

At just 150 cm in height, the Brother DCP 195C was the most compact MFD in the test. Despite the fact that it has very limited vertical area to play with, this MFD packs in a full size flatbed scanner. A very interesting feature of this MFD is the location of the USB interface. It is located within the MFD, in such a way that the USB cable is guided out through a plastic groove specially made for it. Other than that it has basic functionalities on its operational panel. Presence of the PictBridge port and memory card slot make this MFD very versatile.

## Performance

Since inkjet printers are targeted at home users, we laid more stress on the photo quality print. The colour output was checked in the printing tests and in the copying tests; we compared the output to the original source to see any change in the colour gradation.

Text quality was the best in the Canon Pixma MP276, but this quality comes at the cost of time - it took a whopping 27

**Mukesh aur Anil bhi khaate hain**

There's only one thing Mukesh and Anil agree on, along with Rakesh, Sunil, Nitesh and every other masala-lover. The best way to get a quick dose of **Masala Tadka Maar Ke** is with a pack of new **Smith & Jones Instant Masala Noodles!** Bite into deliciously firm noodles, each strand fully coated with a lip-smacking combo of 52 Indian spices and you'll see why sab khaate hain.

**Smith & Jones Masala Noodles**

**NEW INSTANT NOODLES**

**Yeh asli masala tadka maar ke!**

## HD in your pocket

HP have introduced a new pocket sized camcorder capable of shooting video at full 1080p



LASER MFDS							
BRAND	Canon	Canon	Canon	Ricoh	Ricoh	Brother	Xerox
Model	imageCLASS MF4680	imageCLASS MF4380dn	imageCLASS MF4350d	Aficio SP 1100SF	Aficio SP C232SF	DCP 7030	WorkCentre 3220
Price	Rs. 33,595	Rs. 38,995	Rs. 18,995	Rs. 19,200	Rs. 63,000	Rs. 9,090	Rs. 30,719
Grand total (Out of 100)	74.92	78.22	69.26	59.68	61.55	54.77	79.90
Features (Out of 20)	16.00	15.20	9.20	15.00	14.90	4.20	16.00
Performance (Out of 80)	58.92	63.02	60.06	44.68	46.65	50.57	63.90
Features							
Maximum print resolution (dpi)	600 x 600	1200 x 600	1200 x 600	1200 x 600	2400 x 600	1200 x 600	600 x 600
Power saving mode (Y/N)	Y	Y	Y	Y	Y	Y	Y
Duplex printing (Y/N)	Y	Y	Y	N	Y	N	Y
Ink saving mode (Y/N)	N	Y	N	Y	N	N	N
Zoom / Fit to Page (Y/N)	Y	Y	Y	Y	Y	Y	Y
Number of cartridges used	1	1	1	1	4	1	1
Cartridge colours	Black	Black	Black	Black	CMYK	Black	Black
Print memory	128 MB	32 MB	32 MB	32 MB	256 MB	16 MB	128 MB
Connectivity							
USB flash drive support (Y/N)	Y	N	N	Y	N	N	Y
Network printing support (Y/N)	Y	Y	N	Y	Y	N	Y
Wi-Fi support (Y/N)	N	N	N	N	N	N	N
Memory card support (Y/N)	N	N	N	N	N	N	N
Fax (Y/N)	Y	Y	Y	Y	Y	N	Y
Performance							
Text print (on 10)	5.63	6.13	6	5.5	6	5.75	5.88
Text print (Time)	9.5	7.3	9.8	12.3	25	14.8	8.3
Mixed document print (on 10)	2.5	2.5	4.2	2.9	4.7	5	6.1
Mixed document print (Time)	13.8	11.5	12.4	22	47	16.1	14
Mixed document print (Speed/Eco) 5 copies (Time)	25.6	22.7	23	60	40	24.7	22
Copy test (on 10)	5.38	5.63	5.63	4.38	6.25	4.63	6
Copy test (Time)	8.3	8.7	10.5	20	26	11.6	9
Multiple copy test (Speed/Eco) 5 copies (Time)	20.3	19.7	20	27	38	29.8	17.1
Scan test (on 10)	6.25	5.75	5.5	5.5	6	5.5	5.5
Scan test (Time)	34	22.3	18	68	20	34.7	24.6
Scan to USB (Colour 300dpi) (Time)	32	NA	NA	86	NA	NA	21.5
Scan from ADF (5 pages) (Time)	105	97	102	67	33	NA	105
Miscellaneous							
Software supplied	Presto Page manager, MF Toolbox	Presto Page manager, MF Toolbox	Presto Page manager, MF Toolbox	Presto! PageManager	Presto! PageManager	PaperPort 11	Scan to PC Desktop SE Personal Edition, OmniPage, Paperport
Dimensions (W x D x H)(mm)	390 x 442 x 370	390 x 442 x 360	391 x 533 x 455	447 x 386 x 412	420 x 493 x 476	429 x 396 x 256	445 x 411 x 395
Weight (Kg)	14.3	16	12.5	12.8	30	9.88	13.8
Build quality (each on 10)							
Body	7	8	7	7.5	8	6	7
Folding / Hinges	6	7.5	7	7	7.5	5.5	5.5
Tray quality	6.5	7.5	6.5	6	7	4.5	5
Buttons	7	7	7	7.5	7	7.5	7
Ease of Use (each on 10)							
Hardware connections	7	7	7	7	7	7	7
Cartridge installation	6	6	6.5	6.5	6	6	6
Paper loading	7	7	6	6.5	6.5	6	6
Software user interface	6	6	6	6	6	6	6

seconds to print. Mixed document printing saw the Pixmas taking a good 80 seconds plus in the Quality mode, whereas the Epson Stylus TX600FW

took only 34 seconds. However, the Canon printers were miles ahead of their competitors in terms of quality.

The photo quality test

was fastest with the Canon Pixma MP648 at 96 seconds, whereas the slowest was the Brother DCP195C, which took an annoying seven minutes

for an A4 size printout. However, the DCP 195C's quality was second only to the Canon Pixma MP276.

The Epson Stylus



## 32 Megapixel

The full frame Canon 1Ds Mark IV DSLR having a 32MP sensor rumoured to be launched by the time you read this

## Dual-GPU laptop

Origin Eon 18 gaming laptop boasts of an 18.4 inch full HD widescreen alongwith dual Nvidia GeForce GTX 280M GPUs

MFD test



Canon Pixma MP276

TX600FW was observed to be the fastest in terms of copying, taking only 28 seconds and 32 seconds to print five copies in black and white and colour respectively. Quality was not compromised despite such fast printing.

Epson TX600FW was the fastest at scanning a document at 300 dpi to the computer – just 16 seconds.

Ricoh's Aficio SP C232SF, a colour laser printer, gave a photo quality that was almost as good as the best inkjet printers.

## MONOCHROME LASER MFD

Monochrome laser MFDs are basically targeted at small to medium office set-ups. The MFDs that we tested in this category have a large footprint in terms of space occupied as compared with their inkjet counterparts. Speed is of utmost importance as these devices are meant for

large volume jobs. Almost all of them had fax and network functionality.

## Features

Canon had the most MFDs in this category as well. We tested its imageCLASS series of MFDs – MF4680, MF4380dn and MF4350d. The design elements are common in all three MFDs since they belong to the same series. While the output trays and operational panels remain the same in all three, we notice a definite change in the input tray and ADFs. The MF4380dn has the strongest ADF feeder tray and the document collecting tray has an interesting design which raises the paper once it comes out of the ADF. MF4350d has the best paper cassette among the three while the MF4380dn has a slimmer paper cassette with a cover on top to prevent dust from collecting. Although manual feeder trays are present on both

the MF3480dn and MF4680, we felt that it does not serve any purpose in MFDs that are meant for volume printing.

The operational panel on Canon MFDs were the most populated with buttons for various functionalities. There are a wider range of options for the fax and telephone functions. Apart from the number pad there were speed dial buttons located on the operational panel. Navigating the options on the LCD screen is quite easy. ADF makes copying and scanning more efficient when you have separate sheets of paper rather than a book. MF4680 has a USB drive support which allows you to scan images directly to a pen drive.

We also got Ricoh's Aficio SP1100SF and SPC232SF MFDs to test. Design wise, these were the most pleasing MFDs as the flatbed scanner and ADF portion were perched respectably above the printer segment. In the SP 1100SF the narrow base of the printer curves outwards to connect to a wider top end which houses the flatbed scanner and the ADF. Whereas the SP C232SF laser MFD has a scanner and ADF setup that can be slid backward to allow easy collection of the papers in the output tray.

Navigating the operational panel on Ricoh MFDs was a big pain. There is very little flexibility in the operations. Compared to Canon, Xerox and Brother MFDs we had



Brother DCP 7030



**SMITH & JONES**  
**Masala Noodles**

**NEW INSTANT NOODLES**

## Karina ka masala ya

**Masala TADKA MAAR KE**

Jab Karina, Sushma, Sunita ya Puja ka masala has lost its flavour, reach for some asli **Masala Tadka Maar Ke** – with a pack of new **Smith & Jones Instant Masala Noodles!** Bite into these deliciously firm noodles, each strand fully coated with the lip-smacking combo of 52 Indian spices.

*you'll never want to choose size Zero Masala again!*

**SMITH & JONES**  
**Masala Noodles**

**120 Hz projector**

Acer's S5200 is a 3D projector capable of running at a refresh rate of 120Hz with a 2500 : 1 contrast ratio

**USB 3.0 dock**

Sharkoon technologies have launched a SATA Quick Port Duo USB 3.0 docking station which can hold a couple of SATA drives

the toughest time navigating through the SP 1100SF's operational panel. Many functions that could be shown on screen are printed out, thus wasting paper unnecessarily. The overall experience with the operational panel of the Aficio SP 1100SF was very user-unfriendly.

Ricoh Aficio SP C232CF was the heaviest MFD that we tested. This can be attributed to the fact that it is a colour laser MFD with four toner cartridges. However, since the category was monochrome laser printers, we only logged in the scores for the black and white outputs.

Xerox WorkCentre 3220 has an interesting control panel which has a navigation dial surrounded by a strip of blue circular light. The MFD is otherwise very simple in its design, but it has a hefty 128 MB of print memory. Also there is an option to add

**RICOH AFICIO SP C232SF - THE LONE COLOUR LASER MFD**

Ricoh's Aficio SP C232SF is the only colour laser MFD that we tested. At 30 kg, it was the heaviest and it also had the largest footprint in terms of size. It comes in a strong plastic, dark and light grey matte finished body. The flatbed scanner appears as a separate component. Using a push button on the right hand underside of the scanner, it can be slid back to help remove the paper from the output tray easily. This is a very refreshing feature as it allows you to conveniently remove the paper without bending it, which is the case with some other MFDs that have a fixed flatbed scanner above the output tray.

The control panel is easy to navigate, and at the centre is a backlit LCD screen which is much better than a non-backlit screen. Also, the Scan, Copy and Fax buttons glow blue when they are activated. The number pad is located on the right, and the speed dial buttons are located on the left. It has connectivity options like telephone and network connectivity. There is no option for PictBridge or memory card support, though the toner cartridges are placed in the centre of the unit.

another paper cassette with the help of a connection on the back. The narrow base and wide top design of the 3220 was quite similar to Ricoh's SP 1100SF.

Brother's DCP7030 was probably the most unattractive MFD of the lot. Due to the absence of the ADF and flatbed scanner combination that was seen in all the other MFDs in this category, the DCP 7030 is quite compact in its appearance. Its input tray design is similar to the HL series of printers. It is slightly curved on the right and left, adding an interesting dimension to

its otherwise boring aesthetics. Another disappointing aspect is the absence of network printing facility on this MFD. At a mere 16MB this MFD had the least printer memory.

All of the monochrome MFDs are capable of scanning in colour with resolutions going up to 1200 dpi for some. Although none of them have PictBridge support since they can't print in colour, some MFDs like Can-



Canon imageCLASS MF4350d



Xerox WorkCentre 3220



## Road printer

A road printer, designed by a team of three from Designory, works on solar energy and prints important traffic signs on the road

## Paper standards

Printer papers are categorized as non-recycled, 30 per cent recycled and 100 per cent recycled paper

MFD test

on's MF4680, Ricoh's SP110SF and Xerox 'sWorkCentre 3220 have USB drive support, which allows you to save your scanned copies directly to the pen drive. Operating the software accompanying each MFD was quite simple.

## Performance

In this category we concentrated more on the speed and economy of prints. Users in this category want a quality print at a lower per-page cost. We performed the text print, mixed document print, copying, scanning and scanning via ADF.

Printing text documents took under 10 seconds for most of the MFDs except for the Aficio SP C232SF, which took a crazy 25 seconds for a single text print. But it was comparatively faster during the continuous mixed document printing. Canon's imageCLASS MF4380dn was the fastest during text printing at 7.3 secs and also the best quality among all the other MFDs.

Xerox WorkCentre 3220 took a mere 14 seconds to print five documents that had images and text in the fast mode. Its quality was superior to the others in the test. Aficio SP110SF was the

### CONTACT DETAILS

Brand	Contact	Email	Phone	Website
Canon	Canon India Private Limited	info@canon.co.in	1800-345-33-66	www.canon.co.in
Epson	S. M. Ramprasad	think@eid.epson.co.in	+91-80-3051 5023	www.epson.co.in
Brother	Brother International India Pvt. Ltd.	info@brother.in	+91-22-4098 8900	www.brother.in
Ricoh	Kiran Pai	ril.info@ricoh.co.in	+91-11-4161 3010	www.ricoh.co.in
Xerox	Rachna Datta Choudhury	rachna.choudhury@xerox.com	+91-98997 02405	www.xerox.com

slowest in the mixed document printing test taking 60 seconds to print the five documents.

Copying functionality was the best in the Canon and Xerox MFDs. All of them took under 10 seconds to print a single page and around 18 seconds to print five pages in the fast mode. It was noticed that the quality of MFDs was the best in the ones that gave the quickest results.

At 18 seconds, scanning to the PC was the fastest in Canon imageCLASS MF4350d



Ricoh Aficio SP 1100SF

whereas Aficio SP 1100SF was the slowest at 68 seconds. While scanning from the ADF was the fastest in Aficio SP C232SF at just 20 seconds for scanning five pages of text and images.

The Ricoh Aficio SP C232SF gave great colour results which were comparable to the best performer in the inkjet category, but was sluggish in most of the monochrome tests when compared to its competitors.

## Conclusion

The Epson Office Stylus TX600FW was the clear winner in the tests of the inkjet colour MFDs as it had the best features and gave a decent performance. It was judged as the Best Performer. However, the Best Buy was awarded to Brother DCP 195C for its very economical Rs. 4,540 price tag. Having said that, DCP 195C also gave a performance that was third best among the

seven inkjets that we tested. The second product that we felt deserved a mention for an affordable price was the Canon

Pixma MP276.

Among the monochrome laser MFDs, the Xerox WorkCentre 3220 was judged as the Best Performer for its quality prints at comparatively faster speeds. It was a consistent performer in all the benchmark performance tests. Pricing of the WorkCentre may work to its disadvantage at Rs. 30,719. Canon's imageCLASS MF4350 is very decently priced at Rs. 18,995 and it gave a performance of around 86 per cent of the WorkCentre 3220.

Brother DCP 7030 was judged as the Best Value product due to its very economical pricing of Rs. 9,090. This was the lowest price among all the contenders. Despite the low price, it gave an almost 70 per cent performance as compared to the Best Performer. **d**



## MAGGI AUR SUZI BHI BOLAIN

### Masala TADKA MAAR KE

Whether it's Maggi from Goa, or Lakshmi from Chennai, Sukwinder from Chandigarh, or Rekha from Delhi, the one flavour that they all love is **Masala, Tadka Maar Ke!** Each time they open a pack of new **Smith & Jones Instant Masala Noodles** and bite into the deliciously firm noodles, each strand fully coated with the lip-smacking combo of 52 Indian spices, sab bolein,

**"AH, THIS IS ASLI MASALA!"**

**SMITH & JONES**  
Masala Noodles

**NEW INSTANT NOODLES**



SKOAR! Special



# Mass Effect 2

Faiyaz Shaikh  
readersletters@thinkdigit.com

**The Shepard watches over his flock...again**

**B**ioWare continues the chronicles of Commander Shepard, humanity's poster child in the science fiction world of Mass Effect. The sequel has one of the more ominous starts to a game with you and your ship being blown to bits. Cerberus—the alleged bad guys from the first game, recover what is left of Shepard's remains and spends two years and truckloads of money to resurrect the Commander. Cerberus shares a common enemy with Shepard and they have a mission for you — saving the universe from Reavers, the antagonist alien race from the first game. When you think about it, the main plot is not a lot different from the first game. The only thing that has changed in the sequel is that your character will be aligned with Cerberus and not the Alliance.

## Get a character

The big thing about *Mass Effect 2* (ME2), is that

you can import your character from the first part and continue with it in the sequel. This, for us, is something of a novelty for a console RPG. Unfortunately, an imported character's experience level is reset at the onset and you pretty much start from scratch. Our level 46 Shepard was reduced to a level 2 character and apparently the highest level you can start the game with is level 5; that is if you import a level 60 character. Perhaps to avoid a riot of angry gamers in Edmonton, BioWare decided to give at least some bonus for importing - by way of credits, research resources, and basic weaponry.

## The plot

Since Cerberus spent a lot of time and money on putting your pieces together, they pretty much own your ass and the player is not given a choice about working for the people with whom he has fought in the past. The consolation is that it's for

the greater good of preventing a cosmic disaster of epic proportions. And besides it could have been worse; you could be working for the Geth. Despite the catastrophe at the end of the first game, the existence of the Reapers is still not officially accepted; so Cerberus is preparing to wage a secret war and Shepard is their newest recruit. In the first game Reapers used Saren as their pawn and this time it's a race elusive aliens known as the Collectors.

A bulk of the game is about building up a team for an assault on the Collector base. The best thing about *Mass Effect 2* is that you get to assemble a team of ultimate bad-asses from across the cosmos. You can recruit up to eleven members for your team; however this seems a bit excessive since there isn't enough in the core game play to effectively accommodate all the characters. The recruitment missions and the side-quests of each member are short, quick-



THE SKOAR

8

## MASS EFFECT 2

**Developer:** BioWare

**Publisher:** Electronic Arts

**Genre:** RPG, Third person shooter

**Platforms:** PC, Xbox 360 (Rs. 999, PC)

fixes. The plotline lacks the steady development like it did in the first game. The upside is that *Mass Effect 2* has a much more dramatic climax with multiple possible outcomes. The sequel has inherited engaging the storytelling from the first game, all thanks to robust voice acting, a decent script, use of dynamic camera and interactive cut scenes. Even though narration in *Mass Effect 2* is an improvement over the first game, there is still plenty of room for improvement. Visually, this game is much richer than its predecessor due to improved texture and lighting, and this further enhances the story presentation.

### Differences

There are a couple of major changes in the combat system, like use of ammo system instead of weapon-heating and introduction of auto-healing, which means that the most common use of medi-gel (healing item) is to revive fallen party members. *Mass Effect 2* has also completely done away with weapon proficiencies, grenades and mines. A significant addition to the weapon's system is heavy weaponry that can be very effective at turning the tide of battle. Unfortunately, the cover system is still inconsistent and AI controlled party members continue to suck at finding cover.

When you think about some of the changes in the game system, you begin to see a pattern. Most of the major gripes that players had with *Mass Effect* have not been improved on, but

rather they have been completely eliminated. The suspiciously long elevator rides have been replaced by a loading screen; Mako (the planetfall vehicle from the first part) does not make an appearance in ME2 and it has no replacement. The cumbersome inventory screen has also been completely eliminated and instead missions start with a load-out screen, mostly limiting your choice of arsenal on a mission. We completed about five planetary exploration missions and none of those had anything to write home about. ME2 has taken a different approach to resource gathering. Activating a planet on the Galaxy Map brings up a 3D model of the planet, which can be used to scan the surface for valuable metals. This is essentially a mini-game that uses Left-Trigger to initiate scanning and right trigger to send a probe to collect the resources. We found this to be a tedious exercise; so between the two games, we're not sure which system is better.

### Building your team

Gathering of resources is not something that can be completely ignored as the game requires huge quantities of metals for upgrade research. And even though upgrades are not necessary for combat, having them has a significant impact on the game's ending. Due to this, upgrades in *Mass Effect 2* are not easy to come by and they require a lot of credits and metals. After you have successfully gathered most of your team

and gained their loyalty, the game really starts to get interesting. Unfortunately, by this time you are nearing the end of the game and the best is saved only for the last few hours. After finishing the main quest, the game continues and gives you the opportunity for exploration of completing side-missions. Alternately, you can start a New Game+ with additional bonuses. From the main menu of the game you can access the Cerberus Network, which is a fancy name for EA's DLC distribution system. This requires a redeem code to unlock (or a toll of 1200 MS Points) and since we did not receive a code with the review copy, we really could not explore the system. This was kind of depressing because we could not download the free day-one DLC or the Blood Dragon armor from *Dragon Age Origins*.

### The verdict

Just like the first game, *Mass Effect 2* is not particularly impressive; however it's not a bad game either. With the sequel you will find more of the same with a coat of polish - a trademark EA release. As mentioned earlier, many of the issues from the first game have not been effectively addressed in the sequel. So if you enjoyed the first game, there is a good chance that you will feel the same way about *Mass Effect 2*. As long as you are not expecting anything revolutionary or radically different, you should find ME2 a worthwhile experience.



# STALKER

## CALL OF PRIPYAT

THE SKOAR

8.5

### S.T.A.L.K.E.R

Developer: GSC Gameworld

Publisher: Viva Media

Genre: FPS/RPG combine

Platforms: PC

Michael Browne  
[michael.browne@thinkdigit.com](mailto:michael.browne@thinkdigit.com)

**Y**ou are Major Alexander Degtyarev of the USS, tasked with recon of five military choppers that crashed in the zone - causes unknown. From Zaton, a blend of swamps and grassy rolling hills and abandoned structures dotting the landscape you will traverse to Jupiter and finally Pripjat - only three maps, but they're larger and there's a lot more to do and see.

The zone teems with life, and you get a nice feeling of being part of the picture, instead of a centrepiece as several small groups of stalkers can be found around campfires, exploring the zone and generally moving around oblivious to you. Mutants attack frequently, and you'll often come across a group in trouble - do you help, or wait around for loot? The latter's profitable, just as long as there aren't enough mutants to take you down. Upgrading weapons and armour is very involving - you'll be doing it a lot. Equipment is relatively cheaper and dough is easier to come by -

complete side missions, sell artefacts and looted equipment. In a group, you need to be quick to loot, for other stalkers will just as soon pick a body clean - another welcome layer of realism. Exploration is rewarding, caches can contain valuables.

The side missions are really interesting and varied; some have many parts to them. Creeping through a basement full of snoozing blood-suckers, only to return later to gas them is both scary and satisfying. Recruiting a squad to accompany you through the infested underground tunnel system to Pripjat is equally intriguing. The main storyline picks up very slowly, but the side missions and interesting parts of the maps will keep you occupied.

There are a couple of new, powerful mutants — the burer, a telekinetic, and the leaping, melee chimera.

The XRay Engine 1.6 is showing its age but intricately detailed, oft spooky environments and realistic weaponry and effects overshadow the visual blemishes. The audio component remains eerily ambient and will have you whipping around frantically. Very immersive and helluva game - a must try. **d**



SKOAR! Special

# BIOSHOCK 2



Michael Browne  
[michael.browne@thinkdigit.com](mailto:michael.browne@thinkdigit.com)

It's been 10 years since, and Rapture, that underwater Eden, brain-child of Andrew Ryan – visionary or demented genius, (take your pick), is even more derelict, its denizens even more twisted as the sea has partially managed to reclaim what was hers. The sphere that encompassed the sprawling city is slowly crumbling. As a result, you'll be wetting your feet more often.

The shoe, or boot rather, is on the other foot – you play a Big Daddy and you'll explore Rapture not as the molester of the Little Sisters but their protector, while they harvest adam for you. Or if the thought of playing nursemaid to a needle wielding creature cum little girl makes you nauseous, you can always be bad and harvest them – choices!

Gameplay is more engaging now, and you're not bogged down with puny details. For example, switching between plasmids and weapons is no longer an irritant – both are equipped simultaneously. The research camera is now a video camera that doesn't cramp your style in fights, where you'd sacrifice tactics for getting the perfect picture. Plasmids also work very differently as you go up the chain upgrading them, and this makes for some interesting gameplay as well as replayability as you try various options.

You'll cross swords with Sofia Lamb – the new queen of Rapture, who's pretty much whipped everyone into a frenzy about creating a new society with compassion being the key and you're naturally the last lock to be opened err...up. The splicers are back, a few new enemies including brute splicers and surprisingly ferocious and tactical Big Sisters – female

big daddies who'll unload plasmids on your person, among other nasties.

The graphics engine is ageing, although water ripples and its interaction with any sort of lighting still amazes – it was great for 2007, is good now. The sound component is very solid – creaks and groans of the city, shrieks of splicers and the hum of ancient machinery – all combine to give a chilling ambience. Multiplayer makes a cursory albeit welcome appearance. Overall, Bioshock 2 is an engaging romp, and if you liked the original, you owe it to yourself to try it. **d**

THE SKOAR

7.5

## BIOSHOCK 2

**Developer:** 2K Marin

**Publisher:** 2K Games

**Genre:** FPS

**Price:** X Box 360 / PS3 - Rs. 2,499,  
PC - Rs. 699/-



**Live Wave leaks**

Screenshots of Microsoft's upcoming Windows Live Wave 4 were leaked on the internet


**iPhone SF4**

Street Fighter IV, the latest of the popular fighting games makes it way to the iPhone


**March 2010**

**digit  
events**

Digit is taking interactivity to a new level, and will be organising events every month. You get to meet and interact with people that you wouldn't in the normal course of your life — industry experts, Team Digit, and other readers with similar interests. Stay updated and stay ahead of the curve by looking for this page in every month's magazine.

**1 Career Webinar****OpenSolaris**

**MARCH 12  
TIME: 17:00 HRS**

Solaris has been a preferred technology for the enterprise world for more than two decades. Because of its built-in enterprise features like virtualization, security, scalability and reliability, it is used in many mission critical applications in industries ranging from telecommunication to banking which creates a very strong demand for Solaris administrators and developers all across the globe. In this webinar, join Abhishek Kumar an open source evangelist from Sun Microsystems Inc, will talk about some of the exciting Solaris Technologies like Network Virtualization, ZFS Filesystems and High Availability with Solaris Clusters. He will share tips on how students and IT professionals who are interested in a career in system administration and operating systems can build up Solaris skills and improve their market value.

**2 Digit Webinar****PC Assembling Guide**

**MARCH 13  
TIME: 1700 HRS**

Want to build a new PC? Cant decide whether to go in for a Core i5 or Core 2 Duo? Attended this webinar and have all your doubts cleared. We will feature several customised configs to suit your every need - from basic multimedia setups to high end gaming rigs. Get advice on what configuration suits your needs best. Be it which operating system to go in for to the long standing Intel v/s AMD question when it comes to processors. Have all your questions answered live by an expert in this domain.

For details on upcoming webinars and to view past webinars, visit [thinkdigit.com/webinars](http://thinkdigit.com/webinars)


**digit  
facebook**

The digit logo contest on facebook attracted more than a hundred entries, with new ones coming in constantly. Here's a look at some of the best. If you think you can do better, head over to [www.facebook.com/thinkdigit](http://www.facebook.com/thinkdigit) and upload your own masterpiece



Amit Ranjan Srivastava



Arighna Mitra



Rajkiran Randhava



Kumar Gaurav



Sarath Avasarala



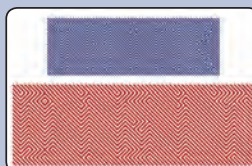
Mohsin Rizvi



Asis Mansingh



Daniyal Ansari



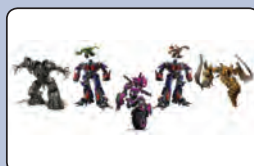
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Himanshu Pant



Vidit Kothari



Tuhin Kumar Dutta



Vineet



Daniyal



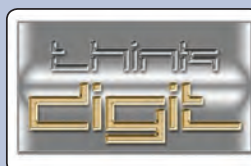
Vineet



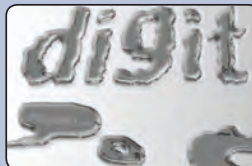
Daniyal



Kshitij



Daniyal



Raaabo



Vegad




## Heavy Rain

A heavily scripted console game is supposed to be super immersive and will actually evoke emotions of anxiety from the player

## Real life Rail Gun


The US navy has a real life version of our favourite q3 weapon. Check out the video at <http://bit.ly/9SqQev>

Community



**Watch**  
The up close and personal  
video of NVIDIA contest winner  
Abhishek Tripathi on this  
month's Playware DVD





Abhishek receives the ZOTAC Mag from Asheesh Gupta, Publishing Director, 9.9 Media.

**"I used the 3D glass provided with the card, and you will not believe me if I tell you, the card has turned games into actual 3D. I really cannot tell you how great it feels. Imagine, watching a 3D movie and playing a 3D game."**

— Abhishek Tripathi

in one of his blog posts during the contest. On the video interview he says being part of the community gave him a kick. Watch the video on the Playware DVD for the full story and Abhishek marveling at the Zotac Mag.





## UE4 development

EPIC says Unreal Engine 4 is in development but is still a long way off

## One controller

To rule them all. Sony has filed a patent that aims to make this console dream a reality

At the time of going to print the CTC discussion thread had 14,622 views and 1,123 posts! Thank you everyone for making it such a success. We know you enjoyed it. So did we...

**hot zubs**  
live life king like...  
Join Date: Aug 2008  
Location: Bangalore  
Posts: 125

**Re: Preview + Feedback [February 2010]**  
me too stuck @ d same place... I'm getting pissed off with it... Tried it for almost 3 hrs last night... Is der ny one hu has got through it... I'm not tellin 2 tel d ans it jus tel me if u hav completed dat step...

**Tron91**  
Right Off the Assembly Line  
Join Date: Feb 2010  
Location: Guwahati  
Posts: 3

**Re: Preview + Feedback [February 2010]**  
The puzzles were easy but today is 7th Feb... and i just keep wondering.... how far.... newway took me less than 60 min...

**Devrath\_ND**  
Obsessed with Technology  
Join Date: Dec 2007  
Location: Harihar  
Posts: 213

**Digit CTC Discussion**  
Raabo Sir. Wake up. Activate the clues. I even bunked todays class to play CTC

**mayank.1love**  
Right Off the Assembly Line  
Join Date: Jul 2006  
Posts: 1

**Re: Preview + Feedback [February 2010]**  
Waiting for today's ctc clues  
I refreshed the clue page almost 100 times from 12 AM waiting for the clue page to load.  
Mod wants to tease us 😊  
Keep waiting guys clues can be up any second.

**wwwescape**  
Right Off the Assembly Line  
Join Date: Sep 2005  
Posts: 25

**Re: From the Editor's Desk**  
I actually called in sick today for work to get my next clue.

**paper\_heart\_21**  
Silent Freak  
Join Date: Oct 2008  
Location: Delhi  
Posts: 57

**Re: Preview + Feedback [February 2010]**  
yuppie.....reached the checkpoint.....!!!  
Digit is my valentine of the day !! 🌹

**randomboy**  
Right Off the Assembly Line  
Join Date: Feb 2010  
Location: delhi  
Posts: 0

I second the feeling. Never before has digit occupied so much mindspace for so long a time.  
🤔🤔🤔🤔🤔🤔  
learnt so much doing this that I have started to go over all the clues again to read up on them.

<http://www.thinkdigit.com/forum/showthread.php?t=124404>

CRACK  
THE CODE

digit

Crack The Code  
Contest

All of last month, readers from all over the country were relentlessly being led through a world of puzzles, clues and nerve wracking code breaking. Some made it, some merely survived while a select few actually kept us on our toes to think up better, tougher and harder clues.

From simple things like looking into the source code of a web page for clues, to fixing .exe files in a hex editor, contestants had the ride of their life going from one clue to the next. Some stayed up into the wee hours in anticipation of a clue, others missed their work being engrossed in code breaking, while still others ran from pillar to post looking for hints from forum members. Watch this space next month for our final announcement. Who gets the ultimate bragging rights and, of course, prizes worth Rs. 10,000 which were up for grabs?

## Bird Turd

A new iPhone game in which you are the Twitter bird and you get to poop on tweets that you don't like. Way better than unfollowing right?

## Civilization V

2K Games announces the next release of Civilization; to be exclusive to PCs

Community

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Terms and conditions:  
The contest is only open to residents of India.

> logon to [www.thinkdigit.com/opensolaris](http://www.thinkdigit.com/opensolaris)



## Anti missile lasers

In a move that will probably change the combat landscape, the US army has come up with a laser blaster to disarm missiles

## Anti mosquito lasers

Scientists at Lawrence Livermore National Laboratory have developed a handheld mosquito-frying laser. But they are astrophysicists that goes to show that looking at stars is a pretty boring job

# Photo techniques for *your* camera

Interested in picking up new photography techniques, but unsure about what to try out first? Here is a shortlist of what techniques to try out depending on the camera you own.



### COMPACT

Compacts are maneuverable and versatile allowing for blind and "from the hip" photography.



### PROSUMER

Also bridge cameras, these offer the ease of use of a compact along with the features of a DSLR.



### DSLR

Investing in filters (UV/IR etc) and accessories (triggers, mounts etc) allow for a range of techniques.



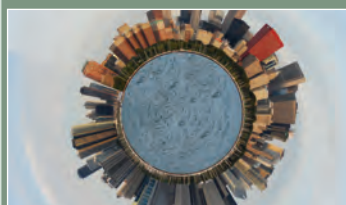
### CAMERAPHONE

Composition, subject matter and timeliness can compensate for lack of quality.



### SLR

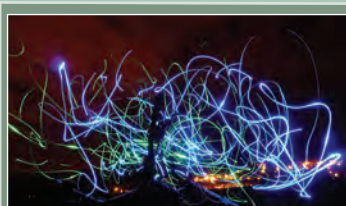
There is still plenty of magic that SLRs can pull off, that digital cameras can only dream of.



**PANORAMAS:** Stitching the panoramas in unconventional ways, like this "planet" panorama here, is just one of the many panorama options.



**FORCED PERSPECTIVE:** dramatic for people appearing as smaller than or larger than common objects and structures. Alignment is paramount.



**LIGHT PAINTING:** Many prosumer cameras offer minutes of exposure time allowing for photographs of light trails. Photographing traffic is a common.



**FOCUS STACKING:** All the dew drops in this photo would not normally be in focus. Multiple exposures with different points of focus are merged together.



**SPEED PHOTOGRAPHY:** This technique needs a cheap trigger mechanism, that can be purchased from enthusiast or professional shops.



**HDR:** HDR imaging is similar to focus bracketing, a number of photos are taken to bring out the nuanced shades of each area of an image.



**MOTION BLUR:** Vehicles, pedestrians and children are all great subjects. When necessary, the phone itself can be moved to induce a controlled blur.



**PANOGRAPHY:** Generally, arranging images in a collage of some kind is a good idea for presentation when the images are low-res.



**SKY PHOTOGRAPHY:** SLRs have no limit on the shutter speed. Long exposures (minutes to hours) allow for great photos of star trails, or lightning.



**BLACK AND WHITE:** The graininess of the film often adds interesting textural details to the images. Getting hold of black and white film can be difficult.

## The FOSS dictionary

When k or g is not a prefix in open source software, the names chosen are food for thought. We look at some of the free and open source software that live up to their names — chosen by dedicated developers who waste spend time coding for free.

**Audacity:** (n) possessing an exceptional amount of shamelessness, boldness, daring and even a little bit of insolence.

**Beagle:** (n) A short, long breed of dog, with largish drooping ears. The dogs are commonly used for tracking game while on hunts, hence the name for the software.

**Blender:** (n) A kitchen appliance for mixing and grinding tasty foodstuff.

**Gimp:** (n) Having a lot of energy and spunk.

**Handbrake:** (n) A lever used for keeping a vehicle in the parked state.

**Kismet:** (n) Another word for luck or fortune, inherently, neither good nor bad. The related meaning of destiny does not apply here.

**Opera:** (n) A vocal performance accompanied by music.

**Putty:** (n) A highly mouldable substance used to fix, plug and fix a variety of broken things.

**Wink:** (v) To communicate a hidden meaning by rapidly closing and opening one eyelid.



## The machines are taking over, one brick at a time

In all those machines taking over the world movies, not a single robot is made out of LEGO. Maybe the biggest threat to mankind are these small versatile bricks, once they get the hang of replicating themselves that is. So far, they have gotten as far as solving a Rubik's cube in about five seconds or so. This is the Cube Stormer, made by a LEGO enthusiast using LEGO Mindstorm pieces. The record time to solve a cube? Just two seconds

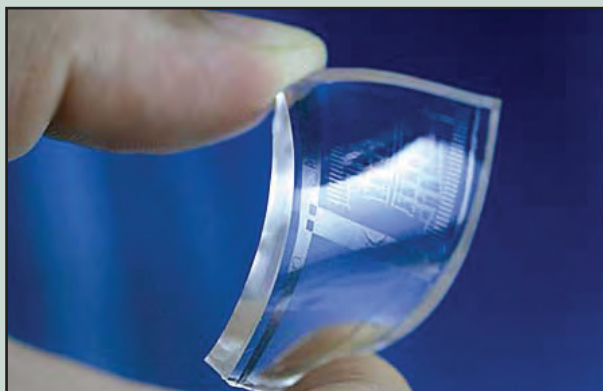
Unwind

## Flash Games: Cover Orange 2



Although the title refers to oranges, you have to cover some peaches as well. Basically the game gives you a toolkit of barrels, wheels, crates, and some bombs. Each level is a complex environment that has to be manipulated in such a way that the oranges and peaches are covered... from an onslaught of gear bullets that rains down from a mean cloud. The oranges and peaches thank you if you save them. The game has a great physics engine, and the emotions of the oranges pleading to be saved is very compelling.

## Graphene to replace silicon?



Moore's law of exponential growth in computation power has so far held true. However, this might not hold for long as projections into the future predict that silicon based computation will hit a limit in terms of how much performance can be packed into the size. Graphene, however, is seen as the technology that will make silicon obsolete. Graphene is basically a lattice of carbon molecules, with properties that are particularly beneficial to computing. A thin layer of carbon atoms is used to make the small, flexible display shown above. Memory can be stored within the carbon molecules itself, in the "state" of the atoms, which allows for a single unit to have multiple states (instead of the current binary system of the state being either on or off). This means that processing power can be amped up by several magnitudes. Think terrahertz of processing power. The technology is some time away though.

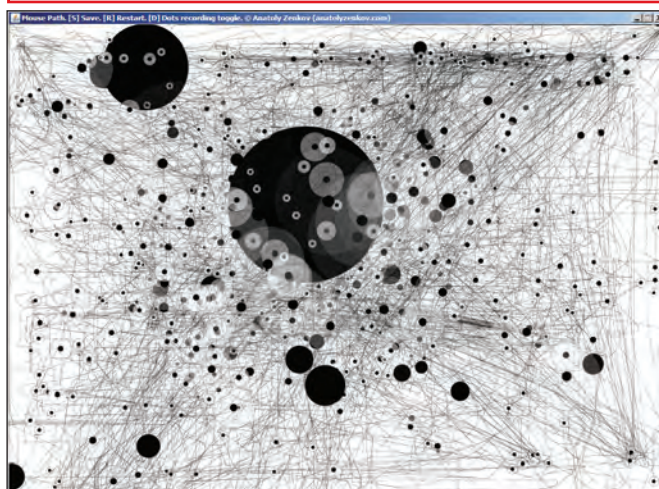
## NEWS

### The flipside of being connected all the time

The past month, we have seen a number of problems arising from the exploding trend of computers being always online. Forget software and operating systems, even malware is now regularly updated by hackers. A security update by Microsoft, while not taking care of the problem, instead showed a BSOD if the rootkit in question was on the system. When the hackers realised it, they patched the rootkit, making the problem seemingly disappear

In another incident, a school in the US is being sued by outraged parents of students for invasion of privacy. The school issued laptops to all its students, then kept tabs of what is going on in their households by using a spyware that could even send back data from the webcams on the laptops. Why the school thought that it needed to do this is beyond comprehension.

In yet another case, PC gamers with a legit copy of Assassin's Creed II are being unceremoniously thrown out of the game if their internet connection is lost - as an anti piracy measure. We feel that DRM has gone too far in this case.



You can visually map all your mouse activities using mousepath.exe, a small application that runs in the background once downloaded. It tracks the movement of the mouse, assigning lines for the paths, growing black circles for when the mouse is stationary, and white circles for clicks. Post mousepaths at [bit.ly/mousepath](http://bit.ly/mousepath).

## digitDIARY

For this month's Digit TV end credits, we wanted to show an authentic reproduction of how we frag each other at Quake 3. Unfortunately, mid way into the recording of the demos, Cyberjunkie went to the rail pad and picked up a rail. For those who don't know, Cyberjunkie is harder to beat than Xaero in nightmare mode when he has a rail gun. For this reason, rails are banned from the game, whenever the team plays. This sent all the demos out of control. Cyberjunkie's justification was "they will think we are stupid if we don't use rails... what kind of players haven't learnt to use rails?" This meant that we couldn't record the demos in an authentic manner. Ok, we admit it, it actually meant that we couldn't play much at all, except roam around for the few seconds we were allowed to live before being sent back to spawnage hell. If you think you have better rail skills, do get in touch ([editor@thinkdigit.com](mailto:editor@thinkdigit.com)), we are interested in arranging an online showdown.



# What is a planet?



**You think you know the answer... but what about Pluto? The truth is, that nobody knows, and not everyone agrees on what is or is not a planet.**

The problem is that astronomers started spotting too many celestial bodies in the solar system that were spherical. Recent discoveries include objects such as Eris, Centaur and Makemake, all within the solar system. Objects within the asteroid belt are called “minor planets”, of which there are over 200,000. There are five “dwarf planets”, which are Ceres, Eris, Pluto, Haumea and Makemake. Bodies beyond Neptune are designated as trans-neptunian objects (or Plutoids), which are not comets. These include objects such as Varuna, Sedna, Ceto and Chaos... many of these objects also have moons. Often, these terms apply to multiple objects, Ceres is also a minor planet, and Eris is also a trans-Neptunian object. Pluto was demoted as objects such as Eris are larger and farther away than Pluto, which basically means that the solar system is much larger than commonly thought.

## How to deal with tech jargon?

- Don't waste time remembering terms, they will all be out-dated by the time you actually get to use them.
- If it feels too complicated, it probably is, and will break down the first chance it gets.
- Most of the terms that consumers come across are used to sell a product. Don't be intimidated or fooled by any term.
- Replace any term that you don't understand with the word “magic” and continue.
- Stare down at the terms, and make them blink first.
- Those using the terms probably don't know exactly what they are talking about either (eg. planets).



## Wear malware detection goggles

The weakest link in the security chain is often cited as humans. Social engineers try to gain access to your details using some common tricks. Be on the lookout for these easy-to-spot signatures of such tricks, and you will not be bothered by malware.

- **URL:** Whenever you enter your details, or download something, be sure to check the URL, specifically spot where the “.com” is located. For example, a url such as [www.youtube.com=v12345.com/r...](http://www.youtube.com=v12345.com/r...) is actually a page hosted on [com=v12345.com](http://com=v12345.com), and not YouTube.com. Such a site could ask you to download a plug in to view a video, and inject a malware in that plug-in.
- **Money:** This is the most common email scam. It will seem that you have suddenly received a fortune, on account of an inheritance, a lottery win, help to transfer funds of an expat – the list goes on. If you're being offered money for no apparent reason, report the mail as spam and ignore it. The odds of winning a lottery are inhuman as it is, consider the odds of winning a lottery you did not enter.
- **Pharmaceuticals:** Also perpetuated through direct mails, such mails will offer to sell you pharmaceuticals discreetly. Viagra, Cialis, anti-depressants and other such drugs are common “baits”. Responding to these e-mails is an unsafe activity on many levels. Ignore websites that offer similar services as well.
- **Porn:** Ads on web sites and emails commonly use sex-based content to lure people to pages. A video downloaded may request a particular codec, or a password from a location. Such pages are notorious for using malware. Avoid sidey sites at all cost.
- **Charity:** This kind of scam happens over phone lines as well. A cheque or a donation can be asked for in the name of a charity, but the money just disappears. If you want to donate, donate directly using known official channels.
- **Search term listing:** These sites show up high on the rankings for almost any search term, and are just a bunch of pages that link from one listing to another, without directing you to a useful place.