

A 99 Media
Publication

digit

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YOUR OWN POCKET PIANO

Learn

DX 11 DEMYSTIFIED
SPEED UP YOUR PC

Compare

DESKTOP PCS
HD MEDIA PLAYERS

Play

METRO 2033
DAWN OF WAR 2



ENTERTAINMENT @ HOME

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action this
summer!

- ▶ DVR: Airtel vs. Tata Sky+
- ▶ People who entertain you for free
- ▶ The best games you've never heard of
- ▶ India's Green Building Initiative
- ▶ Can geeks be fashionable?

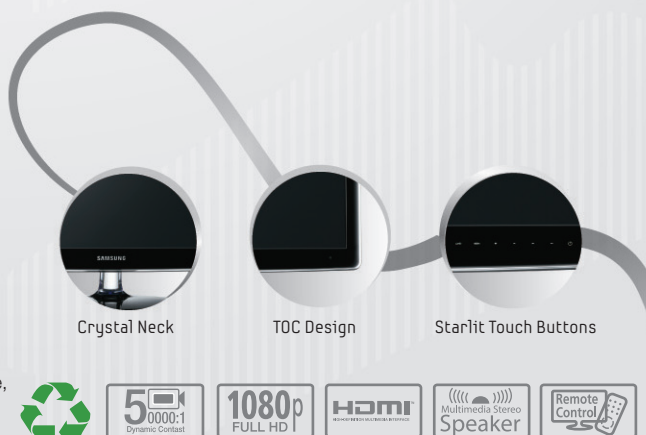




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Stay in, stay entertained



Robert Sovereign-Smith
Editor

"the Indian media and entertainment industry is set to grow at over 12 per cent per annum, and cross the \$20 billion (almost Rs. 90,000 crore) mark by 2013"

Consider the way our lives have changed. In just a few short years we've gone from struggling to find information to being overloaded with it. We're connected all the time, working all the time, and doing so many things with our time that we never seem to find any of it just for ourselves. Of course, the increasing stress and constant neural activity has us on edge a lot more, and thus the need to unwind increases.

Thanks to the overcrowding of cities, and the sheer physical exhaustion of the rat race, unwinding is no longer as easy as catching a flick in the local theatre, or sitting by the sea-side enjoying a cool summer breeze.

Take the theatres for instance. If you think you can show up at a theatre on a weekend, on a whim, and hope to get tickets for any movie worth watching, think again. Like everything else in life today, you have to plan your outings well in advance. Besides, even if you get tickets for that blockbuster you've been dying to see, it's not like you're guaranteed a fun time. If the traffic and war for parking spaces doesn't get to you, the other people in the theatre will. Just when the movie's getting interesting, the person next to you will get a call, proceed to answer it, and stupidly think that a 10-minute conversation being carried out less than a foot from your right ear will not disturb you. Yes blue T-shirt guy with an iPhone and the yelping dog ring tone, who sat next to me when I saw *Avatar* a few months ago, I mean you. As for sitting by the sea-side, whatever's left of it, summer breezes these days are likely to singe your eyebrows thanks to global warming, and give you whooping cough because of all the pollution and particulate matter in the air.

So what options are you left with? Stay indoors of course. Relax on your sofa, or in your bed, do things at your own pace, and find new ways to entertain yourself and the family. Thankfully, there's a big push on by the entertainment industry to help us do just that. With large screen HDTVs being pushed in your face at every electronics store, superstars of Bollywood coaxing you to get DTH services, new and improved home theatre systems, a gazillion ways to get content to your living room, affordable prices of hot, new categories like HD media players, and lest I forget the entire gaming industry and the internet, I'd say we're pretty spoilt for choices.

According to a study conducted by KPMG and FICIL, the Indian media and entertainment

industry is set to grow at over 12 per cent per annum, and cross the \$20 billion (almost Rs. 90,000 crore) mark by 2013. And you're going to experience most of that growth in your living room. Sure there's mobile entertainment and on-the-go goodness also planned, but I think we all know that our homes are going to remain the primary source of entertainment for us all.

So where does technology come in? It will be instrumental in ensuring that you get your daily dose, and making the current experience even better.

3D TV, for example, is one area where a lot of people see the next big change happening. HD broadcasts and video on demand are hot topics in the DTH space, HD media players let you use your HDTVs the way they're supposed to be used. And 4K (pg. 38) promises to outdo HD in the near future.

Like with any other technology segment, competition is fierce, and the choices you have to make are too numerous to list... That's where we come in.


Most of the topics mentioned here are in the magazine, in the form of tests of reviews, or features, to give you a better insight into what to buy, what to look forward to, and how to entertain yourself.

Of course it's not just about the hardware. Myriads of artists are jostling for a time share of your speakers and screen, and a lot of them are entertaining you for free.

If there's one article I want you to focus on in this issue, it's the one on page 34, because I'd like to encourage all of our readers to share their creativity with the community.

At Digit, we want to make sure that apart from everything else that we're doing, we also want to give you a voice and a platform to be heard. If you've created something, anything, and want to share it with the community, use one of our online platforms, or mail us and tell us.

Personally, I'm especially interested in artists who want to share their music and movies for free, and also those who have interesting ideas for Digit's I Think Green initiative.

Also remember to catch Digit's 9th Anniversary Special next month. Visit thinkdigit.com/ june to get more details, and also to give us your suggestions. 


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

PRODUCTS REVIEWED THIS MONTH

HD MEDIA PLAYERS TEST 78

Amkette Flash TV
ASUS O!Play Air HDP-R3
ASUS O!Play HDP-R1
Iomega ScreenPlay Director
Seagate FreeAgent Theater+
WD TV
WD TV Live
WD TV Mini
Xtreamer

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Acer Emachines eM3450
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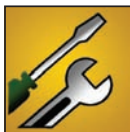
Acer Liquid
ASUS K52F-SX060D
Buffalo HD PXT320U2
ECS Elitegroup H55H-M
Epson Stylus Office T1100
Gigabyte GA510UD
Intel Core i5 661
Kingston HyperX T1 6GB
LG GM200
LG GW620
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TAG-760B
TrustPort PC Security 2010
Western Digital SiliconEdge Blue 256 GB
Zotac NM10 - ITX WiFi

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TRIED & TESTED

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Perfect for high end setups



071 SANDISK CRUZER BLADE
Expensive plastic

ON THE DVD

Tools

**FREEWARE ONLY APPLICATIONS FOR A
BETTER DESKTOP EXPERIENCE**

Internet

- KooLoader 2.0
- LDC++ 1.00 2a
- Naviscope 8.70
- Phex 3.4.2 Build 116
- Soulseek 1.57 NS 13e
- TeamDrive 2.2.070
- VIP Torrent 3.4
- Writemonkey 0.9.8.0
- Xenu Link Sleuth 1.3.5

Multimedia

- AndreaMosaic Portable 3.32.3
- Any Video Converter 3.04
- CDBurnerXP 4.3.0.1991
- Chasys Draw IES 3.24.01
- DISCInfo 1.7.0b
- FotoSketcher 1.96
- Jet Screenshot 2.2.1
- Kodak EasyShare 8.2
- MediaCoder 0.7.3.4616
- Photobie 7.1
- QWave 1.6
- Rhapsody 4.0



IDEs

CODING ENVIRONMENTS FOR DEVELOPERS, WITH OTHER DEVELOPER TOOLS

- ACE (Another C++ Editor) 2.0
- Adobe AIR SDK 1.1
- Assembler IDE
- Code::Blocks 1rc2
- Construct 0.98.5
- Eclipse Classic 3.5.2
- Java SE 6.0 (JDK 6) 1.6.2
- NetBeans IDE 6.8
- RegDevelop 1.0
- SharpDevelop 1.1
- TierDeveloper .NET (Free) 6.1
- Ultimate++ IDE 2007.1

Linux Distros

A SELECTION OF NEW RELEASES

- Mandriva Spring Beta1 Gnome
- Ubuntu 10.04 Beta2
- SimplyMEPIS 8.5.01 RE1
- TinyMe 2010

Games

GAME DEMOS, INDIE GAMES AND
FREWARE GAMES

- Darsana
- Fraxy
- OrBlitz
- Rock Station
- Space Corps 5 Doomsday
- The Whispered World Demo
- Wolf Team



Hidden Gems of Gaming

- Battlezone II
- Chromadrome
- Comix Zone
- Croc: Legend of the Gobbos
- Duke Nukem Manhattan Project
- Cogs
- Jazz Jackrabbit
- Metal Fatigue
- Severance: Blade of Darkness
- Star Guard

Movies

- The Amazing Mr X
- The Little Shop of Horrors

Production Distro

ALL THESE DISTROS CAN BE USED FOR MULTIMEDIA PRODUCTION, INCLUDES AUDIO SYNTHESIZERS, MIXERS, VIDEO EDITORS, AND MORE

- Dyne:Bolic 2.5.2
- Musix 2.0 Beta
- Puredyne 9.11

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Four pages of the best multimedia and home entertainment systems

032 Green Buildings

The technologies out to make our lifestyles greener

042 How Stuff Works: DX11

After the DX10 fiasco, we now have *the* DX version



Enter the matrix Metro 2033

We check out the latest technologies in the domain of immersive entertainment

The return of Kratos, perhaps for the last time, and how he fares against the Olympic pantheon



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ASUS K52F-SX060D
Affordable computing



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ACER LIQUID
Is it as fluid as it claims to be?





What's the buzz?

Your monthly mix of the hottest news from the world of technology

Bulletstorm announced for 2011

Electronic Arts, Epic Games and People Can Fly Games have confirmed the making of Bulletstorm, a wild and frantic first-person shooter that's set in a future where two mercenaries, Grayson Hunt and Ishi Sato, are exiled to a planet on the other side of the galaxy. Here the player steps into Grayson's shoes, and battles hordes of mutants and flesh eating gangs in a former utopia.

This is the first major public announcement of the game since 2008, when Epic announced EA would be the publisher of action games by People Can Fly. The makers of such top-selling franchises as Gears of War, Unreal Tournament, Medal of Honor and Painkiller promise to bring a wildly original first-person shooter to our shores in 2011, with its signature 'kill with skill' gameplay and stunning graphics based on the latest Unreal 3 Engine.

The 'skill-shot' XP system rewards the player with outrageously large guns and major character upgrades, and is supposed to induce "frantic game-

play" and "incite mayhem". No screenshots yet unfortunately.

Go screw yourself Apple

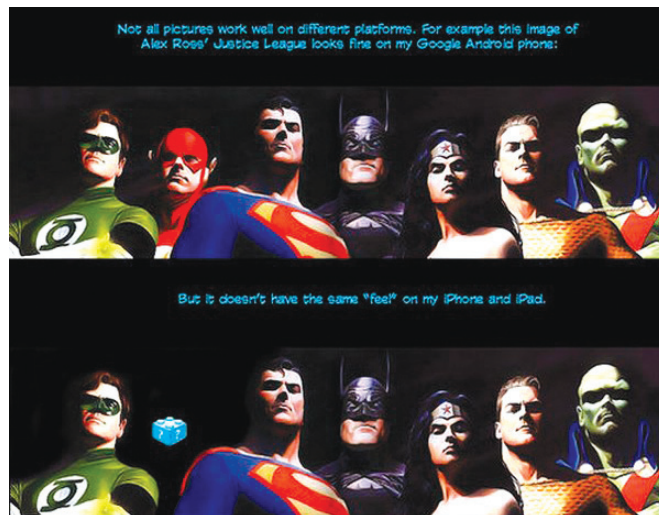
In a shocking, although not entirely unexpected move, Apple updated their new AppStore SDK terms such that applications compiled using the new Adobe Flash to iPhone compiler coming with Adobe CS5 will no longer be accepted. Section 3.3.1, which has now become a hot topic of discussion on the internet goes as follows: 3.3.1 – Applications may only use Documented APIs in the manner prescribed by Apple and must not use or call any private APIs. Applications must be originally written in Objective-C, C, C++, or JavaScript as executed by the iPhone OS WebKit engine, and only code written in C, C++, and Objective-C may compile and directly link against the Documented APIs (e.g., Applications that link to Documented APIs through an intermediary translation or compatibility layer or tool are prohibited).

One obvious target of this malice is Adobe Flash CS5 which will include the widely praised feature which allows one to create applications in Flash which can run on

the iPhone. Other frameworks such as MonoTouch, a version of Mono for the iPhone also fall victim to this new condition. The argument in favour of this move is that it will encourage a higher quality of the applications on the iPhone and encouraging developers to

platform code to be written for the iPhone using C++.

The controversy took a rather dramatic turn in the meanwhile. In retaliation, Adobe Platform evangelist Lee Brimelow wrote a rather strong blog post in which he said, "Speaking purely for myself,



No Flash: An internet joke doing the rounds right now

use native device features since these are many times sacrificed by cross-platform tools. Yeah, we all know how important it is to use the accelerometer while making a "fart" application. The App store will contain junk and poorly designed applications regardless, and an application should be allowed speak for itself.

While the reasoning that this is to maintain control of the platform makes a lot of sense, it falls short of accomplishing its goal. Toolkits such as Qt, which is written in C++ will allow for cross-platform content to be written for Windows, Mac OS, Linux, Maemo, and Symbian. People are hard at work to get it working for the iPhone as well. This would allow cross

I would look to make it clear what is going through my mind at the moment. Go screw yourself Apple."

Twitter's Chirp Conference

Twitter's official annual developer festival - 'Chirp' came to a fruitful close on the 15th of April and we bring you a complete roundup of the event, just in case you missed it. This was Twitter's first such developer meet, which is quite surprising as they have over 100,000 third-party applications already developed for their platform. At the conference, a lot of announcements were made about features that will be implemented in the near future, and about



Bulletstorm



To read more on this head over to - <http://www.thinkdigit.com/d/apvsflash/>

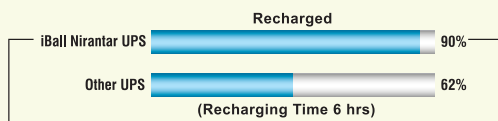
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Our technology new.



Express Recharge. High Performance.



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Duped to sell your soul

Game Station recently slipped a clause into its T&C that gave the company rights to the purchaser's soul. 7500 people fell for it!



Google profits

Google posted a staggering 37 per cent rise in first quarter profits for this year. Looks like the China debacle did little to the giant



To know more head to <http://www.thinkdigit.com/d/chirp/>

some features that are already in action. Here are some of the highlights:

- Twitter is working on a feature called Points of Interest, which will provide support for working with Geo-location features.



- Twitter introduced a whole bunch of new API features, such as the new User Stream feature, which will allow desktop applications to work with users' posts, retweets, direct messages and response; all in one development model.

Toshiba and HTC jump into the tablets fray

While speaking with Reuters about Toshiba's amazing Q1 sales in the United States (50% increase since the previous quarter), Jeff Barney, GM Digital Products for Toshiba America, let slip some information about Toshiba's upcoming tablet devices.

Two tablets were mentioned by Barney, one – a 10-inch Windows 7 device with two screens, two – a smaller Android device that will be cheaper but customisable. Both devices are meant for “media consumption” as their “main user activity”, and Barney said that they will try to position it in a way that it will not eat into its growing laptop sales.

Toshiba already offers tablets in the Japanese and European markets (pictured below is the European device - Journe Touch - a MID that runs on Windows CE), and says it will introduce its two new slates late this year or early next year.

In related news, during a press conference mid April, in Johannesburg, local HTC Managing Director Quinton Leigh revealed some very interesting scoops regarding the mobile phone manufacturer's future plans. Some reports suggest HTC will be offering phones with full 5.1 channel sound, in collaboration with Yamaha, before Q2 2011. Developments are not planned only in the audio space. HTC will be offering phones that have full HD video recording (1080p) by the same time. The most interesting announcement was that HTC will be



Toshiba tablet

developing an Android-based tablet. Leigh was ambiguous about the product, going so far as to say it might not be a tablet at all, but no details are available about when it will be released, or what exact form it will take (possibly featuring Wi-Fi and HSPA connectivity).

The news of the tablet is even more pertinent at this time, as HTC's smartbook (XP/Vista-based UMPCs - Ultra Mobile Personal Computers) range in the recent past had a terrible time in the market before being discontinued. It will also be another field where Apple and HTC can lock horns head-to-head.

Kojima's next game is a certain type of Taboo

Legendary game developer and Metal Gear creator Hideo Kojima tweeted out news of his “next project” mid April, causing much speculation. He finally confirmed what the project would be, but not after building much suspense. Kojima says it will raise a few eyebrows, and if he doesn't manage to pull it off, his days in the industry might be numbered. Too much honour Kojima san! He also complained that while he had much

remaining to do on the PSP title Metal Gear Solid: Peace Walker, he is already in “The Next Title Mode” and that “The next project will challenge a certain type of taboo. If I mess up, I'll probably have to leave the industry. However, I don't want to pass by avoiding that.”

Amongst other things such as casting, story etc. he happened to speak about mechs. Fans have observed that the mention of “mechs” might mean that Kojima is planning a new version of Zone of the Enders, a PlayStation 2 game that released in 2001, with a sequel in 2003. In the latest news however, Kojima confirmed that the game will be

called Zone of the Enders 3, in an interview with PlayStation Magazine UK: “I would like to say that Zone of the Enders is quite near the priority list... [after MGS4] it might be good to change to outer space or robots or things like that for a change”. Though we don't yet know what will be so “taboo” of a new Zone of Enders game, we can't wait for some screenshots! If you remember the innovative mech combat from the two originals as vividly as many of its fans do, you'd be very excited too!

Philips TVs will now be made by Videocon

The consumer electronics giant in an announcement recently said it has outsourced everything from manufacturing, distribution and sales of its TV business to Videocon. Philips Electronics India Managing Director and CEO Murali Sivaraman said the agreement was aimed at bringing the TV business back into profitability from 2010 onwards. Looks like Philips was losing badly to Samsung and LG, the Korean market breakers.

The agreement which is a five year contract is based on a similar format Philips followed in the US when they outsourced manufacturing to Japanese firm Funai. The Netherlands based company has been operating in India for nearly 80 years is focusing more on the health-care, life-style and lighting equipment segment going forward. Mr. Murali was also quick to tell reporters that the TVs manufactured by Videocon would be according to the specifications and standards maintained by Philips globally. Well lets hope so. **d**

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Side View

V920 (18.5)

V2420H (24)

V2220H (21.5)



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*Features may vary according to models

BenQ

Enjoyment Matters



Dell Mobile Phones

Dell plans to come out with Windows 7 and Android based mobile phones this year, and there are even rumors of a tablet

VAS to grow in Asia

The demand for value added services on mobile platforms is poised to skyrocket in Asia and the Asia-Pacific region according to experts

✉ I am 15 years old and the first issue of Digit I ever read was the February 2009 Issue. I was shopping in the market where my eyes fell on the superbly designed cover of Digit. I fell in love with Digit then and there. Digit aroused my interest in computers much more and I started trying loads of freeware provided in the Digit DVDs and started “experimenting” with them. Though, computers have always aroused my interest I never had a PC for a long time in my life and bought one PC finally in August 2009 after a long research by browsing through the products you people review. Gradually, I became a tech freak and everyone asked my advice on anything related to technology or computers. I loved the new layout you guys started from the March 2009 edition. Also, every month you guys are improving the magazine as well as the DVDs and the website too as per the suggestions by the readers. But I have faced a few bugs in the Mag as well as the DVDs sometimes. Two-three editions I bought were hugely misprinted. 40-60 pages were repeated in the July and May 2009 editions and even sometimes a few pages are stuck together. The Play DVD included in October Issue was giving the cyclic redundancy check error and I wanted to play a couple of games you included in that issue but it was my hard luck! But everyone makes mistakes! No one's perfect! You guys are simply outrageous and simply know what you are doing. No doubt you guys are India's No.1 tech magazine. :) Hats off to you guys!

Sushant Chaudhary

✉ Write in to help@thinkdigit.com, and we'll replace your damaged DVD. We are constantly working on ways to improve the quality of the publication. Keep writing in!

Aditya

✉ Thanks & congratulations for taking the effort of putting one complete MIT OCW Lecture (instead like the previous segmented lectures in previous DVDs that sucked) of Introduction to Computer Science & Programming. You may not know this, but this can have most cer-



tainly great positive implications for your numerous computer & technology avid knowledge seeking readers like.

Really appreciate the inclusion. Hope for more complete lectures in future. And what's with the Digit TV. It sucks. Not because of its content, but horrible uneasiness of access. Try something like a flash based DVD-movie like menu, where we will know the different topics covered by looking at the menu, and will chose what to watch as we please!

Priyadarshi

✉ You do not need to use the Flash interface to navigate the contents on the DVD, and there are plans for a better interface, hopefully very soon. You will find a complete lecture series on Operating Systems in this month's Mindware DVD as well.

Aditya

✉ Hi to all the Digit staff and everyone involved in the development of this wonderful magazine.

Guys, you all rock and I am proud of you. I have been a reader of Digit since 6 years. You must be thinking why I haven't written to you before, but it is because I did not have a reason to write in. Now, I have a reason though, I am a B. Tech student, my branch is Computer Science. Microsoft had visited our college with a seminar called Microsoft Dream-

Spark. As part of the seminar, a quiz was organized, and Microsoft started asking questions on MS products. I answered every question about MS, Windows, Expressions, SQL and Server 2008. I got 10 goodies, and in a student body of 600, only 3 or 4 others got 1 goodie each. I was the centre of attraction in the whole auditorium. Starting from Windows 7 to Multi-touch to Surface, they kept asking and I kept answering. I was applauded each of the 10 times and in the last the MS associate said “you are technically very good. I will see u later.” Infact, I criticized IE8 for not having an integrated downloader and they were very pleased to listen that I admire and test MS Products so well. I even got Keys and Dreamspark CD for free, versions of paid MS software.

Thanks to you guys. You really rock. Thanks for bringing such an informative magazine in the stands. One more thing, you wont believe I have 50 issues of Digit and I keep them like we keep god statues. You will find the oldest issue as a new one.

I don't let anyone touch my magazines because I love them so much. Earlier I used to read the magazine in 5 days but in B. Tech, I read in 1 month but still the love and craze for Digit has never gone down.

Secondly, I have a good reputation in my college. New Technology, new devices

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Cypress demos “hover” screens

Cypress technologies provides touchscreens to Palm and Samsung, has demonstrated a touchscreen that reacts to hovering actions

iPhone 4 specs leaked

In related news, Apple has a patent for hover actions, which could possibly be on the next iPhone, and prevent anyone else from using a similar interface.

new softwares and all my classmates come and ask me. All, thanks to you.

Apoorv

d It's always great to hear from readers whose lives we've helped improve. It's extra special to us when we know how we've helped, because it's what makes all the long hours of working worthwhile. I thank you for taking the time to write and inspire our little team, and we promise to work even harder to make sure that through digit you will continue to stay several steps ahead of your peers at all times, at least when it comes to technology.

Keep writing to us because, I think, you've now reached a stage where you should also write to us about things that you would like to read in Digit. Send us feedback on our issues, and article suggestions for upcoming issues, so that we can cover things that are relevant to you.

If you're ever in our neck of the woods, remember to drop in see us. We love to meet readers, and put faces to the names.

Robert

✉ I feel my self lucky that I brought my tech navigator on April 2009 and it has been a year now. For the “Go Green today” editorial, I salute you, and with respect to the “Open Design and free culture” article, what an idea Sirji! I really missed Geek Culture though. Other green articles are superb, I rate this months mag the best issue I have read in a year's interval. Staying in touch with Digit, our tech navigator is highly informative. It has created curiosity towards technology within me. Moreover, the the Facebook applications Fast Track was a good addition.

The DVD contents were awesome esp. the lecture on computers and the Whitepapers. The audiobooks were interesting to my sis and neighbouring kids. You know I have used the music you create on the DVD by mixing with other songs and DJing, consequently deceiving friends into believing a new version of the song got released.

Sashi Regmi

d That's a crafty stunt to pull, but we guess your friends will not believe you for too long if you keep passing off remixes as originals. If you do fool around with a software synthesizer such as fruity

LETTER OF THE MONTH

✉ I have wanted to write to you since the days you were known as Chip. Kudos to the entire Digit team for consistently bringing out such a novel magazine year after year always exceeding reader's expectations. I have not missed a single issue. I am an electrical engineer and have my own firm to deal with electrical erection & commissioning, energy audit as per EC ACT2001 etc. Every day I do receive at least 5 calls from my friends to enquire about some detail related to IT and computers; I owe much of my IT savviness to Digit. I have read with interest, topics such as green data centers covered by your magazine.

An amusing experience of mine is that none of the seemingly knowledgeable people or even Engineering students seem to know about why there are 3 antennas on a mobile tower. However, reading Digit has made me wiser and I can explain to them the reason.

It was more reason for me to be a fan of your magazine when you devoted entire issue to the Green Dream. Being an energy auditor and secretary of Indian Association of Energy Management Professionals (www.iaemp.org), I was happy to see and hold the issue in my hand.

On the subject of green dream, I would request you to make your readers dream that when they light a candle they get light and smoke. Similarly when they switch on an electric light they get light and more smoke! Only that they cannot see the smoke which is emitted at the thermal power station. So it depends on them how much smoke they decide to emit for

getting a particular level of illumination. Say for their study room they can either put a 65W incandescent bulb and emit 65gram of CO2 an hour or use a 15W CFL and emit 16grams of CO2 an hour. The same is valid for all electrical equipments i.e. there are now more efficient equipments available in the market for doing same task with less energy. a case in example is the BEE Star labeled equipment.

It is my request that you bring out an issue especially on engineering related software like designing, different calculations, modeling in all branches of engineering, such as civil, mechanical, electrical HVAC, Project management etc. I would also like to see a special issue on evolution of communication technology including pioneering work done by HAM radio operators, like moon bouncing in an satellite less era and also the Single Side Band communication system as I am a HAM operator myself, my call sign being VU2MBS.

Sunil Biswal

d Thanks for writing in. Our focus on green solutions and technologies, is a long term commitment, and will be sustained over a number of issues. We have a [thinkgreen community](http://thinkgreencommunity.com) on Facebook, at facebook.com/ithinkgreen. Your inputs on how to choose light bulbs, and how they effect the environment can be very valuable if posted on this community. We will consider your suggestions for topics to cover.

Nash

loops, or any of the music production distros in this month's playware DVD (try Musix), mail us your work at DVDcontent@thinkdigit.com, and we may just slip them into the DVD. Thanks for writing in.

Aditya

✉ I am Sandeep studying in 7th class. I had been reading digit since 4 months. Before starting Digit I had been spending my time playing games and watching games. But after I had started buying Digit I became the Techno Wizard in my class. Any problem my friend's might have would be cleared by me. If they ask how I know these things, I suggested them to read Digit. I am feeling great that I had converted 8 children in my class to read Digit. The green dream cover story of April 2010 had made me very busy in this Summer Vacation as I am making Solar Powered Light for reading

books as Power Cuts are frequent. All are appreciating me for this project and I also gave a solar lamp sample to my school's Headmistress. Really guys you are doing a great job.

Sandeep

d Hello Sandeep, glad to know you are tinkering with solar panels. Please be safe when wiring, and make sure that you do not become part of the circuit. Write in with images of your projects, we are always interested.

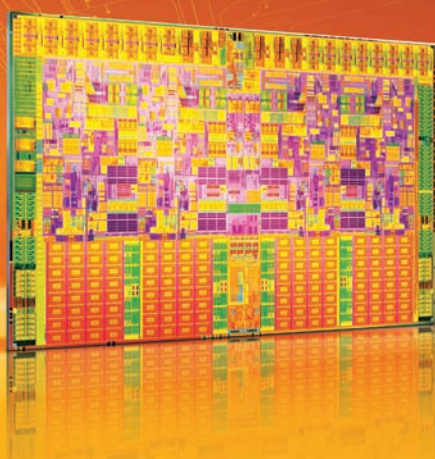
Rossi

CORRIGENDUM

On Page 16 of the April 2010 issue, the employee count for NVIDIA should be read as approximately 5000 worldwide and approximately 900 in India. Also, on Page 96, the correct price of the Philips SBD7000 is Rs. 5,990. The company name is Philips Electronics India Ltd. (www.india.philips.com).



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Google Docs gets revamped

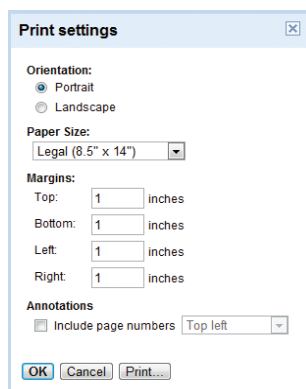
Google Docs is perhaps one of the most popular online productivity suites thanks to its good integration with Google services. Who hasn't noticed that "Open as a Google Document" link when receiving .doc or .xls files in Gmail? How long can you ignore it?

Google Docs has been getting a string of updates over the last few months, from simple tweaks in the interface layout

while enhancing support for formatting, and improving document import fidelity.

Google Docs Documents

If you use Google Docs coming from the Microsoft Office world, you are sure to find it woefully underpowered, it surely feels like taking a step backwards. The latest update closes in on the gap – which is still miles wide and a few miles deep – by



Altering print settings is now easier in Google Docs

First and foremost what you notice is a new ruler tool at the top of the document. This now lets you modify the margins of your content on a paragraph or document level. You can easily select a portion of text and drag the margins to better lay out your text.

Of course margins are useless unless you are working with a fixed document size! And this is another new addition to the document editor. A revamped "Print Settings" dialog will let you select a page size (Letter, A4...) from list of very few – but popular – selections. Here you

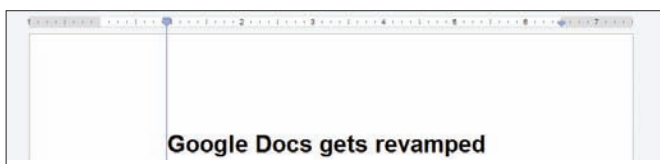
are also set orientation, margins and even have auto-numbering of pages.

Other new formatting options include line and paragraph spacing, more list styles and a much easier to use table editor. Inserted images can now be more freely placed on the page with text flowing around it..

Spelling check is now also better integrated into the editor and spelling suggestions appear in the right click menu for incorrectly spelled words.

Best of all of course are the new collaboration features which take collaborative creation and editing of documents to a whole new level. Google Docs now offers the kind of collaborative editing features available in Google Wave.

For those who don't know about the collaborative features Wave – I'll bet there will be few – here is a brief introduction. With wave one can start a conversation which people can reply to in real-time, or create a document which people can edit in real time. As you edit, each change you make is transmitted to the other person's computer in real time! You can thus see the changes others are making to your document,



The revamped ruler in Google Docs

to moving from a document editing application to a cloud storage provider.

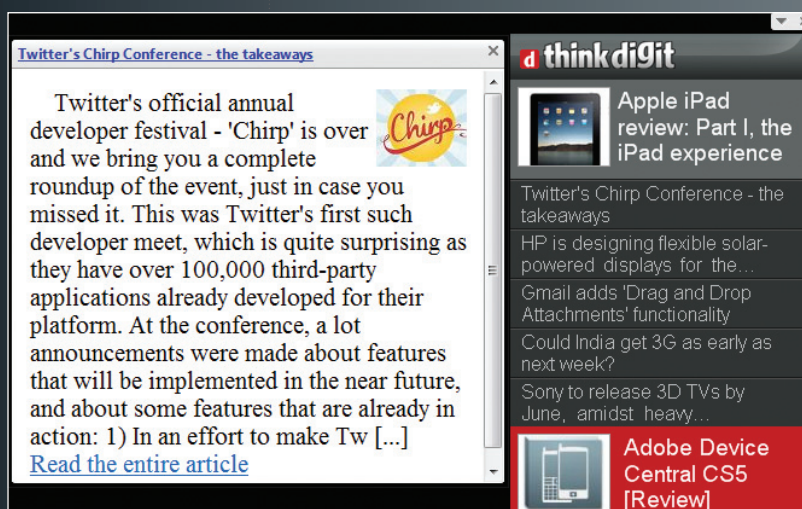
Their latest update completely revamps all their online document editing tools, and adds a new applications to the Google Docs package, a drawing editor. With the latest update, Google Docs gains much more powerful collaboration features,

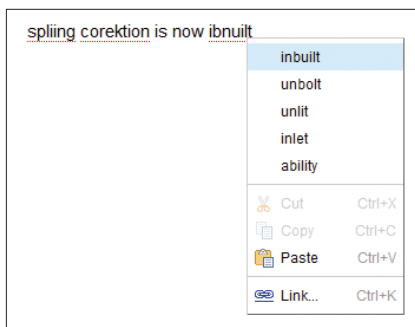
adding better formatting and layout tools.

Laying out content in Google Docs used to be an especially difficult task, and often required dabbling into the HTML code editor, and if you didn't know HTML or CSS, you were out of luck. With the new tools added to Docs laying out content is now incredibly easy.

Introducing the Digit Widget!

Created out of a collaboration between our design team and a code monkey we keep in the basement -- careful it bites -- we present the Digit Widget. If you have Google Desktop installed, visit <http://bit.ly/dfMDOA> to download and install the Digit Widget to get the latest in tech news, reviews, features, delivered straight to your desktop! What's more, we'll show you how to create your very own widget – just visit – www.thinkdigit.com/d/widget_tutorial and get coding. It's simpler than you think.





Now you don't have any excuses for messing up

EtherPad – and online document editor which provided real-time editing features such as those in the new Docs – with the intention of integrating them into the team working on Google Wave. It is clear that their talent has been put to good use.

or the replies they are sending to your messages in real time as they are being typed, character by character.

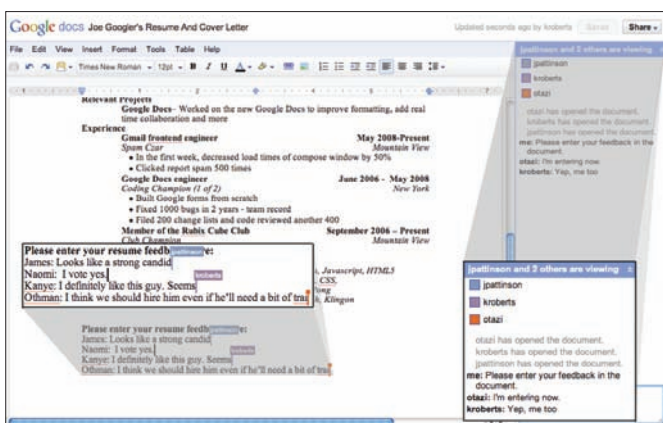
Now one can get exactly the same kind of feedback while using Google Docs, wherein you can see the changes others make racing across the screen trailed by their name highlighted in a unique color.

Commenting on documents in the new Google Docs is again much improved. Unlike in the earlier system where comments were inserted in-line into the document text, now comments are attached to text blocks and appear in floating boxes aside from the text. Another nice

Google Spreadsheets

Google Spreadsheets have had their own share of enhancements. For one, Google claims that they are much faster now, and working with large-sized spreadsheets should be a much better experience with smoother scrolling, and a more responsive interface.

Google Spreadsheets has seen a few more time-saving enhancements. Such as, the ability to drag-drop entire columns – something which was earlier only possible by multiple copy paste operations on columns – and auto-completion in spreadsheet cells. There have also been improvements to the



Online discussions by way of chat enhances your document

collaborative feature in Google Docs is that of an integrated chat panel which lets you converse with your fellow editors while working on a document.

Google had recently acquired a small company which created

way one can switch between sheets in Google Docs.

With the new version of spreadsheets, you can now edit the contents of a spreadsheet from the formula bar, much the same way you would in Excel.

While Google Docs spread sheets already had a chat panel for communicating while editing, and has better collaboration features that documents, now it has the same real-time features as those available for documents.

Images can be taken from googledocs.blogspot.com/2010/04/preview-faster-more-feature-rich-google.html

all other Google Docs tools it is sure to see its features improve over time

The Google Docs Drawing editor uses the SVG standard for drawing shapes and can export the content you create to SVG or to raster formats such as PNG and JPG.

Conclusion

Google Docs now also fea-



Google has also improved the commenting feature of Docs

Google Drawing

This is an entirely new addition to the Google Docs suite. Well, not entirely new. Google Docs earlier introduced a drawing feature for documents with which one could create diagram / drawings for including in a documents. Now they have introduced a stand-alone drawing tool which packs in more features.

As with the other Google Docs applications, collaboration is a big part of the new drawings editor, and chatting functionality is inbuilt into it as it is in the documents and spreadsheets editor.

The drawing editor packs quite a lot of tools and shapes to help you get started creating drawings fast. However it still lacks some important features such as creating connecting lines between drawings (such that they always move together), and while it can export to SVG, it doesn't seem to be able to import SVG documents. Of course this is just the beginning, and like

tures improved fidelity while importing document files, which is sure to ease transition for those still on the fence. With these new features you now now have a much more usable document creation experience online. No doubt this is because of Microsoft's upcoming online office suite, which is sure to tout better compatibility with their own formats. Although they too will not be offering the entire range of features available in their desktop suites – and understandably so.

These new features are now available to all for testing – yes testing, this is just a preview – and can be enabled through the Google Docs settings page. Unfortunately the new editor is only available for new documents, and your old documents will continue to use the older editor. Google plans to rectify this over time of course.

That isn't the only bad news, the new editor doesn't bring some of the features found in the older one. **d**

MICROSOFT'S PROJECT PINK GIVES RISE TO Kin One and Kin Two



Project Pink has laid itself bare, unveiling the names of the devices that were codenamed Turtle (left) and Pure (right). The siblings emerging: the smaller, vertical sliding Turtle shall be called Kin One; the bigger, horizontal sliding Pure will be Kin Two.


Featuring a whole new breed of Windows - a cloud-based social networking OS - the Sidekick inspired phones are manufactured by Sharp, survive on instant messaging, and sport the following specifications:

The two compact, sturdily-built devices shall launch in May, with Verizon Wireless in the United States and Vodafone (Germany, Italy, Spain and UK) in Europe. Their social networking geared operating systems have an easy on the eye Metro UI interface, but

features - no browser support for Flash Lite or Silverlight; no native image/video editing software; and for social phones, it is surprising they do not have a universal inbox or calendar support.

The phones however, while not offering advanced func-

tionality with both PCs and Macs. The cloud-based custom Kin OS automatically uploads images and videos to the Kin server with a service called Kin Studio, and you just need to log in to find them all in your limitless online storage. Kin Spot, another service, plays the role of picture sharing/uploading tool for the social networking sites, primarily supporting only Facebook and MySpace. Kin Loop is the news, event and update stream, continuously feeding data in realtime, unless the user opts-out explicitly. The phones also offer HD video recording.

The capacitive touchscreens sport a gesture-based multi-touch interface, and it looks responsive. In short, these phones are geared towards feature-rich seamless simplicity, instead of subtle intricacies, and serve their calm purpose with Silverlight. 



For more on iPad alternatives, go to <http://www.thinkdigit.com/d/62181>

are not quite Windows Phone 7, and do not offer much choice in terms of expandability, missing some core elements alongside a few advanced

functionalities, still manage to serve up a lot - with their economical Zune pass, and their Zune HD players and Zune-based browsers, which are compat-

	KIN One	KIN Two
Display	2.6" TFT, QVGA (320 x 240) capacitive touch screen	3.4" TFT, QVGA (480 x 320) capacitive touch screen
Camera	5.0MP CMOS with anti-shake, autofocus, dual LED flash	8.0MP HDR CMOS from Omnivision with anti-shake, autofocus, Lumi LED flash
Memory	256MB DDR RAM, 4GB storage	256MB DDR RAM, 8GB storage
Connectivity	EV-DO Rev A, Bluetooth 2.1 w/A2DP, Hi-speed USB, 802.11b/g	EV-DO Rev A, Bluetooth 2.1 w/A2DP, Hi-speed USB, 802.11b/g
Speakers	Mono	Stereo
Battery	1240 mAh	1390 mAh
Form Factor	Vertical slide, QWERTY	Horizontal slide, QWERTY
Others	Assisted GPS, FM radio, accelerometer	Assisted GPS, FM radio, accelerometer

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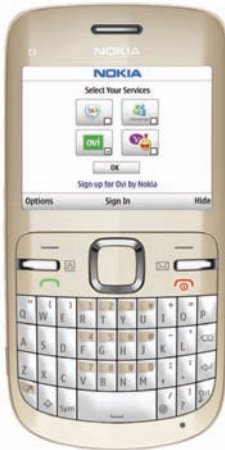


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Nokia reveals its Nokia Messaging phones a day after Microsoft's Kin - Nokia C3, C6, and E5

It was no coincidence that Nokia would unveil three brand new social-networking QWERTY phones a day after Microsoft's counterpart Kin devices. These Nokia Messaging Cseries and Eseries smartphones are meant "to put better messaging and social networking tools in the hands of more people around the world at affordable prices."



Nokia C3

A-GPS, or have any fancy sensors or meters. It features Ovi Mail, and has native Twitter and Facebook applications. It also has instant messaging through Windows Live Messenger, Yahoo! Messenger, Google Talk and Ovi Chat. Approximate price: 90 EUR or Rs. 5,500.

Nokia C6

Possibly the most versatile and feature-rich of the pack, it offers horizontal-sliding QWERTY keyboard phone that features a



Nokia C6

resistive touchscreen, comes in black or white, and is based on the Series 60 platform. It has a wide range of additional functionalities, and offers 3G connectivity, apart from a variety of sensors and meters. It also offers Facebook, Hi5, MySpace applications, Ovi Maps, Ovi Suite, Ovi Store, Ovi Share, Ovi Contacts, Mail for Exchange, and such PC applications as Microsoft Outlook, Outlook Express, Lotus Organizer, and Lotus Notes. Approximate price: 220 EUR or Rs. 13,500.

Nokia E5

The business connectivity/messaging powerhouse, the Nokia E5 is based on the Series 60 platform, is the successor of the E63, and comes in carbon black, chalk white, copper brown, silver grey, and sky blue. It features a special People-Centric homescreen, Ovi Suite (PC/Mac), Nokia Messaging email, Facebook client, Mail for Exchange,



Nokia E5

Nokia Messaging IM, Easy Dialling, Calendar Office tools, OVI Contacts 1.1, Lotus Notes Traveler, World Traveler, Vlingo, F-Secure, VPN client, Device management (TARM support), VoIP. Approximate price: 180 EUR or Rs. 11,000. Check out the complete specifications below:

Phone	C3	C6	E5
Dimensions	115.5 x 58.1 x 13.6 mm	113.4 x 53 x 16.8 mm	115 x 58.9 x 12.8 mm
Weight	114 g	150g	126g
Operating System	Series 40	S60 5th Edition, Symbian OS v9.4	S60 3rd Edition, Feature Pack 2, Symbian OS version v. 9.3
Screen Size, Type, Resolution:	2.4-inch, 320x240 TFT	3.2-inch, 640x360 nHD	2.36-inch, 320x240 QVGA
Input	QWERTY keyboard	QWERTY keyboard, resistive touchscreen	QWERTY keyboard
Camera	2 MP (1600 x 1200 pixels) 4x digital zoom	5 MP (2584 x 1938 pixels) 4x digital zoom autofocus with LED flash	5 MP 3x digital zoom Zoom up to 3x (digital), LED flash with full focus
Storage	55 MB internal memory, expandable to up to 8 GB with microSD card	200 MB internal memory, expandable to up to 16 GB with microSD card	Free user memory: 256 MB MicroSD memory card slot, hot swappable, up to 32 GB
Connectivity	Bluetooth 2.1 EDR wireless connectivity, High-Speed USB 2.0 (micro USB connector), 3.5 mm AV connector	Bluetooth 2.1 EDR wireless connectivity, High-Speed USB 2.0 (micro USB connector), 3.5 mm AV connector	Stereo Bluetooth version 2.0 (A2DP & AVRCP), High-Speed USB 2.0 (micro USB connector), 3.5 mm AV connector
Data Network	GPRS class A, EGPRS class A, WiFi 802.11b/g,	GPRS class A, WiFi 802.11b/g, CSD, HSCSD, WCDMA, HSDPA, DTM	HSDPA cat9, WCDMA, GSM GPRS data class 32, GSM EGPRS data class 32, DTM32, EDGE, WiFi 802.11b/g
Battery life	BL-5J 1320 mAh Li-Ion battery; Talk time (maximum): up to 8 hours; Standby time (maximum): up to 500 hours	BL-4J 1200 mAh Li-Ion battery; Talk time (maximum): GSM 420 mins; WCDMA 300 mins; Standby time (maximum): GSM 400 h; WCDMA 400 h	BL-4D 1200 mAh Li-Ion battery; Talk time (maximum): GSM up to 18 h 30 mins; WCDMA up to 5 h 30 mins; Standby time (maximum): GSM 705 h; WCDMA 705 h
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Google Buzzed

10 Nations, including France and Germany have voiced privacy concerns over Google's services, particularly focused around Buzz

Bluetooth 4.0

The next generation of the standard will focus on low power consumption, according to the Bluetooth special interest group

Changing with times

We spoke to two industry personnel on the latest in technology they are implementing in their recently launched products

Fujifilm India

A Rajkumar, Country General Manager (DSC), Fujifilm India, spoke to us during the grand unveiling of 14 next-generation digital cameras at the summer 2010 carnival.

What is the technology behind CCD and BSI CMOS and how does it impact the performance of an image sensor?

Between CCD or BSI CMOS, each technology has its own advantage and disadvantage. CCD as a technology, for example, is invented in an old environment, so we had to bridge the technology by removing the hurdle. So, we need to go for hybrid technologies that really enhance their powers, which is why we prefer CMOS as a very good upgrade. When we had to shift from CCD to CMOS, there was once again a compromise that had to be made. That is why we opted for CMOS, which gives complete freedom for high-end cameras to deliver both quality and enhanced features.

How does a higher resolution camera (10 mega pixel) with lower ISO sensitivity (ISO 1600) fare against a lower resolution camera (5 mega pixel) with very high ISO sensitivity (ISO 12,800) in terms of image clarity and focus?

It is like fitting a Ferrari engine into an old ambassador. So, if at all you are talking about a digital camera, all the specifications have to be optimised to deliver a good picture quality. A higher mega pixel camera, you get a good picture. It needs to be optimized. Even on an 8 mega pixel camera, you need to put the right amount of wide dynamic range and the right amount

of ISO speed. So, that is where we have come up with a technology called EXR technology. It is nothing but an optimization of resolution, wide dynamic range and sensitivity. So, to answer your question it is not just the mega pixel or sensitivity we have to consider.

Whenever you are looking at the subject matter to shoot, if you raise the resolution alone, then you may start getting grains and even getting dots. But,



A Rajkumar, Country General Manager (DSC), Fujifilm India

when you start increasing only the wide dynamic range, you will be able to capture different colours or different gamuts of colours. Since the resolution is not enough, that is where I said, in order to optimize you need to have all the three set at certain levels at any given shooting environment. If we don't do that, it is not that always higher resolution can give better picture, it is not that only wide dynamic range alone can give better

picture and it is completely dependable on the shooting subject. So, this is where to provide more fidelity and power to the camera, the EXR technology helps the users to get beautiful pictures. So, there are models where we have integrated the EXR technology in our modern cameras.

What is the technology behind pet detection and how does it work, assuming humans are playing with their pets and we need to capture only the images of pet animals?

See, what happens is that as far as the detection is concerned, all subjects in range are given the priority to focus. Otherwise generally what happens is only when pets are taken into focusing and the pets might go out of focus. This feature allows each and every subject matter available in that frame to be focused well.

How do you differentiate AV and AX series as against JV, JX and JZ series in terms of market targeting or target consumer base? In other words, how do they differ in terms of price to performance or price to features factor?

The first and foremost difference between A and J series is that the A series comes under the AA category and J series in the Li-ion battery category. Otherwise when it comes to technology wise there is not much difference, if you look at the features or specifications it is almost the same. But, when it comes to AA category, it is slightly thicker and when it comes to J series it is slightly sleeker because it is Li-ion category. Price point as far as the AA battery category is concerned, it starts from Rs. 4,999, and for Li-ion category it starts from almost Rs. 6,999.

What is your goal for 2010 in terms of target audience while unveiling a broad range of digital cameras that are targeted across diverse market sectors?

We are targeting around 8 per cent of total digital camera market size in India. That is our goal. We started two years back and first year of operations has fetched us 2 per cent market share and this year we are looking to consolidate on it.

AMD India

These views were shared with Digit when we interviewed Vamsi Krishna, Senior Technical Manager of AMD India, at the India launch of the Opteron 6000 Series platform in New Delhi.

Any reactions to NVIDIA's Fermi launch and benchmark results?

The reactions came from the media. Benchmarking is just one of the equations. The other equation is the cost of adopting it, the power cost of running the product. The media say, it came six months late, and it came very hungry. The question, is it really a solution that customers want to adopt?

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Green AMD

To read more on green initiatives by AMD and other IT companies, read the April 2010 issue of Digit

Thinner Solar Panels

Oregon State University have unveiled nanostructure solar films, that will considerably reduce material waste and cost of solar panels

Graphics Card on the Planet' title, with the HD 5970, and that title still has not been taken up by the competition even after the six month delay.

We are actually in a strong leadership position. We are not really threatened by the Fermi as a product, because of the strategy that we incorporated with the Evergreen products, where the mid-range solution is designed first before being scaled up to performance range and scaled down to the value range, because we have the advantage of manufacturing, and no great complexities involved. What the competition has adopted is that they build a huge massive die, which is really tough to manufacture, and really power hungry.

The specifications announced when the Fermi was introduced are not the same as what they [Nvidia] are releasing today. So, that was a strategy that really kept us going in the graphics market, and today we have the best graphics products in the world.

When approximately will the Opteron 4100 series processors be launched? Will they also work on Socket G34?

They will be launched in the next quarter, and no, they will not fit on the Socket G34. The reason why we are launching the Opteron 4100 series is to bring the volume servers to market. The socket they are designed to fit on is C32 socket, which will be common to the 1P and 2P market. The G34 socket will be common to the 2P and 4P market.

The Opteron 4100 is targeted for entry-level stacks or Rack Density Deployments. Someone who is really, really bothered about power, and want very really-low power consuming products, would go for the 4100 series, especially in applications like cloud, where one would want a very rapid, dense deployment. When one is talking about cloud, one is really not bothered about how many memory channels you have, how much memory each processor has, but instead, one is bothered about what is the computing resources available are. Therefore, it is specifically targeted for those kind of rack density deployments.

The upcoming Xeon 7500 Nehalem EX top-end processor, the X7560, will have almost twice the shared L3 cache, 4 more threads per processor, and 4 less cores per processor than the top-end 6176 SE Magny Cours. How do AMD's Opteron 6100 processors rack up against this and still provide competitive performance?

Both are targeted at different customers with different requirements. The Nehalem EX comes with all the fancy specifications that you just talked about, but it was meant for a different class of customers who are looking for risk-free placements. The cost becomes the biggest apples to oranges comparison factor there. The Magny Cours are



Krishna, Senior Technical Manager of AMD India

meant for customers who want to go for value 4P servers, who want to keep their data centres at a cost-conscious level. Both are different products to be compared. You can almost buy 2 4P Magny Cours parts at the cost of approximately 1 Nehalem-EX processor. That's the biggest advantage.

There are also a whole lot of other challenges that Intel will have with the Nehalem-EX. The introduction of very expensive memory buffers on the motherboard, which will make the overall cost of the server unaffordable to IT managers, especially at this time, when the market is recovering from a beating, and when IT managers are very cost-conscious. A 4P AMD server will meet his requirements.


Is there any significant performance gain other than scalability in maintaining the same chipset architecture across all platforms unlike Intel?

There is a huge advantage in having common chipset architecture between 1P, 2P and 4P. The first advantage is drivers. Develop drivers once, and use it all across. So, the cost of development comes down for our OEMs. Second advantage is, 1P and 2P are volume servers, and the low cost of chipset manufacturing will be suitable for them, and that economics can be rolled for 4P. 4P has higher manageability and higher reliability factor, so when you develop a driver for that particular solution, you can use it for 4P. So, one segment has an advantage using another segment's solutions. The same thing applies for BIOS code, develop it for one solution, and use it across designs.

We have seen that 8-core and 12-core AMD architecture is targeted on server platforms. However, is it optimized for home applications like multimedia and gaming?

Typically, the server receives the technology first, before they are brought into home use. Well, if someone wants to use a 12-core Magny Cours processor on their desktop for gaming, they can. There's no problem, but the laws of economics do not work there, the cost and power consumption will not be feasible for gaming. The Opteron Series is therefore for enterprise markets, based on the demands and needs of data centres and servers.

What is your dream gaming PC configuration?

A gaming PC, well that's our strength – graphics are our strength. What I use for gaming in my lab is the AMD Phenom II X4 965 Black Edition which I have overclocked to 4.2GHz from 3.4GHz, and I am really happy with its performance. What else is on the machine is our flagship product, the Evergreen HD 5970, which I have applied in a Crossfire mode and Eyefinity, and the power supply is close to 1500 watts. So, I do have the fastest gaming machine in India to be precise, and I really enjoy it. 



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Mythos XTR-50

Quality sound from a wall-mounted flat screen TV has always been a problem. The Mythos XTR-50 protrudes just 38 mm from the wall. Its brilliant design uses lightweight aluminium that doubles up as a heat sink for the unit. There is no compromise on quality despite the slimness of the speakers. Each unit houses the base and tweeter components, and a pair would set you back by \$14,000 (Rs. 62,195).

Goldmun Eidos Reference Blue

This is the Blu-ray version of the Goldmun Eidos Reference series of multimedia disc players. The Goldmun Reference line has always been for the top end audiophile market, and the player is primarily meant as a source of music. The player does not offer all the features of Blu-ray players in the market such as BD-Live. There will be only 50 of these devices made, and each sells for \$135,000 (Rs. 60,03,320)



Free Media

Artists are now creating and distributing content for free. We've profiled some artists from this new community



This is a modern DIY implementation of an old technique for 3D video capture, using identical Samsung HD camcorders

Droolmaal



Harman Kardon GLA-55

The GLA-55 (to be read as "glass") is one of the costliest desktop speakers around. For \$1,000 (Rs. 44,485) you can get your hands on a good desktop instead. If you have a little extra money though, then this pair of alien looking speakers are for you. The interiors of the GLA-55 are delicately crafted, mostly using chrome tubing. The best bit is that the volume control is touch sensitive, doing away with knobs or dials

Sharp Aquos LC-60LE810UN

While the announcement of the new Aquos range by Sharp was made back in CES 2010, the range is here with a bang. The top of the range LC-60LE810UN is a 60-inch monster that stands out in the LED LCD market. This is because of the addition of a fourth colour pixel to the regular gamut of RGB, with a Y (yellow) element that greatly increases the representation of some shades, including skin tones, gold and of course, yellow. The TV has an energy star certification, plays photos, videos and music out of USB drives, and uses Netflix as a source of content as well



BenQ Joybee GP1 Mini Projector

The Joybee GP1 from BenQ is a palm-sized projector that is small, but efficient. There are smaller Pico projectors around, but the image clarity is what makes this one stand out. The tiny projector can throw out images at a maximum size of 80 inches, which is impressive for a device that small. Just plug in a USB drive with your multimedia, and the device can start playing it back. You can pick one of these up for anywhere between \$500 to \$700 (Rs. 17,786 to Rs. 31,125)



Sleek Audio SA7

The SA7s sport military grade materials, and "sonic cannons" instead of drivers that deliver sound at hearing threshold levels, for \$400



Medea Vodka

These bottles of Vodka have programmable LED scrolling labels, which allow you to key in a custom message



Denon AVR5308CI

Denon's reference receiver is jam packed with the latest audio and video processing engines, as well as a whole bunch of connectivity options. Instead of just one, there are three high speed DSP processors, for taking care of all your audio needs. The device can render sound in most 3D surround specifications, including the ones from Dolby and Audyssey. The Realta HQV video processor smoothly upscales all video feeds to a 1080p resolution. Be prepared to shell out \$5,500 (Rs. 244,695) for this beast

Origin AE XI5e V2

Origin AE were one of the first to come out with the HTPC form factor, and one of the few high end HTPC manufacturers. The Chassis of the XI5e is fully customizable, and can be based on either an atx or a micro atx motherboard. There are four internal drive bays, and plenty of fans for cooling. The best feature is the integrated 7" TFT touchscreen on the body of the HTPC. While being pretty desirable, it is a pity that the integrated drive can read just DVDs, and not Blu-rays



BRAVIA Theatre HTP-BD2RSF

The Bravia Theatre HTP-BD2RSF is a dose of home entertainment overkill by Sony. The Blu-Ray player upscales all video to 1080p, when not delivering HD Blu-Ray movies at 24p, the same frame rate as the recording, for a theatrical cinematic experience, without the jerkiness. The best bit is Sony's Digital auto calibration tool, which takes away the fun of endless adjustments for the perfect sound adjusted to room acoustics





iPhone 4G

The best place to get a prototype, unreleased, and even unacknowledged iPhone device is to hang out in San Jose, and hope drunk Apple employees leave one lying about. The story broke on Gizmodo, and the iPhone apparently sports a front camera



Samsung Reality

The Samsung Reality, with the new TouchWiz interface allows you to post updates, upload YouTube videos and be seamlessly online from the homescreen

Droolmaal



LG HB954PB 5.1

Blu-ray Home Cinema System

Every once in a while, a product comes along that is just a pleasure to look at. This Home Theatre system is relatively cheap at \$1,793 (Rs. 79,770). The system is capable of retrieving content from the BD-Live specification, which delivers additional content when a Blu-Ray disc is inserted, over the internet. The system can also interface with the internet, and play YouTube videos as another channel. The system also boasts an advanced Virtual Sound Matrix system, which simulates virtual speakers around the room for an enhanced surround experience

Casio Green Slim XJ-A145

The XJ-A145 is the top of the new projector range from Casio. They are slim for sure, at a height of just 1.7 inches. The “green” bit needs a little explanation. Traditionally, projectors used mercury based elements to deliver the high luminosity projections. The more environmentally friendly approach by Casio uses Laser and LED elements to deliver projections at 2500 lumens of brightness, comparable to regular projectors. The projector can work without a PC, stream content wirelessly, and display the data directly from a USB drive





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Cyberpunk Fashion

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1337 Fashion

Aditya Madanapalle
aditya.madanapalle@thinkdigit.com

The internet has given rise to a number of geeky sub-cultures, and each of them like to dress differently! The classic geek with the tucked-in shirt, ironed pants and facial hair you can store pencils in, is fading, and being replaced by a number of alternatives. Here's a visual representation of where geek fashion is headed. Individual items are marked with their source and prices, and each type of geek is illustrated with an archetype. An archetype is the typical and ideal example of the kind of geek.

Hacker/ Programmer/ Pirate ●●●●●



Archetype: Tank from The Matrix

Although these come in many sizes, shapes and colours, the low profile background characters from the Matrix (eg: Tank) are a good place to start.

Hackers and programmers are aware of a bunch of philosophies that extend beyond their terminals. Their clothes have to be functional and comfortable. Simple, almost zen like clothing is the essence as these people will often spend long amounts of time at their "work". Wearing unwashed or wrinkled

clothes are also ok. Chaos theory mathematician Ian Malcom from Jurassic Park wears only blacks and greys so that he does not have to waste time choosing colours when dressing. The hacker ethic allows people to display their individuality though. Excessive facial hair, and weirdo hairstyles are ok if you belong to this species.



Backtrack 4 Live DVD

Price: Free/ \$ 5.95 (Rs. 265)
 Web site: www.osdisc.com

The Yellow Bag O' Computer VIRUSES

Price: \$ 25.00 (Rs. 1112)
 Web site: www.cafepress.com



Topman Grey Marl Crew Neck T-Shirt

Price: \$ 15 (Rs. 667)
 Web site: www.topman.com



Matrix Neo Sunglasses II

Price: \$ 19.45 (Rs. 865)
 Web site: www.voguewear.com



Men's Boot-Cut Jeans

Price: \$ 29.50 (Rs. 1312)
 Web site: oldnavy.gap.com

Victorinox SwissFlash 16 GB

Laser Pointer
 Price: \$ 154.95 (Rs. 6892)
 Web site: www.swissarmy.com



Everglide Titan

Price: NA
 Web site: www.everglide.com



Tantra Space Invader t-shirt

Price: Rs. 295
 Web site: www.tantrauniverse.com



Retractable Network Cable

Price: \$ 2.49 (Rs. 110)
 Web site: www.allelectronicparts.com

Zero Punctuation - Pants-on-Head Retarded t-shirt

Price: \$ 18.95 (Rs. 842)

Web site: www.splittreason.com



Kabar Becker BK7 Combat Knife

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Web site: www.budgunshop.com



Fatal1ty Professional Series Gaming Headset Mk II

Price: \$ 70 (Rs. 3113)

Web site: www.fatal1ty.com



Archetype: This Guy

There are no typical gamers, but this is the first hit on Google image search, which is by no means representative.

●●●●● Gamer

Gamers spend atrocious amounts of time in front of their computers, and think of their games first. The clothes they wear have to allow plenty of room for movement, which means that gamers often pick soft fabrics and comfortable clothes. Gamers come prepared, and often carry custom savegames, profiles, mice, mousepads and other accessories.

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Cosplay

Geeks love to dress up and make themselves look like their favorite characters from an anime, manga or game series. Here, a gamer is dressed as Kratos

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Regular Geek/ Nerd



Archetype:

Sheldon from The Big Bang Theory
The Socially inept scientist suffering from OCD is the typical modern day geek.

Geeks are smart, which means that they have plenty of time to think small things through to levels mere human beings will not think. Geek styling can be best understood as a contrast to street or hipster fashion. Geeks will wear well fitting clothes as against baggy ones. A "neat" appearance is paramount. The colours picked should ideally be neutral and not painful to the eye. There is a tendency to go towards obscure humor, that say only microbiologists will understand, but this can get pretty painful. Geek fashion has changed in the past few years though, and there is a shift away from beards and tucked in shirts, although the horn rimmed glasses are still around. One of the most important aspects of being a nerd or a geek is living up to their reputation. In that sense, the most important thing is how they "wear" their brains.



Alienware M17x

Price: \$ 1,799 (Rs. 80028)
Web site: www.alienware.com



Merrell Neptune

Price: \$ 100.00 (Rs. 4448)
Web site: www.zappos.com



Robot Evolution T-Shirt

Price: \$ 25.85 (Rs. 1150)
Web site: www.zazzle.com



Ames Bros Ray Gun Vintage T-Shirt

Price: \$ 29.00 (Rs. 1290)
Web site: www.projectshirt.com



Sell Top Leather Brown Belt

Price: NA
Web site: www.traderscity.com



Alienware Orion Backpack (ScanFast)

Price: \$ 84.99 (Rs. 3780)
Web site: www.mobileedge.com



Rhodes No Line Bifocal

Price: \$ 95.00 (Rs. 4225)
Web site: www.readingglasses.com



Admiral Ackbar's It's a Trap T-Shirt

Price: \$ 19.97 (Rs. 888)
Web site: www.nerdyshirts.com



Superheadz Cat Face Camera

Price: \$ 49 (Rs. 2179)
Web site: www.audiocubes.com



Archetype: Dennis Nedry from Jurassic Park

You have seen these ones, the sidey, irritating, obnoxious tech guy watching porn on the computer when he should be working... apart from smuggling away valuable embryos in shaving foam cans.



Longcat T-Shirt

Price: \$ 17.99 (Rs. 800)
Web site: encyclopiadramatica.com



Redbull 6 pack

Price: \$ 11.99 (Rs. 533)
Web site: www.beveragesdirect.com



USB Fridge

Price: \$ 60 (Rs. 2669.1)
Web site: www.bytelove.com

Troll/ Lamer

Trolls are rumoured to dwell in closed spaces with minimal contact with the outside world, which most people agree, is a good thing. When they are seen though, they absolutely, must be on top of things, or they cannot be called much of a troll. It is important to be aware of all the trends on the internet, and their clothes should reflect it. Trolls know their memes, are stocked up on caffeine supplements for long hours of raiding, and use their mewing cameras to take photos for caturday.



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Chennai goes green

The Chennai government is revamping official accommodation facilities, with a 175 Crore project that will replace tiled houses with apartments

Your green griha



Suzlon One Earth Photo courtesy: Suzlon

It's green everywhere. Going green is now the norm of the day. The revolution is now painting the concrete jungle green. A short trip of our own with the green community.

Nash David

nash.david@thinkdigit.com

In Sanskrit, *Griha* means abode. Sounds more towards the spiritual side of what we normally call home. But that's the extent to which the early generations used to stress on harmony within the home – they considered it close to worship. Experts agree that transforming an existing structure into a green structure could be a daunting task. However, by minor modifications such as appropriate windows at the recommended locations, you could obviate the need for lights during the day. That's primarily the basics of a green home. Your home should be bright during the day without the need to switch on your lights.

According to Mumbai-based architect Sabu Francis, "Indians have traditionally been one of the most 'green' design aware people in the entire world. Our houses from the past speak volumes regarding

the sensitivity displayed. Sadly, much of it is lost in modern urban architecture". We need to catch up from where we've been as Indians. Indians invented the numeral zero and have had a say in the most important discoveries and inventions in the past, but with urbanisation, we seem to have lost drive and creativity and most importantly our concern for our planet – our natural habitat.

With a marginal incremental cost of about 8 per cent, going green is not



Avani Residence is a 5,000 sq. ft residential structure in Hyderabad that complies to LEED Platinum levels



"Just like you cannot really add value to a person who has grown up badly; a

design that is already bad can be difficult to modify"

Sabu Francis

costly at all. According to S Srinivas, Senior Counsellor, CII-Sohrabji Godrej Green Business Centre, "you would recover the incremental cost in about 3-5 years". In fact, if you plan your construction in the planning stages itself, you can expect to recover the costs in a couple of years. According to Apoorv Vij, Research Associate, Energy Environment Technology Development (TERI), you don't have to lose hope if your home was not designed to be a green home. "An existing design can be modified in various ways to make it green. The old water fixtures in washrooms can be replaced with new low-flow fixtures to reduce the amount of water consumed in the building. Use of Bureau of Energy efficiency (BEE) 4/5 star rated appliances can help reduce energy consumption. The bulbs and conventional tubelights in buildings can

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Feature

be replaced with CFLs and T5s. Use of Solar Water Heaters can help reduce the amount of energy consumed by geysers. These are few of the steps which can be taken in existing buildings in order to make them green." He adds, "On an average, it takes less than 3 years to recover the extra cost put in the design of an average green home. If designed correctly, this extra cost could be marginal and could be recovered within a few months of completion of the house."

Reiterating Francis' opinion on Indian homes, Vij says, "Indians are slowly going green with their homes. Traditionally, all our homes used to be low-energy, low water consuming and low-waste generating. However, in recent years, due to change in lifestyles, we have shifted away from this traditional knowledge. However, using high efficiency equipment such as BEE star labelled ACs, refrigerators and fans are reducing the amount of energy being consumed in homes. New homes are being designed to minimize water and energy consumption, use renewable energy in the form of Solar Hot Water Heaters and Solar Photovoltaic and adopting practices for rainwater harvesting and recharge. These steps are slowly leading new homes in India to reduce their environmental impact."

The movement

It all started in March 2000 when the when the Government of Andhra Pradesh, invited the Confederation of Indian Industry (CII) team house of Godrej and the Confederation of Indian Industry (CII) came together to start what went on to be India's green revolution among the concrete jungle. The Indian Green Building Council (IGBC) is among the most active green certification bodies in India, certifying for LEED (Leadership in Energy and Environmental Design) in addition to indigenous in-house standards. A humble footprint of 20,000 sq. feet in 2003 has now crossed 365 million sq. feet of green footprint. IGBC conducts certification programmes every month and you can get qualified in the requisite certification standards. Srinivas adds, "you don't need any specialised background in architecture, any person who can read and write can take the course and be certified after qualifying



"Green buildings reduce impacts on site, maximise energy and water efficiency, use sustainable building materials, minimise waste generated and disposed of from the building and provide a healthy living environment for its occupants."

Apoorv Vij

the examination." Quoting an author, he describes a green house as one that gives delight as you enter, serenity and space as you stay and regret as you depart." When around 500 households were surveyed to find out what they expected from a green home, answers varied from energy efficiency, effective lighting to even efficient water utilisation. IGBC's rating systems address these aspects without the need for any sophisticated tools. Talk of practicing what they preach and he gives a first-hand account of his own residence. His home in Bangalore has 13-inch thick walls across the southern and western directions made of flyash bricks that reduce his need for air-conditioning by 50 per cent.

The Government of India and TERI have also jointly developed an indigenous rating system. As Vij explains, "GRIHA is an indigenous green building rating system developed for the Indian construction scenario. It was developed by The Energy and Resources Institute (TERI) and has now been adopted by the Ministry of New and Renewable Energy (MNRE) as the National Green Building Rating System for India. GRIHA incorporates within itself various other building codes and guidelines like the National Building Code, Energy Conservation Building Code, Ministry of Environment and Forests clearance for construction and Pollution Control guidelines by the Central Pollution Control Board. GRIHA is a rating system which assesses the environmental performance of buildings on a scale of 0-104 points with


a minimum of 50 points required for a building to be certified a GRIHA building. On the basis of number of points scored, a building can be rated between 1 and 5 stars, 1 star being the lowest and 5 star being the highest level of environmental performance. GRIHA evaluates green building performance on the basis of various aspects like water and waste management, energy, site preservation, indoor comfort and air quality and innovation points."

Save all your life

Despite the initial incremental costs, there are incentives from the government that ease out the burden in some ways. The Ministry of New and Renewable Energy (MNRE) has announced various incentives for projects going for



The CII-Godrej Green Business Centre, leading by example

GRIHA rating (explained in the subsequent question). The MNRE refunds the registration fees of projects which achieve a high rating under GRIHA. The MNRE additionally provides cash rewards to the various consultants involved in the design of GRIHA rated buildings which achieve high ratings. The MNRE also provides a subsidy of 30 per cent of the cost of solar photovoltaic modules (up to a 100 kW) which are used in the building. When asked about government incentives, Srinivas had a different take. He added, "of the 500-odd buildings in India, none of them asked for any incentives. Besides, considering that the incremental cost is just 8 per cent, an incentive of 20-30 percent doesn't make a significant difference. Either way the cost is recoverable in a couple of years." 



If you want to participate in a community open source project, LibriVox is the perfect place to start. Just pick an open source book title, read it out, record the reading, and upload. This lets you create audiobooks that hundreds of users will listen to

FREE MEDIA

Technology is now empowering artists to create and distribute content for free or for social causes. We profile people who are part of this trend

Aditya Madanapalle
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At the turn of the century, tools for creating, publishing and distributing multimedia were easily available to anyone who wanted to express themselves in video or audio form. Production studios could be built inside homes, with equipment that was no longer as expen-



Adil, Sanket K, Sanket J and Hardik form The False Positives

sive as it once was. This allowed individuals and small groups to self-produce music, video, and other forms of content, then share it over the web. Aspects of the Free and Open Source (FOSS) movement was adapted in the form of the Creative Commons license, that allowed content creators to selectively license the works that they were putting on line. Alternative and independent sources of entertainment quickly became mainstream, with sites such as Google Video, Vimeo, Jamendo and MySpace. It took a good decade, but in 2009 artists who started with a MySpace profile page and a few downloads eventually ended up featuring prominently on international charts. This trend is known as a "MySpace sensation" in the west, and it is something that we are only beginning to see in India. Indian rock bands regularly post their songs on sites such as Soundclick

and RSJonline. YouTube is the host of choice for short films. We have a look at some producers of alternative media.

The False Positives

The False Positives are a new Mumbai based rock band that has come together for creating one album with a purpose. The album, called Redeemer, is full of songs that affect children, and encourages the listeners to donate to CRY, as the album is free. This album is exclusively on our Playware DVD. The band is made up of Adil Mansure on the rhythm guitars, vocals and keyboard, Sanket Khadilkar on the lead guitar and backing vocals, Sanket Jariwala on the Drums and vocals and the voice of Hardik Varma for one track. The band follows the musical sensibilities of bands such as Guns N'

Roses, Alterbridge and Tool. These are all Mumbai-based people who have dayjobs, who decided to express their musical instincts by creating an album, and petition for a social cause at the same time. In the words of Sanket Jariwala, "These songs are typically about the things that haunt little children the most in this day and age. lovelessness, marital discord and war. These songs were written over some years and are a true testament of how we, as a band, feel about issues that impact children, who are perhaps even

unable to understand their own situation. We played these songs live, and recorded them live to ensure the rawness of how we feel, reaches you intact. But this is not as much about the music, as it is about us, the "grown ups" pledging some support, consistently, to causes that can help underprivileged children live a better, fuller life. The children count on your support. We hope you like the music"

Mam Movies

A production house built around the idea of "media for social change", Mam Movies is run by Madhusudan and Meghna Aggarwal, based in Ahmedabad. Over the past few years, Mam movies has been actively involved in community based film projects. These projects not only encourage established and aspiring short film makers to generate films, but also help social causes and active NGOs in the progress. The Genesis film project, brought together 101 film makers to make 101 films, documenting the efforts of 101 NGOs. In the process, the NGOs got a chance to voice their activities in video form. The She Creates project was an effort that highlighted the plight of the

girl child, in a very unique way. Groups of schoolgirls were picked up from different schools in Mumbai, and coached by leaders in the industry on the various aspects of film making. Advanced topics such as narrative structure of a short film, photography techniques, and editing were all taught

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The band Eisley is perhaps the first true "MySpace Sensation", a band that came from the anonymity of the Internet and went on to the fame of the billboard charts

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to these young schoolgirls, at a film school in Mumbai. The teams were then assigned volunteers, who helped in the process of film making, from the shooting to the editing. The schoolgirls however, planned out the movie, came up with the concepts and the story. Issues picked up included trafficking and dowry. The idea of empowering the suffering sections of the society to create short films



The She Creates Project

based on the issues that affect them most worked well, and the resulting films were straight from the heart without any interference in between. The movies were screened to a large audience, with more celebrities showing up than there were schoolgirls.

The latest project from Mam movies is an ingenious combination of film making and social networking. The Metta Media project is an open source gift economy for films. Film makers are encouraged to collaborate, create and post films on the Metta Media project web site. The Metta Media project web site is actively involved in bringing about changes in society. NGOs and other social cause platforms can post a requirement for a movie project on the web site. Filmmakers can choose the projects they want to work on, and get help from Metta Studios, which loans out equipment for use in the film making process. Unlike the previous projects, there is no fund raiser here, and the participants have to "serve with what they have". The project web site is at mettamedia.ning.com for those who are interested in participating.

Sridharan Ravichandran

Chennai based artist Sridharan Ravichandran released a self produced Album called Transcend on line. Transcend is an instrumental rock album, with a distinctively Indian feel on all the nine tracks. The album is hosted on sridharsmusic.com, and visitors have a bunch of options when it comes to picking up the album. The album was initially released as a paid CD. The tracks are now free to download, but users can choose to buy the album, or simply donate if they feel like it. For artists like Sridharan, the Internet is a great tool as it circumvents music labels, and allows a direct interface between the artists and the listener. "The internet is amazing - it has opened up networks, doors, and opportunities for musicians everywhere. When Transcend was still a paid CD,

I was able to leverage social media to reach ears as far out as Greece, Thailand, etc.", says Sridharan when asked how the Internet helped the album. When asked why he chooses to give away music for free, Sridharan says "I was definitely more focussed on reaching as many ears as possible, rather than for any other monetary aspect. While reward for effort is important, there are a lot of other things one can do to



Sridharan Ravichandran



The Transcend Album

make money from their music rather than just from CD sales. The internet has played a major role in making this happen too." The internet can go

a long way in allowing artists to get their music to ears across the world.

Sean Fournier

Sean Fournier released an album called "Oh My" on a number of web sites online, including a homepage, sean-fournier.com. The release is one of the most popular albums on the free album site, Jamendo. The Album was conceptualised as a free album from the very beginning. The very idea of releasing an Album for free opened up new audiences, and removed a number



Sean Fournier's album, Oh My

of hurdles. "The idea behind 'Oh My' was simple: Make a free album that people would share. The main goal was to expand my fan base the quickest way possible.

Without the hurdle of a price tag, I was hoping people would see the album and think, 'Why not? It's free. I'll listen'. Since the release of my free album, my mailing list has grown over 13 times its size. I love giving my music away. It's actually really fun. I don't like coming off as a selly business person. At the end of the day I just want people to listen. Releasing the album for free lifted the burden of trying to sell something and it actually increased my sales anyway." There are a number of sites online that allow artists to host free music content. Sean's music is hosted on Pandora, Last.fm, MySpace, and Jamendo amongst others. We asked Sean which was the best music hosting web site in his experience, "My favorite platform is by far Jamendo. The community actually writes reviews and I feel a great sense of support from that site." **d**

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Sport to pave way for 3D

3D content delivered to television screens at home will probably begin with broadcasts of sport events. Many current events are already being recorded with 3D cameras

Forget HD, make way for 4k

The quality standards of video is spiralling upwards, and Blu-ray discs are keeping pace with increasing capacities. 1080p will soon make way for 4K resolutions



The Future of Immersive Entertainment

3D is not enough... How will you indulge your senses in the future?

Siddharth Parwatay
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Truly immersive entertainment has always been somewhat the holy of the entertainment and electronics industry. Since the days of black and white cinema we have now come a long way in the ways in which we experience entertainment. We not only have stereo but surround. To experience visuals better we have high definition (HD). To actually feel some of the games we play there is force feed back. Now, we even have things like program sensitive ambient lighting and 3D movies. Shows a trend doesn't it? The aim here is to actually live the entertainment; be a part of the movie or the game in the truest sense. So what does the future hold for the sense-indulgent consumers of today? Lets take a peek...

3D technologies

3D is per se not the future because it is already here. There are several movies such as *Avatar* and *Alice in Wonderland* that are being released on 3D. In fact, at the time of going to print, we got an invite from Scrabble Entertainment to witness the IPL semifinal in 3D. Besides, you have games that support 3D through NVIDIA's 3D vision technology. But do you really like 3D in the form in which it's being dished out today? None of us want to wear those downright nerdy glasses every time we want to watch something in 3D. It's bearable if it's for a three hour event like *Avatar* but imagine wearing dorky glasses every time you sit to watch *Lost* or *Dexter*. Date killer, isn't it? Or imagine a gang of IPL fans jumping around in dork glasses every time Sachin shoots for the boundary. But don't despair, there is hope. Going by some of the products showcased at CES 2010 it's safe to say that the next big

revolution in entertainment is the 3D TV making its way to the home setting – and that too without those horrendous glasses.

3D is not however a new technology. Without sounding like a science lecture we can tell you it's been around since the turn of the last century (that's the late 1800s) in the form of anaglyph images. Anaglyph technology uses the principle of showing two images separately to your brain, which is the reason why we see in 3D in the first place. Each eye much see the image from a slightly different perspective, and the brain does the math to incorporate depth. So early on camera's were fitted with red and green (also cyan and blue) filters and different shots were taken from the perspective of the right and left eye separately. They were projected onto the same surface, so all the viewer had to do was wear glasses with red and green filters to fool the brain into thinking that two different perspectives were being seen – and voila – depth perception.

Hence you will find that while *Avatar* was great, so was *Chota Chetan* from yesteryear. Only on the bright side for *Avatar* there were fewer people having aneurysms and even fewer having headaches and dizzy spells. This is because of RealD – a new display technology system which uses circular polarization by which the flicker of traditional anaglyph is greatly reduced and viewing angles are increased. The company is currently working with many manufacturers to bring this technology to the home front. Still, this is how far 3D has matured. What about those dreams of 3D without facial attachments and ease of use?

Strangely, Intel showed off one of the most impressive demonstrations of glasses-less 3D technology on Alioscopy screens at CES this year. Reportedly, they'd set up a booth in which there were eight spots from where perfect depth was visible. These type of screens are being looked at by many

manufacturers around the world including NEC, Samsung and Phillips. Called auto-stereoscopic displays, they use an array of lenticular lenses to cast different images onto each eye thereby creating a perception of depth. Each lens covers 8 pixels and each sub-pixel is used for a different point of view. It therefore



amBX in action

To watch how the amBX technology enhances game play for games like Mass Effect 2, head over to <http://bit.ly/pnaJ2>

Ukraine gets IMAXed

IMAX has teamed up with Ukraine's Triumph Media to install 5 IMAX theatres in the country, including 3 in the capital city of Kiev

Tomorrow's tech

provides both colour and disparity information. "Each lens overlapping 8 different points of view works as a magnifying lens, allowing for one only to be seen through the lens from any given angle. Because both eyes are not in the same place, they actually see two different points of view. This stereo effect produces a sensation of depth," explains the Alioscopy web site. Because each of those lenses have to be precisely aligned to cover each pixel, manufacturing them is not simple and they're not going to be cheap. Also, much of the content shown on these auto-stereoscopic screens is specially created. What about live-action? There is a company called 3D Eye Solutions that converts any footage into 3D to be viewed on an auto-stereoscopic screen. It even has set top boxes that can do it on the fly. This could mean 3D TV channels beamed in the near future.

But is depth perception enough? Real 3D would be when you can actually tilt your head and see a little of what's behind an object that's in your field of view. That would be something wouldn't it? Maybe holographic technology is the way to



go then. If Prof. Nasser Peyghambarian from the optical sciences department, university of Arizona has his way that could soon be a reality. Of course his screen, which is currently under development, is capable of refreshing itself in minutes while for a functional holo-tv we'd need it to refresh several times every second. Motion Parallax – the ability to change your point of view and view the image from that perspective – is the next horizon. This is still tomorrow's

tech so don't expect to see Princess Leia flickering in front of you anytime soon.

Get into the action

Immersive entertainment is an elusive dream. But manufacturers on the cutting edge of tomorrow's tech know that the only way to reach near-realism is to create as real an experience as possible for the five senses. Sight of course is taken care of quite well in the era of HD. But what about touch? There are companies that are doing just that. Take for instance TN Games that make the 3RD Space Vest. It's a jacket that when worn gives a new meaning to force feedback.

By way of an air compressor system (pneumatics) to inflate/deflate several specialised air pockets (or actuators) located through the vest the user feels the realistic impact from bullets and bone crunching physical contact in the game. The air pockets inflate and produce a physical strike against the user to produce the effects. Of course the intensity is not that of the actual strike but you get the

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Future trends for this year

Watch our interview with the directors of Deloitte Consulting as they give us their tech predictions for the coming year – from tablets to 3G. Find it on the Playware DVD



3D projector add-on

This little projector add-on turns a compatible projector into a 3D capable projection device

drift right? The best part is that it is synced with the direction of the strike. So if for example you were the victim of a sneaky bullet on the back of your right shoulder you'd feel the effect there. If there is a frontal explosion, nearly all of the front actuators would activate to simulate fragmented impact and so on. For those who'd like to feel head shots, or feel bullets whizzing by your helmet, there is the HTX helmet that's coming soon from TN Games. The helmet will communicate with compatible games to give precise, 3 dimensionally accurate impacts where it happens, as it happens.

More for your senses

There are strides being taken to immerse you even further into the media you are experiencing. amBX – short for “ambient experiences” – is a technology developed by Philips Research, that delivers full “sensory surround” entertainment experiences. amBX enables content creators to add real world effects using lighting, colour, rumble and air flow, through licensed amBX devices, to the virtual worlds of computers, games, music, movies and TV entertainment. With amBX the entertainment world can be brought into the real world to create incredible immersive experiences. So imagine an explosion in a game or movie. It will trigger a series of devices that will turn your room bright amber, vibrate the very earth you're sitting on and at the same time blow a gust of hot wind on your face!



3RD space vest

There are some Philips amBX gaming kits available too. These kits comprise of 2.1 speakers that have large hi-intensity RGB LEDs attached to them that flood the ambience with 16 million colors that sync with your games. Besides

this, a host of other peripherals such as a wrist rumble pad that lets you feel every explosion, shot or kick as you play. That's not the end. These kits also come with two 5000 RPM desk top fans that simulate everything from the wind of an approaching

helicopter's blades and strong gush as you navigate a hair pin curve in a racing simulator.

Realised virtuality – the ultimate dream

All of these technologies we've talked about, however impressive, serve to augment your reality and take you further into the action. They leave you with the thought of what's next – would you some day be able to smell the explosions that you witness? If that doesn't sound too pleasing to the senses, how about aromas of Nigella Lawson's delicious culinary delights wafting in your living room as you watch her TV show. In fact, way back in the 1940s smell-o-vision, a combination of TV and smell



amBX enabled ambient lighting and immersive entertainment room

was actively discussed. Warner Brothers even came out with some movies in which scents were released into cinema halls while screening movies. An invention by Professor Takamichi Nakamoto of the Tokyo Institute of Technology is something that can come handy for TVs. The Odour Recorder analyses the qualitative and quantitative composition of the target smell and breaks it down into recipe. Later on by dipping into various chemical cartridges it can reproduce the smell, since its fractional composition is known. For sometime olfactory TVs were being

worked on, but somehow the idea seems to have lost steam.

All of these inventions so far try to enhance your experience, but could there be something that will change the very definition of what reality is? Perhaps create a new sense of



Hospitality and Home Cinema Design with LitStyle Underglow lighting systems controlled by amBX

reality for you? We're talking of serious *Matrix* and *Total Recall* type of simulated reality stuff here. Works of Science Fiction mentions Virtual Reality often; the most famous one was perhaps the Holodeck featured in the *Star Trek* TV series. In this room a virtual environment complete with people, objects, sights sounds would be created. The participants to this holodeck could then interact with these items in the room in a completely real manner. This seems far fetched but several scientists and inventors across the world are trying to achieve it.

A company called Micoy has a Breakthrough Lens Optics Technology that enables creation of 360 degree 3D spherical images for fully immersive environments, putting viewers Inside content displayed in panoramic or dome like environments. They've built an igloo type contraption for this. They even have sphere covered entirely with cameras to capture all angles and an algorithm that decodes and stitches together the images.

These are still attempts at virtual reality, but there is a far more futuristic alternative – stimulated reality. This one involves making the brain feel things that aren't really there. Yes we know – *The Matrix*! A system by which probes will uplink directly with the nervous system and feed it any information needed fooling it into perceiving a reality that isn't actually there. Is there something like that being worked upon? Even if it is, it's probably Level G9 Area 51 classified information. And hence put to work for training and experimental purposes rather than entertainment. Where's Agent 001 when you need him? **d**



HTX Helmet

Do you have what it takes to be a

Here's your chance to get featured in Digit's anniversary special in June 2010, and become a part of Digit's history



What is Digit Idol?

Digit Idol is our way of celebrating members of our community. The idols will be announced in June 2010 – the month that Digit enters its tenth-year of publication. We have various ways in which we plan to felicitate the winners, but more on that later.

Who can apply?

You should be a member of one of our many communities – a reader of Digit magazine, a member on our forum, a Facebook fan, a Twitter follower, etc. If you're interacting with Digit and are using what you learn from Digit, you're eligible. It's that simple.

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AMD 6 cores

The upcoming Phenom II X6 CPUs can clock up by 500 MHz when half of the cores are active – this is better than Intel's Turbo Mode

New flagship Lynnfield

Rumours report Intel readying the Core i7 880 (3.06 GHz) for a second quarter launch

DX11

It's been around for a while but do you know all you need to about DX11 and why it's being touted as the next big thing since chocolate icing.

Michael Browne

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Though it seems fairly long ago that Microsoft first talked about DX10, for most gamers including some of us at Digit, the scars still remain.

For a farce it seemed – a military-style takeover attempt from DX9 and one that left many users with shiny-new and largely useless DX9 cards; faced with no choice but to upgrade. It also meant upgrading the OS – dependable old Windows XP was ditched in favour of the new, and prodigious resource hog that we know as Vista. No doubt, this made NVIDIA and AMD happy, for this necessitated upgrading to their new DX10 GPUs. So it seems Micro-

soft can bulldoze a product into the market, forcing adoption with its considerable clout in desktop circles. Although this is the way most users view the DX10 fiasco, industry experts have a different opinion. According to them, years of backward compliance was hampering forward growth, which is why the changes made from DX8 and all its revisions to DX9 and all its revisions were subtle enough to be barely noticed. The goal of DX10 was, according to them, to provide a firm foundation for future developments on the DirectX platform, throwing backward compatibility out the window.

There was a lot of trepidation when DX11 was announced – people were wary. This time round, the blow is a slightly softer – Vista also supports DX11. DX11 is, therefore,

not a radical overhaul, but what Microsoft refers to as an incremental upgrade. In fact, so quick was this newcomer brought to market, that one has to suspect the credentials of DX10. From what we've seen, it's clear that DX11 has been designed to combat a lot of the shortcomings of DX10 – that is to say, augment it in every way. And this move is not without a hint of desperation, for the last two years have seen PC gaming giving a lot of ground to consoles. Major development studios and bastions for PC-game development like Epic Games, BioWare and id Software have been working on multi-platform projects from some time. In fact Microsoft claims to have pulled all stops – they even hint that the GPUs in future consoles will, in all likelihood, be based on DX11, much like the graphics hardware in the Xbox 360 and PS3 of today are based on DX9 hardware. DX11 is being touted as *the* DX – not only does it subtly improve on DX10 in nearly all areas, it's also pretty focussed on GPU-accelerated applications – this is something we've been hearing bits and pieces of – but there's nothing really tangible in the market. NVIDIA talks about CUDA while AMD talks about Stream. It's old news that Intel had plans to hop aboard this bandwagon with Larrabee that was supposed to bridge the divide between CPUs and GPUs, but for all market purposes it's gone the way of the dodo.



The difference is clearly visible in S.T.A.L.K.E.R. Call of Pripyat. A DX11 screenshot is on the right, and while they're not identical notice the detail on the cloth near the neck, also the texture on the suit, helmet and gas mask

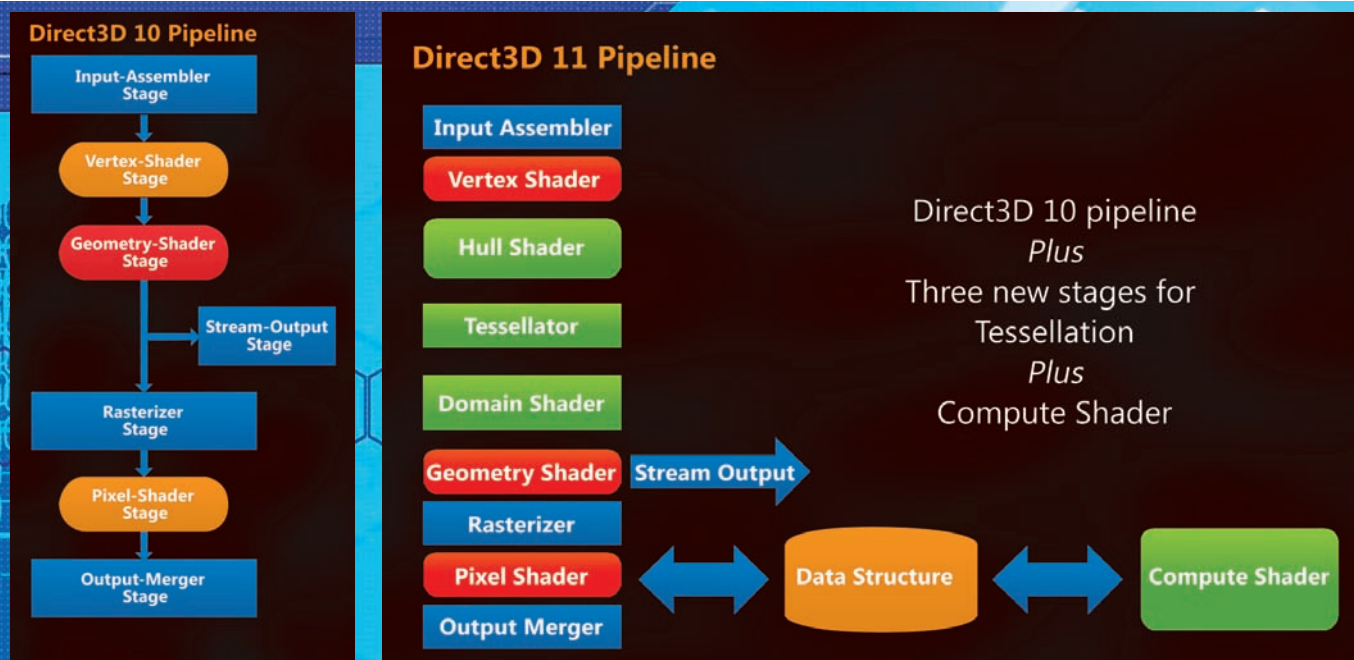
Digit Mini

As a special offer, new subscriptions this month will get a complimentary copy of Digit Mini

Toshiba Rezga

Toshiba has announced a launch of their 3D Rezga HDTVs in a couple of months

How stuff works



The DX Pipeline: I've got new stuff

The major changes to the DirectX pipeline can be easily see through the graphic representation above.

The additions highlighted on the right, in green, are the Tessellator, Hull Shader, Domain Shader and the Compute Shader.

Shader Model 5.0: Check out my new shade(r)s!

DX10 opened up the concept of programmability of a GPU. DX9 had only scraped the surface. DX10 was able to go a lot deeper – making it more than just a fixed-function vehicle to shuttle data.

One of the newbie's on showcase with DX11 is Shader Model 5.0. Incremental numbers mean an improved feature set as SM 5.0 is a superset of SM 4.1 (DX 10.1). When a game programmer codes for a game, he can choose from between these shader models – an older standard would maximise compatibility, while a newer one would improve visual quality and effects and improve performance and/or optimise resource usage. This is possible because essentially, the code remains unchanged. DX10 code is essentially DX11 code sans some advanced features. Thus DX11 will run on older (read DX10) hardware but DX11-specific

features will be unavailable. This gives developers flexibility because one set of code can target both DX10 and DX11 APIs and hardware, unless of course they wish to target a DX11-specific feature, in which case separate code will need to be used. On the whole however, this makes developer's lives easier.

If you look at the table below, you can see there are a few significant changes – like the move to double precision floating point operations, which, until now, was the sole realm of the CPU. This is in accordance with the IEEE-754 standard and many feel that this is yet another step forward for the GPGPU concept – after all double precision

SM 5.0 and SM 4.0 differences (Source AMD)

Feature	SM 4.0	SM 5.0	Benefits
Thread Dispatch	2D	3D	Replace multiple 2D thread arrays with a single 3D array
Thread Limit	768	1024	Execute up to 33% more simultaneous threads for better performance
Thread Group Shared Memory	16 kB	32 kB	Double the memory available for inter-thread communication
Shared Memory Access	256 byte write only	Full 32 kB read/write region	More efficient shared memory I/O
Atomic Operations	Not supported	Supported	Allows each thread to operate on protected memory locations – greatly simplifies implementation of CPU-based algorithms on GPU
Double Precision	Not supported	Supported	Allows 64-bit floating point precision for computations
Append/Consume Buffers	Not supported	Supported	Useful for building and accessing data in list or stack form
Unordered Access Views Bound to Compute Shader	1	8	Allows each compute shader to access multiple buffers for more flexibility
Unordered Access Views Bound to Pixel Shader	Not supported	8	Allows pixel shaders to access compute shader data for interoperability with rendering pipeline
Gather4	Not supported	Supported	Fetch adjacent data values from memory up to 4x faster

Next month

What Blu-ray or DVD player should you buy? Find out in next month's issue

5870 Eyefinity Edition

AMD quietly launches their Radeon HD 5870 Eyefinity Edition, with 6 mini DisplayPort connects, and 2 GB of GDDR5 memory



The DX11 Unigine benchmark called Heaven. The intricate level of detail on the rocks and the stone steps mimics reality, courtesy Tessellation. You can expect to see games with such visual detail when DX11 is used

is hardly useful for games, but is definitely needed for simulations and number crunching tasks like genetic sequencing, or intense math computations. Not only did Microsoft simplify programmer's lives a bit by adding certain object-oriented programming concepts to SM 5.0 but it was designed to reduce the load on memory as well as increase the efficiency of its usage.

Multithreaded Rendering: Working out those muscle-bound CPUs

Ever wonder really high-clocked dual core CPUs are faster than slower quad cores when it comes to gaming? CPUs take on workloads in the form of threads – four cores, four threads at a time and so on. Games aren't exactly designed to assign tasks to CPUs that are designed to work on individual threads. While games might tax the mightiest GPU, they generate no more than a handful of threads to keep the CPU busy – video, physics and AI being good examples. After all, how many threads can one application (a single game) create? Therefore, your quad core CPU is left largely unutilised. For the better part, the game will thrash one or two cores, while the others will sit pretty, because these GPU-generated threads have to be processed as a whole and cannot be broken down further. DX11 was designed with the growing number of cores on today's CPUs in mind and it tries to harness them better

by sending threads to idle cores. Once processed, these threads can be dynamically inserted into the rendering pipeline when the GPU so desires. When one considers that six core CPUs are already available, and eight core CPUs should be available from as early as next year, this feature makes sense as well as smacks of Microsoft truly having thought of the future.

This technique quite obviously improves performance by getting more work done at the same time by outsourcing work better. While the performance increment isn't going to be dramatic and it may not be noticeable some of the time, this performance tweak costs virtually nothing in terms of resources – freebies are most welcome.

JARGON BUSTER

DirectX (DX): DX is an API for Windows-based systems for handling multimedia related tasks including game programming.

Patches: Are a new type of primitive, like vertices and pixels that define the segment of a plane that is to be tessellated.

Tessellation: simplifies complex wireframes, reducing the GPU load for the next process in the pipe and also thereby reducing memory footprint of the application.

Rasterization: the process of taking a 3D image as described using vector graphics and converting it into a raster image consisting of pixels for output on a display.

Tessellation: Over-hyped or hyper feature?

In the processing world nothing comes free. Extra performance needs extra powerful hardware, getting a task done quicker means adding extra processing power and so on. To get better visual quality at a minimal loss of FPS is the stuff game developers dream of. The software component of the Tessellator, (built into DX11), is a little different from AMDs proprietary implementation of the same on their DX10.1 cards. Quite simply the Tessellator takes rough shapes (primitives) and breaks them into smaller parts. It can then construct immensely detailed shapes from the re-assembled smaller parts. For example a sphere can be formed from a simple cube. The DX11 Tessellator is not programmable but the input to it, and output from it, are. These two stages are the Hull Shader (HS) and Domain Shader (DS). The HS comes just before the Tessellator and its input is primitives and control points for these primitives. It uses the control points to determine how the process of tessellation needs to be done. The actual Tessellator is just a fixed-function block – it will break up the primitives handed to it based on instructions provided by the HS. Because of its fixed-function nature there is no coding required for tessellation. After this the task passes to the Domain Shader; this programmed block outputs displacement maps / geometry. This geometry can head off for rasterization directly, or be further processed by the Geometry Shader.

Theoretically, the Geometry Shader, which is a programmable block, can handle tessellation as well, but the benefit of using a dedicated, fixed-function block is sheer performance – the Geometry Shader also has a whole lot of other tasks on its plate, which is why the dedicated Tessellator came into existence.

Direct X Compute: Do more, so much more

The Compute Shader enables generic algorithms on what is a render-centric API. With DX11 Compute we see more general-purpose code as well as an increased set of operations that can be

iPad Launch delayed

Apple has delayed the worldwide launch of the iPad simply because US sales were so high, they don't have enough pieces to go around

How stuff works



Metro 2033: Notice the depth of field. Also the use of HDR as well as the visual effects on the weapon and environment that actually simulates precipitation and the effects of a snow storm on the visor of the gas mask

performed on that code. This is one of the major regions of interest to brands dealing with complementary hardware like NVIDIA and AMD. For years these two have been pushing the concept of the general purpose GPU (GP-GPU), but nobody has really bitten. Niche applications exist, like NVIDIA's Bada Boom that allows video transcoding using the GPU over the CPU. This claims to be as much as five times faster, but is an NVIDIA-only affair requiring an NVIDIA GPU and the necessary NVIDIA-based application.


The simple fact is, not enough developers have jumped aboard the GP-GPU concept and as a result it has been pretty much languishing away in a corner – hardly any more popular since its inception.

The Compute Shader will also benefit game developers who will not be restricted by the limitations of the Pixel Shader and can therefore add a lot of swanky effects to their 3D engines. We've already seen some of these effects in action – like the soft shadows technique in *S.T.A.L.K.E.R Call of Pripyat*, or the object blur and detailed, atmospheric environments along with accurate depth of field and full tessellation on character models in *Metro 2033*.

Was it worth the wait?

Having played around with *Metro 2033*, we must say – from a gamers perspective – DX11 kicks butt. For once, the oft-maligned Microsoft has gotten something terribly right, or maybe they intended DX10 to be a work-in-progress, and we were the guinea pigs! The fact that DX11 has already got more developer-love than DX10 could garner in three times the time frame pretty much speaks volumes. We're also seeing tangible benefits in terms of eye-candy across newer 3D titles,

and we're pretty sure this will get better. AMD has proven DX11 parts in the market that have sold like proverbial hot-cakes, while NVIDIA has just the GTX 480/470 duo. Best of all, there's no flip-side – DX11 is backward compatible with DX10, there are some visual

enhancements and there's no performance hit – quite the contrary, performance under DX11 can be slightly better. Developers have lots to cheer about too. They get more power and flexibility, so that they can create better looking 3D games. All the while making their lives easier by reducing some coding headaches and adding some cool functions. Even critics have nothing to say – DX11 is an evolution of DX10 in just about every possible way – what's not to like? 



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10 Foot GUI

The interface of most media center software uses what is called a 10 foot GUI, for easy navigation from a distance

Boxee to invade iPhones

Not satisfied with capturing TV screens across USA, Boxee is working on streaming TV content to iPods and iPhones

Movie...da! Media Center Applications are a fun way to browse and view media content on your computer. We show you how you can sit back, relax and enjoy!

Siddharth Parwatay

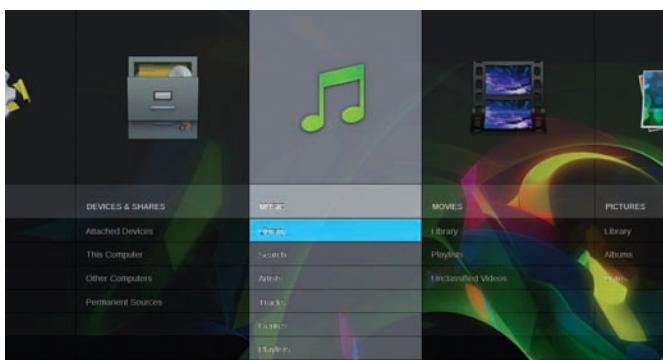
siddharth.parwatay@thinkdigit.com

With the proliferation of HTPCs, media centre applications are becoming more essential than ever. The idea is to plug in a wireless keyboard cum mouse (or an air remote), sit back, relax and experience media in an easy,

The installation process is quite straight forward. Check the Install recommended plug-in automatically box to make sure most of the popular plug-ins are automatically added.

Interface and navigation

The interface is visually appealing and is designed to



Moovida's interface is HTPC friendly

visually appealing way. Most people don't know that there are options in this space other than the ubiquitous Windows Media Center. Moovida is one such easy to use software that will allow you to watch your movies in almost all formats, listen to your music, view your photos in nicely animated slide-shows, and much more.

Getting started

Pop in our Playware DVD or download the installer from <http://www.moovida.com/download/>.

Minimum requirements

Windows XP / Vista / Win 7
Linux OS with X Window System
EWMH compliant window manager
Graphics card - Support for OpenGL 1.3 graphics with Pixel Shader 2.0 in hardware, 32 bits per pixel

be operated via the keyboard. Simply use your arrow keys, enter and backspace to navigate through the five neatly segregated menu columns. In terms of media, you have a column each for Music, Movies, Pictures, TV shows, and internet media. The other columns are for Settings, Devices and Shares and Plug-ins. It couldn't get simpler than this.

Scanning media

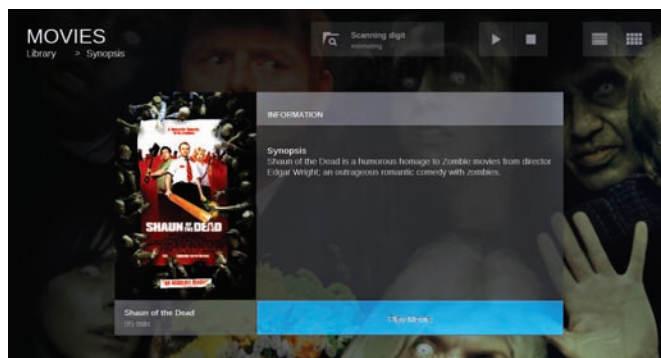
Most of us use other folders, and you can add you can add your movies by going to the 'Devices and Shares' column. Here you will find an item called 'This Computer'. Browse to the appropriate folder and click the plus sign to add. It will ask you the type of media in the folder. Be patient; Moovida takes long to scan.

Content Plugins

One of the best features of Moovida is its ability to pull in content from the web. This is done through the plugins tab, which is the last tab on the right. The Library button helps you browse through all the plugins currently installed in your Moovida installation. You basically have plugins that will pull in web videos from different sources such as TED, YouTube and CNN – plugins that will tap into internet radio services such as Shout-

Playing options

The software has support for most formats out there, so once all your media has been detected (which will take a considerable amount of time), you can get on to browsing / playing it in interesting ways. Moovida downloads cover art and other information of all related media such as music and movies. You also get plot synopsis for movies and TV episodes. As a test case, we dumped some mixed videos comprising movies and TV series episodes. The software accurately assigned each of the



Synopsis and DVD cover art for the movie Shaun of The Dead

Cast; audio streaming services such as GrooveShark that will play almost any song on earth for free and plugins that will pull image from services such as Flickr and Deviant art. All this content is showcased in an easy to browse and categorised manner. For instance, the YouTube plugin will let you not only search but also browse videos by category and ratings. You can view top rated videos for the day or of all time, or most viewed, or even the most recent. To add more plugins you have the 'Available Plugins' button in the main menu.

videos into proper categories. Clicking on the 'i' button gave us information about the exact episode selected. As for pictures, there are fun slide shows. **d**



Check out these Media Center applications and tell us what you think of them:

MediaPortal - A powerful and highly customisable media center with focus on TV viewing and DMR

Boxee - A full function and fun to use media center with social media features

Miro - Fully geared to pull in video content from lots of web sources

VMWare posts 12% profit

The popular virtualization service's first quarter reports show increased spending in virtualization and cloud based applications

Turbocharged USB 3.0

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Workshop

Windows virtually!

Stubborn apps have no excuse not to work on Windows 7

Rossi Fernandes

rossi.fernandes@thinkdigit.com

Windows 7, as an operating system has been a huge success and Vista critics don't have as much to complain about. The only problem that people have is with the few applications that refuse to run on it. Designed for Windows XP and 2000, the software may not run in Windows XP compatibility mode. We've had quite a few people calling up with this problem. Thankfully, there is a way. Windows 7 Virtual PC allows you to run Windows XP as well as other operating systems. You don't need to even own Windows XP separately.

The component needs to be downloaded from Microsoft's site (www.microsoft.com/windows/virtual-pc/). Click on the "Get Windows XP Mode and Microsoft Windows Virtual PC now" link. Choose your version of Windows 7 and then the language. Download the links in the order and install

them. Microsoft's latest patch allows processors without hardware virtualization built in to run it as well. Just keep in mind that you'll need plenty of memory (1GB in addition to your existing memory preferably) for this to run well.

XP within 7

Once installed, click on the Start menu button and browse to All Programs > Windows Virtual PC. Click on the Windows XP Mode. Set the password for the XP mode and continue. Next, choose whether to use the network security features or not. Once that's done, the Virtual PC setup

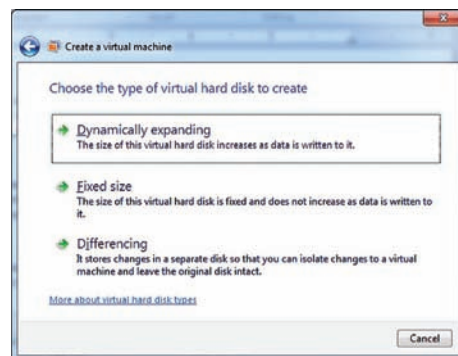


Windows XP running within the virtual machine

will begin. It'll take some time to complete – usually between 5 to 10 minutes.

Once that's done, the virtual machine will be ready for use. You can install programs on it just like you would on a dedicated PC running XP. All of the Windows XP and 2000 applications should run here without any problems. If you maximise the window, the virtual machine will switch to full screen mode. The local physical drives will still appear as drives but

as network drives. Flash drives and DVD drives can also be accessed without any hassles. You can use disc images



Selecting the type of virtual drive for the virtual machine

in the form of ISO and IMG files to install applications and software from. You can create additional virtual drives as well by clicking on Tools > Settings. Browse down to the Hard Disk 2 and 3 options.

Running another OS

The Windows 7 Virtual PC feature will also allow you to run other operating systems on it similar to what Virtualbox or VMWare do. To create other virtual machines, go to the same Windows Virtual PC menu in the Start menu, and click on Virtual Machines. This window shows you the list of all the already configured virtual machines. Click on Create virtual machine on the menu on top.

In this window, enter a name for the virtual machine and then the location for the VM data to be stored. Click Next, and enter the amount of

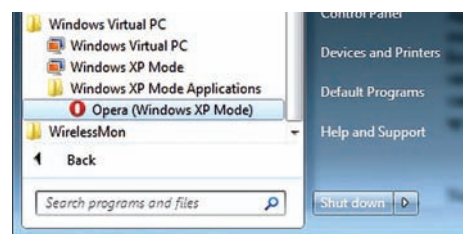
memory you would like to dedicate to this virtual machine. A minimum of 512MB should be allotted.

The next step is to create the drive for the virtual machine. You can either create a new virtual disk on your physical drive or use an existing drive that you might already have been using. With the advanced disk creation method, you can choose whether to have a fixed drive size or one that dynamically changes with the requirements.

The newly created virtual machine should show up in the window. Double-click on it to start the virtual machine. It should run in a window.

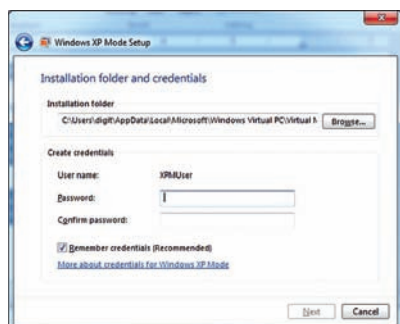
VM on host

Applications installed on the virtual machine can also be run by the host OS. For example, if you installed Opera on the XP virtual machine, you can also find the shortcut for it in the Windows Virtual PC menu. The application runs in the virtual machine but without the Virtual PC interface around



Opera installed within the virtual machine but accessible on Windows XP

the windows. This way, you can have all your programs setup in XP mode but access them without manually starting up the virtual machine every single time. **4**



Set the Windows account password for the virtual machine

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ICQ 7.1

ICQ (I – Seek – You) was the pioneer of Instant Messaging Services on the web way back in 1996 and is still going strong with more than 42 million users and roughly a billion messages being exchanged every day. The new ICQ 7 (followed quickly by ICQ 7.1) is packed with a whole lot of features that just might make you want to switch over from your favourite Chat Client. Here's how.

Get started

You can download ICQ 7 from www.tinyurl.com/digit-icq. Once you've gone through the motions of setting it up, you'll find an eye-pleasing window asking you to sign in.



icq 7

Try this or ICQ Lite

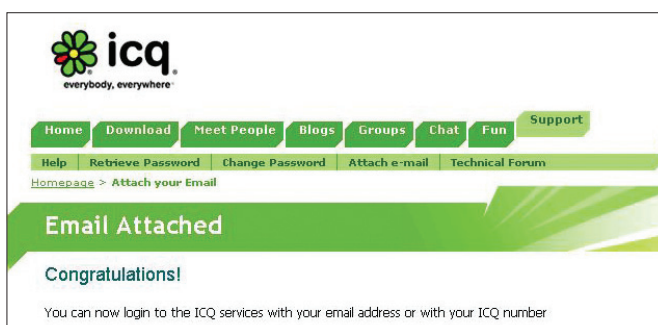
Since you're probably a first time user, you'll have to click on the 'New? Register Here' link under the 'Accounts' tab.

When you register, be sure to fill in a valid email id because

Complete the formalities



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Jokosher.....	37
NetBalancer.....	39



This message proves you're in

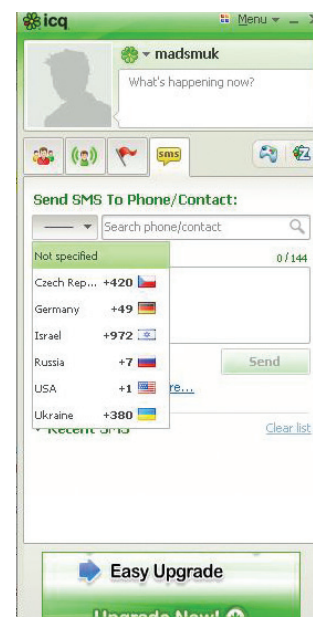
the activation link will be sent to that address. There are no obligations to provide your real address, phone number, etc. Once you've selected an id and password and filled in the necessary details, click on 'Finish'. You're all set to go but don't forget to activate the account from the link in your email inbox first.

Add contacts

Once you're a part of the ICQ inner circle you'll be asked to add contacts from your email accounts. If you've skipped that step during registration, you can access it by clicking on the Menu button above and choosing the 'Add Contacts' option in the Contacts menu.

Chat directly with your AOL Instant Messenger friends in ICQ

Else you could use the shortcut F5 to go to the contacts feature immediately. If your contact has an ICQ account, you just have to fill in the nickname or ICQ id and he or she will be added to your chat buddy-list. This, however, is with the condition that your friend already has an ICQ id. For the rest, an account with AOL's messenger service (AIM) would do as well.



Text them from your desktop

Click on 'Add' and you'll receive a message informing you that the contact is now a part of your list of friends.

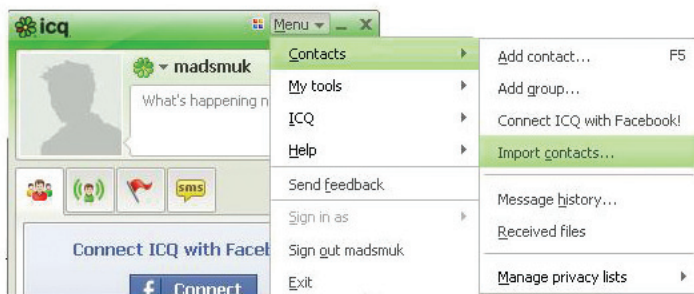
Send text messages

You can even add the phone number of your contact. Click on the 'Select contact type' arrow in your 'Add Contact' window and choose 'Phone Contact' from the drop down menu. The India code 91 should appear prefixed by default. Add the number of your contact in the blank tab next to it. This means that you can now send text messages through ICQ – but not yet in India because, as the message says, 'You currently cannot send SMS messages to this country or cellular network'. Hope they fix that bug quickly.

You can even send messages directly to phone numbers in six countries (including the US but not India) by clicking on the fourth icon in the list of tabs under the 'What's happening now' space above which says, well, 'SMS'.

Importing contacts

To add your friends from your favourite email service, click on the 'Import contacts' option in



Link up with your other email accounts

the 'Add contacts' list that you can access from the 'Menu' button above.

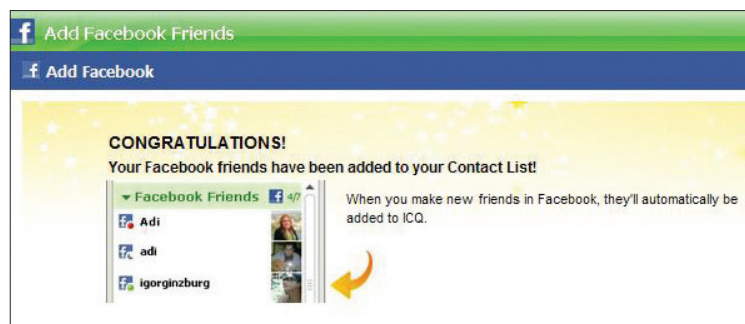
ICQ allows you to bring in all your email contacts from the most popular email sites such as Yahoo, Windows Live and Gmail. Select the one you want, fill in your email id and password (which will not be stored) and click on 'Find'. ICQ will scan your friends list and identify which of them don't have an ICQ account yet. You could uncheck the boxes of the friends you don't want to invite or skip the step altogether.

Connect with Facebook

The great thing about ICQ 7 is that you can finally chat with your Facebook friends through it without having to log in or post messages in Facebook itself. You can write on your wall and bring in updates from Facebook friends directly into ICQ. Click on the big button in the ICQ window, which says 'f-connect'.

If you don't have a Facebook account already (which

planet are you from, anyway?) ICQ allows you to set up one instantly. Otherwise, just 'Log in with Facebook', fill in your Facebook id and password and click on 'Connect'. Click on 'Allow chat' to enable ICQ to pull chat feeds from Facebook in real time. Continue to click



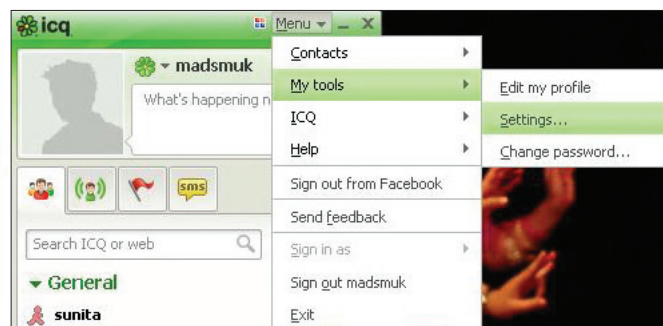
When you see this you're almost done

on the 'Allow' buttons to ensure a seamless and complete interaction with Facebook and you'll soon find that the only reason you'll go to the Facebook site is to play Farmville.

Once you're done, you can see every post that your friends put up as a feed, directly in your ICQ window.



For those who aren't on Facebook



Change how ICQ feels

Personalize

ICQ 7 gives you the option to change how the window looks and sounds. All of this is possible with the help of the 'Customization' features in the 'Settings' window (Menu>My Tools>Settings). To change the

interaction more pleasant to the year. In the 'Tweak my ICQ' menu, click on the 'More Sounds' link.

You have a choice of twenty different sounds under five heads all of which you can preview if you click on 'Play all' button at the bottom-right of the window. Most of them are speech sound-bytes with interesting themes such as 'Drakula's Assistant' and 'Angry French Waiter'. If you're not in the mood for funny lines and exaggerated accents we suggest you stick to the default 'Standard ICQ Sounds'.

appearance of the interface, click on the 'More skins' link under the 'Tweak my ICQ' list of options.

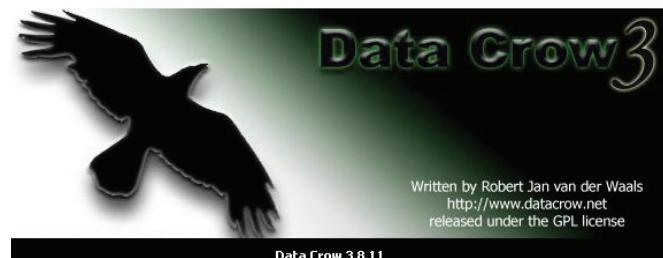
This will take you to <http://download.icq.com/download/skins/>. As this article goes to print, ICQ has yet to add more skins for you to download but keep checking the site because "A new ICQ skins collection for ICQ 7 is on its way".

Luckily, the 'Xtras' site for ICQ is ready with several different sounds that make your

Data Crow 3

If you've got tons of stuff and go crazy looking for things, what you need is a catalogue. You could, perhaps, write it all down in a book. But then again you could use Data Crow.

Data Crow is a free and convenient Java application that lets you ferret out information about virtually anything from the web and add it to a database. Its portability and ease of use makes it a handy tool for keeping track of your collections.

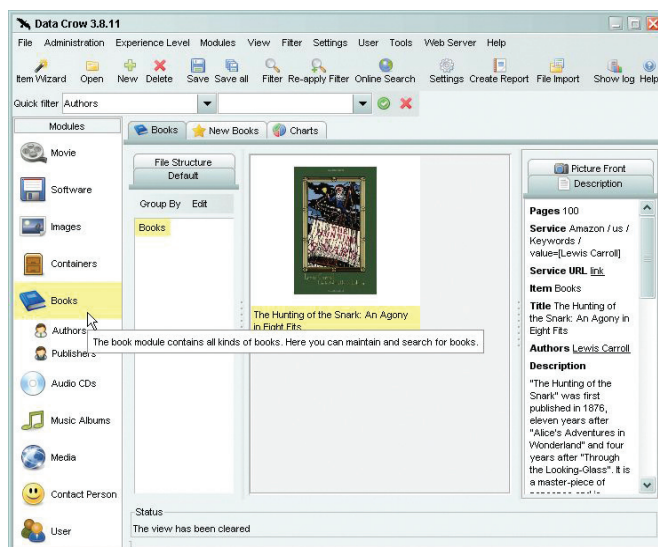


Data Crow lets you have a bird's eye view of almost everything you own

Add an item

When you install and run Data Crow, the main window appears with a list of 'modules' in a column on the left. Modules are basically folders with tags to classify different media such as audio CDs, movies, images, programs and even non-digital collections such as books, people and stamps. You can either add the information about an item manually or get it from the web. Data Crow lets you find and add details for your database directly from reliable sites like Amazon, MusicBrainz and Internet Movie Database.

To add an item, select the kind of module you want to create or add to from the icons listed on the left. The



Choose the module first

Search the web

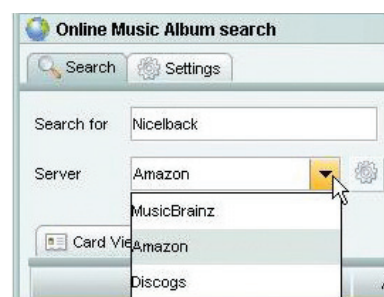
It's tedious to type innumerable details such as publishing dates and audio genres manually into the form, so Data Crow down-

can also do your online data-delving directly from the 'Online Search' in the toolbar on top. Click on the 'Online Search' button and fill in the

using the 'Item Wizard' button that has a magic wand for an icon and can be accessed from the File menu too. You could opt to search from Amazon or Barnes and Nobles (great for books) or MusicBrainz and Discogs (for music) among others. Change the server you want to access from the drop-down menu that displays options when you click on the arrow near the server tab.

Click to select any one of the results displayed and click Open for Data Crow to retrieve additional details. The results are remarkably comprehensive, giving you every little piece of information including book jacket images, list of music tracks and in-depth reviews.

If you find the item you're looking for, Close the window and click on the 'Add Item(s)' button to feed it into your module's database.



The right server gets you better results

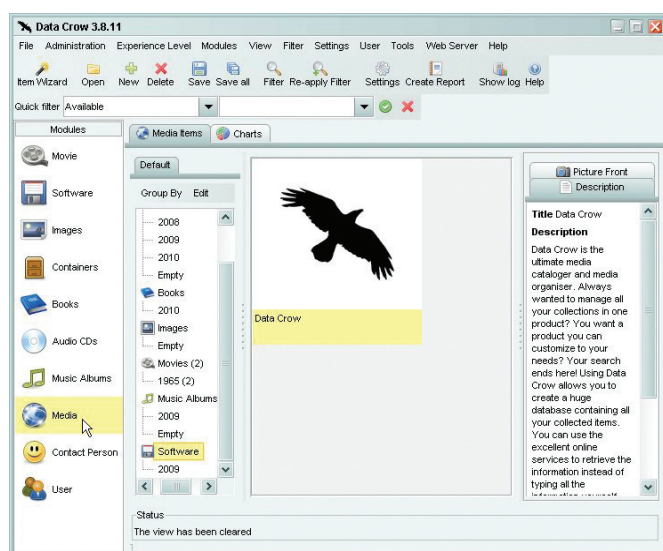
keywords you're looking for (for example, Paulo Coelho or Nickelback). Click Find and you'll get the same results as the Update function.

An even faster way to look for stuff from the web is by

Keep an account of loaned items

If you've got a really large collection of things, you might loan out items and then forget. You can keep a record of whatever has left your collection by first adding the persons name and email id (and other details if you wish) in the 'Contact Persons' module (Contact Persons > New > Name).

You can further manage these entries by dividing them



Start cataloguing

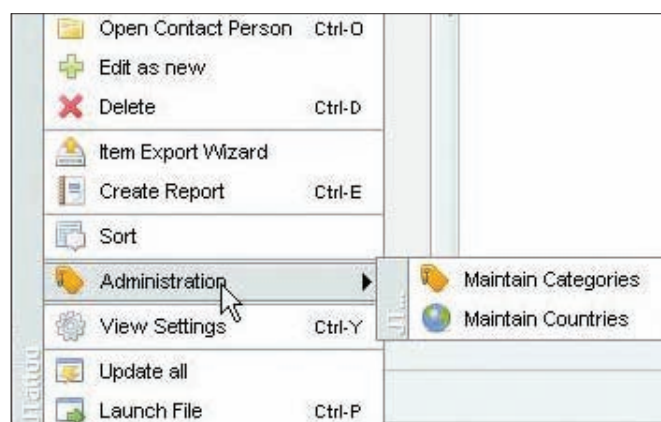
main window will display the items already existing in the module.

To add a new one, click on the 'New' button in the toolbar above (or use the familiar shortcut [Ctrl] + [N]). This opens up the Item form.

All you really need to fill in is the title but if you have more information that you feel is crucial, feel free to fill in the other field boxes provided in the form.

loads the information straight from the Internet. For example, if you want to add in the details of the latest music CD you've bought, just click on the 'Music Album' icon on the left, click 'New', fill in the name of the singer, group or album in the 'Title' field and click on 'Update' at the bottom of the window.

Automatically, the Online Search dialog box opens and displays relevant material accessed from the web. You



Classify contacts into folders

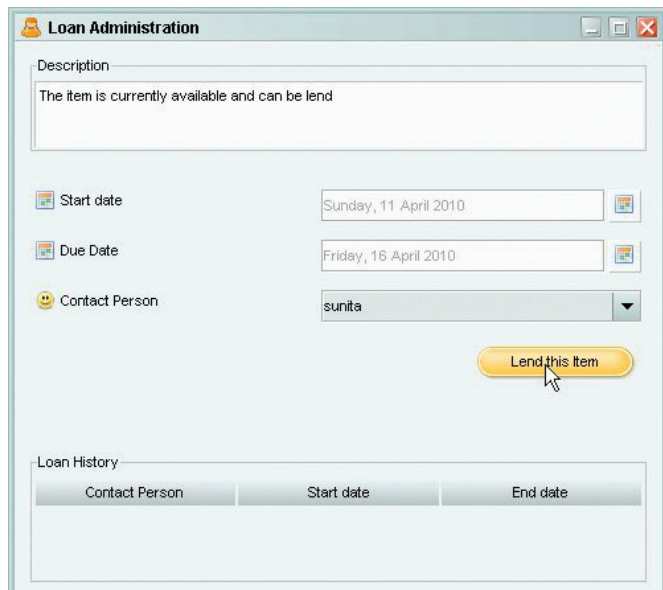


into Family and Friends categories or make new ones by right-clicking on the contact's image, and then clicking on the Maintain Categories option in the Administration menu.

Once you're done with this, just right-click on any item (audio CD, book, etc) and click

person from your contacts list in the Contact Person tab and then click on 'Lend this item'.

Now each time you click on the item, Data Crow will give you all the details about whom you've lent it to and when you should expect it back. Once the item is returned you



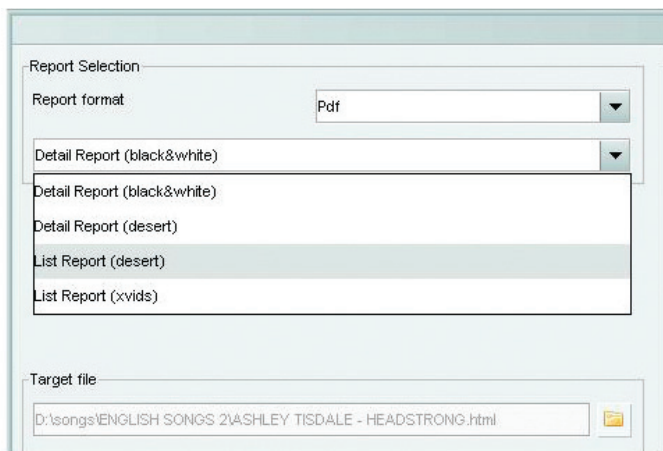
Manage your library and prevent items from getting lost

on 'Loan Administration' in the menu which appears. Data Crow will tell you whether the item is with you or out already. The start date is set by default but if you've already lent it out or planning to do so in the future, click on the calendar icon next to the 'Start date' tab and choose the date applicable. Do the same to select a due date. Pick the dates, choose the

simply need to go over the same process again, fill in the return date and click on the 'Return' button to add it back to your list of available items.

Create reports

Data Crow has a useful feature for those of us who like exchanging lists of things we've got. A report of your collection of movies, for example, can be



Format reports the way you want



Instantly summarizes your drive's data

easily generated by going to the 'Movie' module and clicking on 'Create Report' in the Tools menu (you could click on the 'Create Report' button in the toolbar or use the shortcut [Ctrl] + [E]). This will open the Create Report wizard.

You can save the report in HTML or PDF format and choose to view it in detail or as

as Windows Explorer and gets full marks for visual pleasure too. All the exciting features, however, are in the Pro version which you'll have to pay for if you want to use it for more than 15 days.

Scanning drives

At first start up, Disk Space Fan gives you an instant snapshot



Disk Space Fan is free

of all your drives, their capacity and how much space you have left on each.

But the real beauty of the interface surfaces when you scan. Choose one of your hard disk drives on

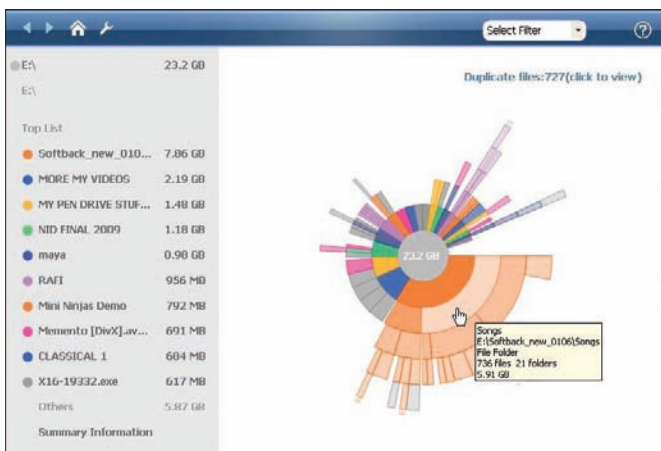
Disk Space Fan

If you find disk analysis a drag and you're fed up of the sorting through lists and columns, check out Disk Space Fan. While it looks remarkably similar to DaisyDisk for Mac OS X, it does the same job

the left by clicking on it and click on the 'Scan for details' button. The scan is remarkably fast and before long you have a summary of all the files in your drive. The summary tells you the number of temporary and duplicate files and what kind



Start scanning



Use the mouse-hover for information in brief

of files occupy the maximum space on the drive.

Close the summary window and you'll see the distribution of the data on your drive literally fanning out before you with a list of all the key files and folders on the left with details of how much memory they're using up. These are colour coded as well and if you drag the mouse over the fan you'll see the folder name displayed along with details about how many files are in the folder and the space they occupy.

As you click on different sections of the fan, it closes in to show you what the data

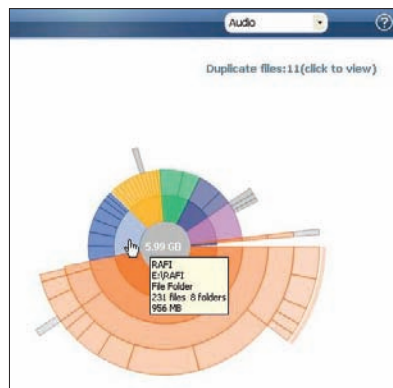
This should open up an empty tab. Click on the button next to the tab and a box opens up to let you browse and choose from the folders in your drives. Click on 'OK' and then 'Scan'.

In less than no time the contents of the folder will be displayed as a fan. Duplicate files are also traced and can be easily removed.

Using Filters

It gets easier to see exactly how much and what kind of stuff you've got loaded in the drive if you use a filter.

Disk Space Fan lets you parse the files into Audio,



Here's a bird's eye view of the audio files on the drive



Cleans up folders too

take the proper action. Take a deeper look into your folders by right clicking on any section of the fan. This will pop out a context menu which lets you open the folder, browser through its contents, check out its properties or get to its root.

Erase duplicate files

While most duplicate files are for backup, there are several that are inadvertently copied and pasted twice, downloaded several times, etc. Deleting these can free a lot of disk space and optimize computer performance.

Scan the disk you want to clean up and click on the link on the top right of the window which says 'Duplicate files: (no.) Click to View'. Choose the files you want to delete from the list of doubles that is displayed by checking their

boxes and click on the 'Delete Selected' button above. If you don't want to go through the trouble of selecting each file, let the software do it for you by clicking on the 'Auto Select' button. This will tick the doubles for you. Click on 'Delete Selected' to get rid of them forever. If you think you're going to lose precious backup files with the Auto Select feature, just click the same button again which now would have changed to 'Cancel Select' to uncheck all the boxes again.

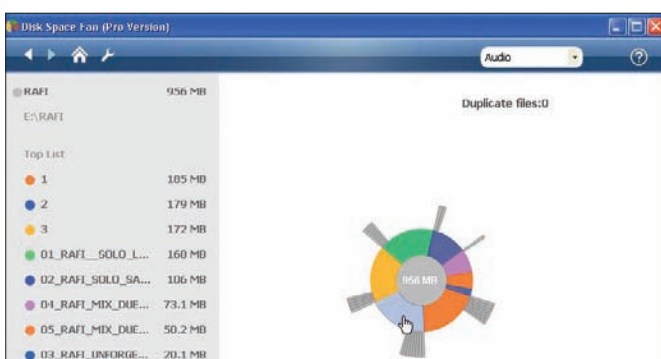
Jokosher

Most music-mixing software tends to, sooner or later, get pretty technical and inconvenient. Jokesher is a great open-source

multi-track studio which lets you edit, mix, record and export audio files with really simple commands and a good looking User Interface. You can get acquainted by first downloading it for free from <http://www.jokosher.org/>.

Start a Project

Once you open Jokosher, click on the 'Create a New Project' button. You will then be asked



View each folder as a smaller fan

distribution of that particular folder looks like, with the data summarised on the left.

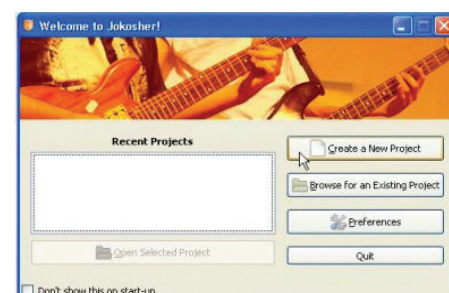
Scan Folders

Scan specific folders by clicking on the 'Scan Folder' button at the bottom of the list of drives on the left of the window.

Video, Application, Image and Document categories. Select any one of them and you'll see a smaller fan which you can survey the same way as described above. This is really handy because you get to know which kind of files take the most space and allow you to



Be a DJ



Let the music play

to



give your project a name, address and author.

Give it a title and the rest of the details and click on 'OK'. You're now all set to begin your sound-experiment.

In case, however you already have a project you'd like to tweak and spruce up, you'll probably see it in the 'Recent Projects' box on the left. Double-click on the relevant link and you can begin working on it instantly. If it's not in the box, you'll have to hunt for it using the 'Browse for an existing project' button. Open the one you choose by either double-clicking it or clicking on the button which

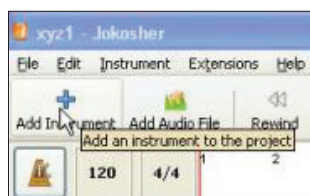


Take a shortcut to your earlier tunes

says 'Open Selected Project'. Clicking on 'OK' will reveal a blank window with a few tool-bars on top.

Adding Instruments

Instruments are presets for the Graphic Equalizer that will enable you to prioritize certain kinds of acoustics in every track or project you create. But that's a project in progress and so, as of now, 'instrument' must



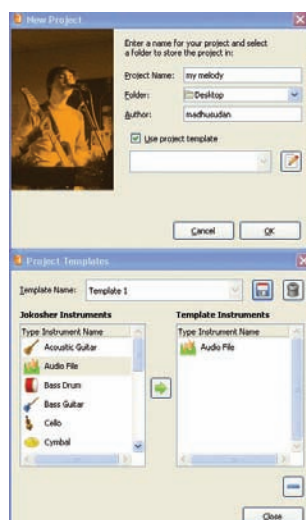
Using the toolbar is easier



Presently they're just tags for your tracks

be understood as another name for 'track'. Click on the 'Add Instrument' tab on the top left of your window. You could also access it from the File drop down menu.

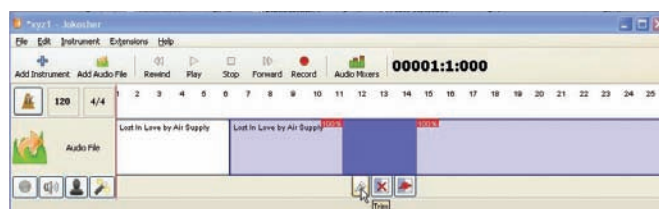
your own templates and give it your own names or titles by checking the box with the 'Use Project Template' option, and clicking on the 'Edit project templates' button next to the templates tab.



Make templates with existing instruments or add your own

Adding an Audio File

You can add an audio file from your hard disk, CD, DVD or pen drives directly into your project workspace. Click on the 'Add Audio File' tab in the toolbar or right click on the workspace of your instrument.



Keep the parts you need

This lets find and choose a file from your computer. Choose one and click on 'Open' or just double click on it and the track will be loaded into the Jokosher workspace. Loading might take a few seconds so don't lose your patience. The window doesn't have a 'Back' button but you can trace all the windows you've progressed through in the tabs displayed above.

Import Audio clips from Freesound

For this you'll have to register on Freesound first (<http://www.freesound.org/>). Freesound is the Creative Commons endeavour to collect and give access to hundreds of sound bits and bytes.

Fill in the form on the Freesound site and then click on the 'Extensions' button in the Menu bar above. Click on 'Search Freesound' and log in through the dialog box that appears.

Once you're on the Freesound site you have hundreds of sound clips to choose from which you can import and add to your current project.

Editing Tracks

You could either import an audio track as above or record it from an external input. Once that's done Jokosher allows you to edit it using purely visual cues.

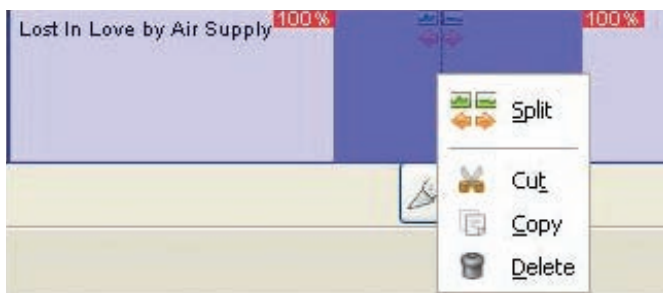
You can split a track into two blocks by double-clicking with the mouse at the point you wish to put a break in the track. This will split the track into two blocks, both of which you can juggle around by clicking, dragging and dropping as you please.



Heading for a split

You can select any part of the track by holding down the 'Shift' key and dragging the mouse over the audio block. Selection will reveal the 'Trim' button below. Click on it to delete everything in that block except the part of the tune you've selected.

You can even cut, copy and paste selected portions of the track in the usual way. Right click on the selected portion for the context menu for the editing



Remix your tracks

options or from the 'Edit' tab on the top. You can remove the parts you wish and replace them elsewhere, or copy and repeat them in the same track.

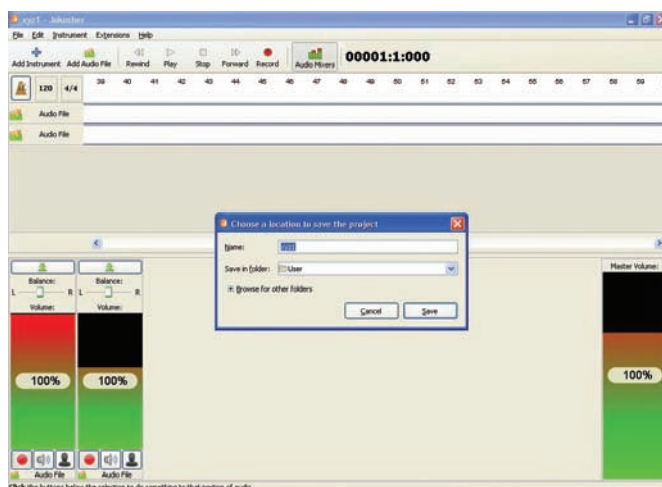
You could also check and alter the volume levels of each track you're attempting to mix in a single project. Click on the 'Audio Mixers' button next to the 'Recording' one on top and you'll see the volume levels of the tracks on the left and the Master Volume on the right. Make changes with the buttons provided at the bottom of the display for each instrument. The 'Mute' button silences the instrument it displays, while the 'Activate Solo' option puts all the others into 'Mute'. Use the mouse to click and drag the volume indicator towards left or right.

Saving your project

Click on File>Save As and a dialog box will appear. Give your project a name, choose the destination folder and click on 'Save'. You can now access and add to your track safely, whenever you wish.

Another way to secure your project is the Mixdown option in the 'File' menu which lets you export your project to an existing audio file on your computer or elsewhere. Con-

figure it by clicking on the 'Settings' button (bottom right) above the 'Mixdown' button and fill in the filename and location you want to export it to. Click on 'OK' and you're done.



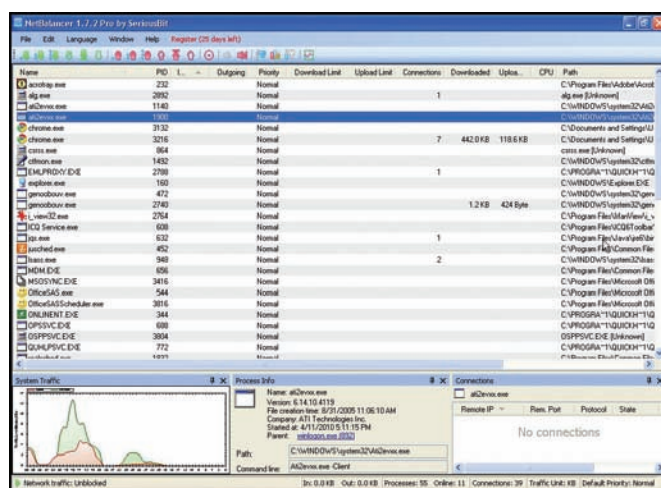
Save it the usual way

NetBalancer

When you're online, you sometimes have several applications working simultaneously. Often (when you're downloading torrents, for example) you may have found yourself wondering why the process was so slow or if your broadband was "broad" enough. Enter NetBalancer, an internet traffic controlling tool for Windows, which lets you prioritise applications as you deem necessary and monitor

Set upload/download priority

Fed up of waiting for that YouTube video to download? Just give it the highest priority among all your applications and watch it get saved in a trice. Open the NetBalancer interface, right-click on the application you're using (your web browser, for example) and set the download priority (in green) to 'high'. If you want to upload a heavy file, right click on the app and set the upload priority (in red) to 'High'.



Keep an eye on the traffic

all the traffic between your PC and the web. You can download NetBalancer for free, but the Pro version is only free for a month and you have to pay for it if you wish to use it any further.

You can also set the priority of a particular application by selecting it and then clicking on the appropriate arrow in the toolbar above.

NetBalancer allows you to let set the priority of an application to 'Normal', 'low' or 'high' so if there's an application that's working on text, for example, you could set it to 'low' because it's not going to use up much bandwidth anyway. You can confirm the change in priority by checking if the status has changed in the 'Priority' column.



Use the buttons as shortcuts to set priority



chrome.exe	1256	Normal
chrome.exe	3216	Normal
csrss.exe	864	Normal
ctfmon.exe	1492	Normal
EMLPROXY.EXE	2788	Normal
explorer.exe	160	Normal
firefox.exe	720	High/N...
genocobuv.exe	472	Blocked...
genocobuv.exe	2740	Blocked...

Check if the priority has been changed

Edit Level Severity

You might be wondering what exactly 'High', 'Low' and 'Normal' refer to. To put it simply, they are just labels for different proportions of allotment of bandwidth to particular processes. You can change these according to your requirements by clicking on the 'Level Severity' icon in the toolbar above or choosing the same from the 'Edit' menu.



Set the parameters

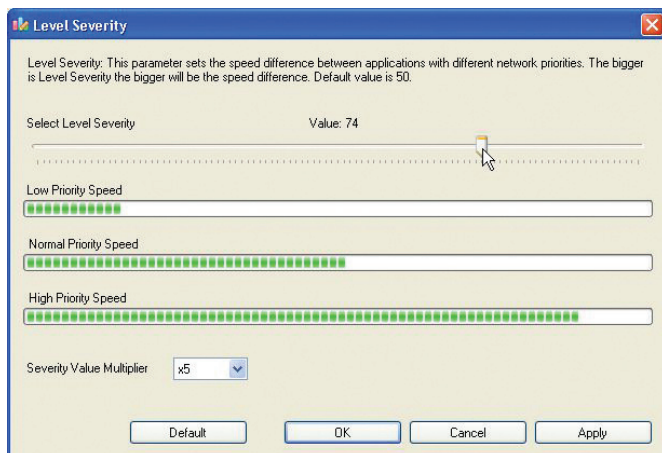
This will open the 'Level Severity' window. There are two major changes you could make here. First, you could change the value of the severity. If you want to allot the maximum space to 'High' and virtually none 'Low', increase the value level to your heart's content. Click and drag the knob under the head 'Select Level Severity'. The value is set, by default,

at 50. As you increase the value, you'll see the Low Priority speed decreasing and the 'High' increasing. This indicates that if you set a particular application to 'High', it's going to hog the bandwidth till you change the settings again. This would significantly hamper working with simultaneous apps so we suggest that you keep the value at fifty or sixty unless you have some really urgent downloading/uploading to do.

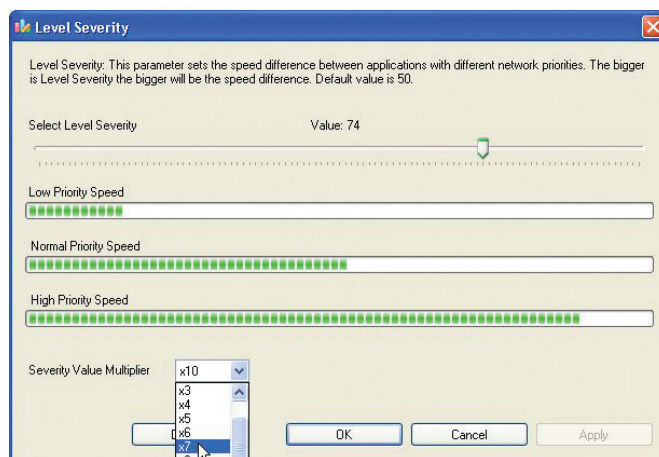
Don't forget to click on the 'Apply' button to incorporate the new values, and then on 'OK' to shut the window.

NetBalancer also lets you alter the Severity by manipulating the Severity Value Multiplier. You can change this in multiples of one to ten.

If you don't think the changes have made any difference, you could always revert back to default settings by clicking once on the button that looks like a bulls-eye in the toolbar above or click on the



Make 'High' mean 'Higher'



Multiply the relative allotment of bandwidth

'Default' button in the Level Severity dialog box.

Limit and Block

With NetBalancer, you can set limits to the speed of certain applications. Click on the half-coloured arrow (green for down-

toolbar. To block individual applications from uploading or downloading data, click on the (green or red) arrow in the toolbar that is marked with a dash in front of it.

This is really useful if you find certain applications which



Return to original settings



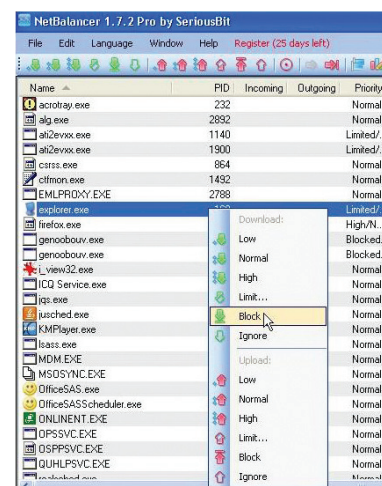
Police the speed limits

loads, red for uploads) in the toolbar above.

Once you click on any one of the above and increase or decrease the speed value in the dialog box that appears using the down and up arrows next to the tab. If you want to limit the speed to a value other than multiples of ten, simply select the value in the tab and type in the one you want.

Click on OK and the Priority status immediately changes to 'Limited'. Please note that this will not affect any of the above speed limits or severity values for other processes.

If you wish to block all traffic, click on the 'Block all network traffic' button in the



Prevent activity of suspicious applications

shouldn't be uploading anything at all suddenly display rising upload levels.

You could right click an application and choose 'Block' for the same results. **d**

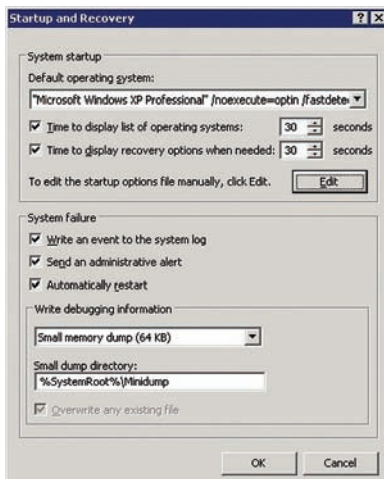
"Don't play stupid with me, I'm better at it"

Mocking viruses, erratic drivers and failing drive problems solved this month


Two instances of Windows XP!

One of my friends had this same problem. He got the same Windows file error message. He inserted the Windows XP SP2 bootable CD and in spite of using the repair option, it installed Windows all over again on the C partition. Now, there are two Windows installations on the same drive and it shows a multiple boot option at start up. How do I remove the newly installed Windows and restore my old Windows XP SP2? Both Windows installations were done from the same disc.

Ankur Gupta



Removing entries of installed Windows operating systems from the boot loader

 You can't uninstall or remove Windows like you would with any other application. If you had two Windows installations on two


partitions or drives, you could have simply formatted the drive from the other OS. The entries for the boot loader can be changed by going to the System properties menu, then clicking on Advanced system properties. Look under the Startup section. You should be able to edit out the extra entries there. Deleting folders can be confusing and risky so do it carefully.

Display driver hiccups

I use a XFX GeForce 9600GT 1 GB DDR3. Lately, when I was playing Race Driver GRID, an error message appeared showing that my display driver stopped working. This happened over and over again, and I was wondering if it was an issue related to my graphic card.

I'm using an Intel Core 2 Quad Q8400 2.66GHz, 4 GB RAM, Intel Desktop Board DG43GT. I'm not sure how good the motherboard is because my brother chose it. I was wondering if this was a good setup for playing upcoming games. If not, could you recommend me something for a better system?

Emil Mathew

 The display driver failing is random at times. It could be bugs in the driver or faults



NVIDIA Display driver stops responding at times while playing games

with the card itself. Try reinstalling the display drivers. Your system is good enough for most recent games. The processor is pretty powerful as well, so only a graphics card would be required. I suggest a GeForce GTX 260 or a Radeon 5850 depending on your budget.


Laptop display issue

I have an HCL LX INFINITI POWERLITE 9200GL laptop. I have been facing problems for the past two months. It has been working fine but after running for 15 to 20 minutes, its display suddenly starts flickering and some horizontal lines appear. I can't continue using the laptop after that. I restart my laptop and then again after 15 to 20 minutes the problem returns. I have re-assembled all the components. I changed the display cable, checked for FM Invertor also, but the problem hasn't gone away. My laptop adapter burnt out, so I have been using another one rated at a lower voltage.

Is it a problem of the VGA chip? What will be the cost of the same motherboard or

any compatible one? Can it be a problem of adaptor?


Abhinandan

 You should contact HCL for a new power adapter instead of using some random low voltage one just to make sure everything is running fine. The boards used on laptops are not available for sale in the market, so the price of the board isn't easy to find out. The VGA component could be a problem but that's something you can only be sure once you replace the power adapter. We suggest you take the laptop to the HCL service centre to have it looked at.

Game won't run

After installing Soldier Front provided on Digit's DVD, I can't launch it. When I try, to launch, an error message appears saying "cannot run multiple instances of soldier front (2)". What is the problem? Please let me know how I can fix the problem? Does the game need an internet connection to run?

Susanta

 The reason you're getting that error because the same

Intel does an iStore

Intel launches Appup Center, an online app portal for Atom based devices

OpenGL returns

ATI launches OpenGL 4.0 support in latest preview drivers

game has run multiple times in the last few minutes. Make sure you only run the game once. It's an online game, so you should be connected to the internet at all times.

“Don't play stupid with me, I'm better at it”

I have been using an Intel Pentium 4 3.06 GHz powered computer with an 80GB HDD, 1.25GB RAM and an on-board graphics card. I got it from a HP dealer five years back with only one partition.

I've been having this problem from the past 6 months. Every time I switch on my computer I get the normal boot screen, then the Windows XP logo. After that just before getting the screen where I choose the user accounts, I get a small window (The title of the window is 'Windows!'). The window says - "Don't play stupid with me I'm better at it" !! The screen vanishes only after I click the OK button below the message. Till I click OK I cannot choose the user accounts.

After I click the user account, the desktop appears but with another window titled - "VBS Script Host Settings". Here I usually I click CANCEL, instead of OK or APPLY. And just after the "VBS Script Host Settings" window opens, the My Documents window automatically opens up. Also, my computer name and registration changes to "Deepak CSE MSRT". But I am able to change it back. Yet my start up problem still exists. I use Avast 4.8 antivirus and regularly update it. It does not detect any virus as such. I'm not able to figure out why this is happening.

Zac V

! The problems that show up VBS scripts in Windows suggest that it's definitely some kind of worm or virus. The only way out is to try some other antivirus/antispyware programs such as Ad Aware (<http://www.lavasoft.com/index.php>).

Is my PC Windows 7 ready?

My configuration is Intel Core 2 Duo 2.8 GHz, Gigabyte S series Motherboard, Samsung 160GB SATA drive, UMAX 1 GB RAM, 18.5-inch AOC LCD monitor, Microsoft keyboard and mouse. I wanted to know if my system is well built for Windows 7 and if I need to upgrade any of the components?

Sangeeta Chakravorty

! Your system is fine for Windows 7. We recommend using it on 2 GB of RAM. We've even seen Windows 7 running just about okay on 512MB of RAM.

Game installations slow

I have a branded PC (HP A6440in). The configuration is as follows:

Processor: Intel Core 2 Duo @2.40 GHz
RAM: 2 GB
Graphics: Integrated NVIDIA GeForce 7100
OS: Windows Vista Home Basic SP2
Monitor: HP w1907
Power supply: 250W

Many games run very slow. Some games also take a lot of time to launch or to install - mainly those which have large installer sizes - up to a GB. System start up is also very slow and sometimes it says that some programs are not responding or have stopped working. What is the reason

behind this? Please help me. Do I need to upgrade the whole system? Also, please suggest a graphics card which can handle the latest games like Left 4 Dead 2 and lots more. My total budget is Rs. 10,000.

Gaurav Das

! Most game demo installers are huge archives. They need to be extracted by the installer into a temporary folder on the local drive before the actual installation itself, so game demos in general do take quite some time to start.

If the system itself is slow, it could be due to a number of reasons. Start by checking for worms and viruses. Upgrade all the drivers and defrag your disk as well.

If you want a graphics card, look out for a Radeon 4850. It should be around Rs. 7,500. It should run games

and D and another WD 320 GB hard disk with a single G partition. I am in trouble because all my games are stored in that disk and Windows is not able to detect it. Earlier I got messages like "Delayed write error", when I was wanted to play HALO 2 and data in some folders seemed to be deleted, now I am not even able to see the icon to access the drive! I also had some keyboard detection problem before. What do you think is causing the problem?

Can you suggest a good 1GB graphics card to play good games in high resolution within Rs. 6,500?

Himankan Kashyap Guwahati

! The delayed write errors could be signs of a failing hard drive. If the drive shows up in the CMOS, then you could possibly be able to recover the



Delayed write errors on Windows could be caused by a bad drive

such as Left 4 Dead 2 just fine. If you're spending Rs. 10,000 on a card, it is also recommended that you go in for a major processor and motherboard upgrade first.

Hard drive problems

I have a PC running on Intel Pentium 4 2.66 GHz Processor, a Foxconn motherboard, 2 sticks of 1 GB RAM, and a NVIDIA GeForce FX 5200 graphics card. I have two hard disks - Seagate ST340014A 40 GB which has two partitions: Local Disks C

data using software. Check for loose connections or damaged cables connecting the hard drive to the motherboard. The keyboard detection problems have nothing to do with the hard drive. I would suggest going in for a system overhaul instead of just a graphics card upgrade. Most recent games need a good CPU otherwise you would be limiting the performance of the card by a lot. If you do upgrade, I recommend a Radeon 4770 or a Radeon 5670 for that price range.

Android 2.2

Google already testing Android 2.2, rumoured release date is May 19th

HD playback problems

I have a strange problem. I'm unable to play high-definition video content on my Windows 7 system, though low resolution videos are working fine. I already use KMPlayer, VLC and Media Player with K-lite codec but all in vain. Whenever I am trying to play a high resolution video file, there's an audio mismatch. That is, audio is going at normal speed but video moves a little slower. I have a 1.8GHz Athlon Processor, 1 GB RAM, MSI motherboard and VIA graphics driver installed.

sumangh01 from Thinkdigit Forum

If it's working in Windows XP, then it should work in Windows 7 also. Maybe Windows 7 takes lot of memory compared to Windows XP and you only have 1 GB of RAM! That's the minimum configuration of Windows 7, try adding 1 GB of RAM more or shifting back to Windows XP.

khmadhu from Thinkdigit Forum

Missing drive space

I recently formatted and reinstalled Windows XP on my PC. I find that each time my hard disk shows 3 GB of space missing. Where is this missing space going and how can I recover this space. Please suggest a software for this.

harshit099 from Thinkdigit Forum

It is true that you will not find 80 GB in an 80 GB HDD, because computers use 1024 for conversion of sizes

1 TB=1024 GB

1 GB=1024 MB

And so on...

The conversion calculation is done using 1000 as multiplier

According to them,

1TB=1000GB

1GB=1000MB and so on...

So in your case, you have got 80GB HDD.

$80 \times 1000 \times 1000 \times 1000$ bytes = 80000000000 bytes (manufacturing method)

In reality, you have

$(80000000000 /$

$(1024 \times 1024 \times 1024))$

$= 80000000000 / 1073741$

$824 = 74.50580$ GB

Hope my calculations are correct

CA50 from Thinkdigit Forum

Clean software removal

After uninstalling any software from Add/Remove Programs, I notice that there are still some files associated with that software left in the system.

Is there any way by which I can completely remove the files associated with software that I uninstall from my system.

bajaj151 from Thinkdigit Forum

Revo Uninstaller fits the bill. It sometimes manages to erase traces of the registry bomb, removes all hints of trial software from the PC, allowing you to reinstall it again and again. Perfect for maintenance of PC as it cleans the registry completely too.

Usually you need to hunt down leftover file manually. But the Revo Uninstaller removes those leftover files and leaves almost no traces. **d**

Thewisecrab from Thinkdigit Forum

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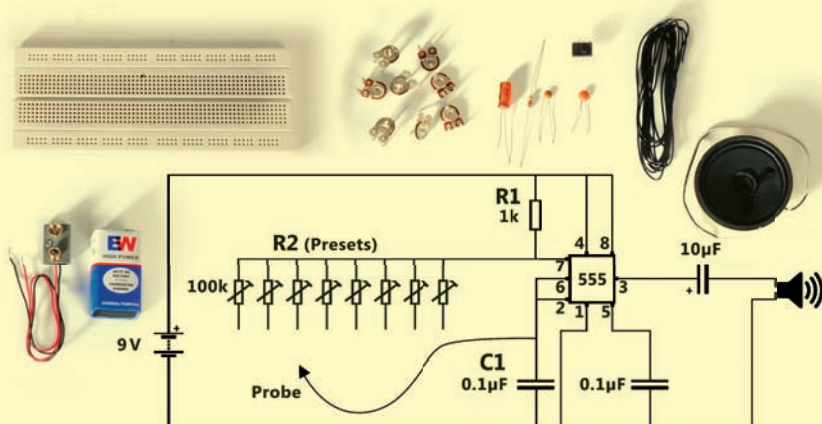
Don't throw away old hardware and accessories. We'll show you how to put them to better use with exciting projects. Stay tuned

Got ideas? Get featured!

Demonstrate exciting DIY ideas at our office and get a chance to be featured in Digit. Email us your ideas now

Make some melody

Although playing a piano can be fun (even if you don't know music), nothing comes close to the joy of playing a piano you built yourself!



Nash David

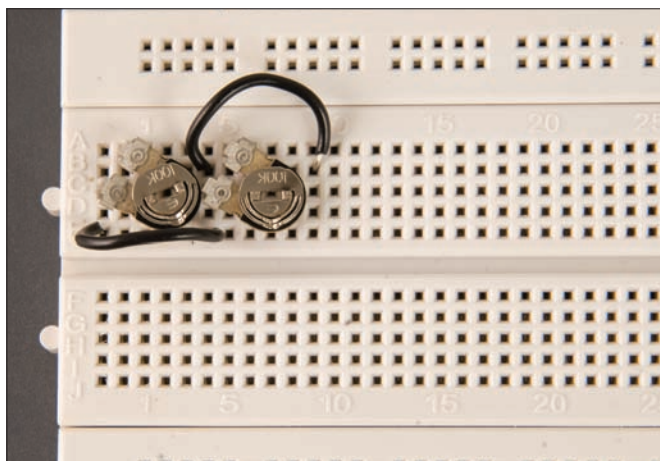
nash.david@thinkdigit.com

A piano is an old instrument that uses keys to cause hammers to strike tuned strings. Today the term piano is popularly used (rather ignorantly) for most musical instruments with keys on them! The ideal term would be synthesizer because what they primarily do is synthesize or recreate the sound of a musical instrument electronically.

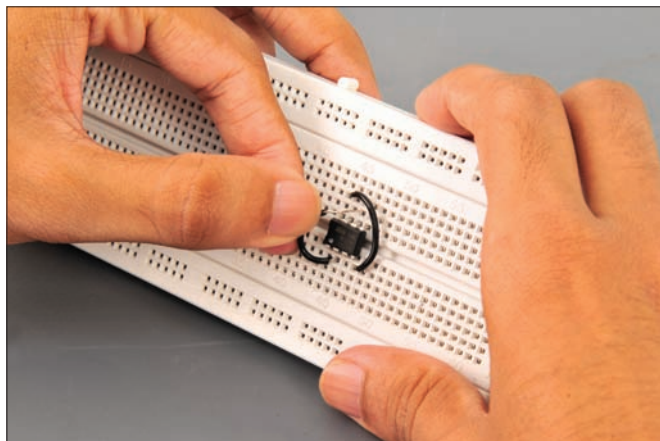
In order to understand how a basic synthesizer works, we need to understand what goes behind it. Music to be precise. Those sheets musicians read from while performing are made up of octaves or combi-

nations of 8 basic notes from A to G. Depending upon the medium of music, be it Western or Indian, they are expressed as Do, Re, Me, Fa, So, La, Ti and Do; or Sa, Re, Ga, Ma, Pa, Dha, Ni, and Sa. Essentially, these have distinct frequencies, and all instruments are tuned

according to a tuner emitting the specific frequencies. In order to create our basic single-tone, single-octave synthesizer, we'll require the frequencies in a single octave. Considering note A as the base, the rest follow an increase and decrease in frequencies with respect to A.



Each preset will decide the pitch and note of the octave



The pin near the notch is pin 1. Here pin 4 (bottom right) is connected to pin 8, and pin 2 is being connected to pin 6

What you need

IC 555, 9V battery, preset 100k – 8 nos, 0.1 uF ceramic capacitors – 2 nos, 1k resistor – 1 no., 10 uF electrolytic capacitor – 1 no, speaker – 1 no, connecting wire, bread board – 1 no., multimeter 9V battery snap – 1 no, tiny screwdriver for tuning frequencies.

Once you are able to generate these frequencies, you have a functional synthesizer. Our “pocket piano” as we'll call it, is based on a 555 timer IC. This is a really cheap and multi-functional chip used in timer and counting circuitries.

The configuration of the circuit is called an astable multivibrator. Such a circuit does not need any input trigger, but rather oscillates into desired frequency depending upon the

How to use a breadboard

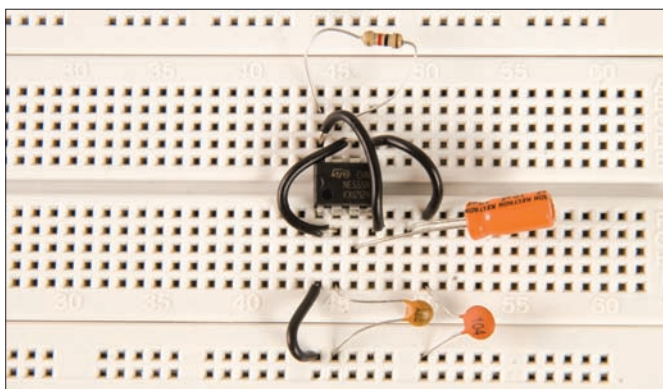
In a typical breadboard as shown in the image, the grid in the middle is connected vertically in sets of 5 holes each. Similarly, the grid on the top and bottom of the breadboard is connected horizontally. If you have to connect ICs where there are multiple pins that should be connected together, use the gap in the middle of the breadboard. This way the pins on either side are isolated. Using connecting wires you can make the required connections.

Key	Notation	Hz
63	B5	987.77
61	A5	880
59	G5	783.99
57	F5	698.46
56	E5	659.26
54	D5	587.33
52	C5	523.25
51	B4	493.88
49	A4 concert pitch	440
47	G4	392
45	F4	349.23
44	E4	329.63
42	D4	293.67
40	C4	261.63

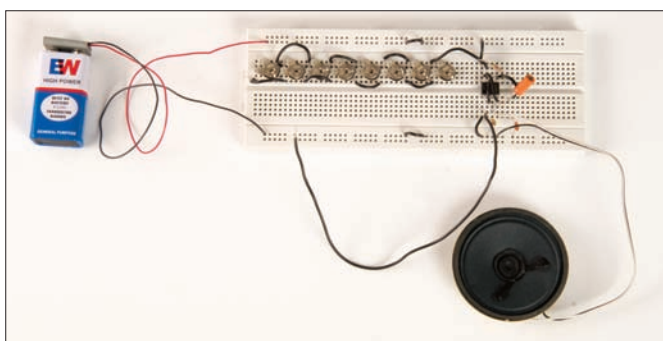
The notes differ in frequencies and these sets are replicated for additional octaves

Stay tuned

Exciting projects coming your way next month in our anniversary special



You're nearly done. You need to connect the probe from pin 7 to the presets



The complete piano. Preset arranged on the left. The long black wire serves as your probe. Touching them to the end of each preset plays a note from the speaker

resistor-capacitor combination. In the pocket piano, the resistors that are needed for calculations are $R1 = 1k$, $R2 = 100k$ preset and $C = 0.1 \mu F$.

The formula to calculate the frequency is $F = 1.44 / ((R1 + 2R2) * C1)$. The values of resistors are in Ohms and capacitors are in Farads. Effectively, the note with the lowest frequency is $C4$ (262 Hz). To

check the resistance values and then tune the presets till you get the required resistance values.

Once you've got the correct values, you can assemble the circuitry together. Preferably use soft push-to-on switches to get a feel of a piano.

Connect the speaker between pin 3 and ground (negative terminal of the battery). In order to get the desired


C#	Eb		F#	G#	Bb		C# 1	Eb 1		F# 1	G# 1	Bb 1		
C	D	E	F	G	A	B	C1	D1	E1	F1	G1	A1	B1	C2

You can arrange the keys as shown here. To repeat the second octave, use the frequencies for $C5$ to $B5$ from the accompanying table

calculate the value of resistance to which you need to set the preset, use the formula

$$R2 = (1.44 / FC1) - R1 / 2$$

Using this formula, you'll arrive at approximately 21k for 330Hz, 20k for 349Hz and so on. Using a multimeter,

tone, touch the probe connected to pin 2 and 6 to the preset. Connect pin 1 to ground and pins 4 and 8 to the positive terminal of battery. If you have connected the circuitry correctly, you should hear the notes distinctly. 



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Just push pause?

Airtel's digital TV recorder vs. Tata Sky+. Let the war of the remotes begin

Robert Sovereign-Smith
editor@thinkdigit.com

I'd been searching for a local version of TIVO for years, and when Tata Sky launched their Tata Sky+ service some time last year, I was one of the first to hop on to the bandwagon. With work, travelling and World War 2.5 beta being fought in my living room over who controlled the remote, I rarely got a chance to put on my Manchester United jersey, dig into a bowl of chips and scream "Foul! Penalty! Arrrgh, you blind oaf of a referee...", at my TV, whilst sloshing cola all over the floor. Much to my terrified pet cat's chagrin, this happens all too often now. Anyone know a good cat whisperer?

As wonderful as owning a Digital Video Recorder was, the fact that it was a one horse race made me uncomfortable. Not that I had complaints with the service, but competition is always good for the consumer, and encourages price drops, better service and all-round cheer.

De-bunking the jargon

One simple rule. Ignore it all. Digital signals are digital signals. They're better than analogue and that's it, nothing more. Although you'll hear claims of "superior" technologies, and have jargon thrown in your face about satellite technologies such as DVB-S and DVB-S2, the fact of the matter is it's all pretty much DVD resolution and not HD – except if you opt for HD channels

such as Discovery HD on a service such as Sun's HD DTH service.

I'm going to focus mainly on the DVR capabilities, because if you're just thinking of shifting over to DTH, you're reading the wrong article.

Interface and remotes

Considering that a DVR device is something that everyone in the family is going to use, the ease of use of the interface and remote is pretty important.

Airtel's remote is decently ergonomic to hold, but the button layout leaves a lot to be desired. Tata Sky's remote, on the other hand, seems like a much better thought out and put together implementation – serial channel surfers will like it. Perhaps it's the Sky moniker adding experience and good design sensibilities to the mix, because this round clearly goes to Tata Sky. Button layouts aside, the fact that you can program Airtel's remote to control basic functionalities of your TV, and thus act as a universal remote, shifts the advantage straight back to Airtel.

Coming to the actual user interfaces, Airtel's interface is snazzy-looking with white text on black backgrounds, and the theme's supposed to be changeable, but I couldn't get that to work – early days yet. Tata Sky's theme is a cool blue and white, and perhaps a little easier on the eye than Airtel's default. Although

both have very straightforward menus, Airtel's is a little more nested, and requires a click or two more for some operations. Everything's easy to find though, but something tells me grandma would prefer Tata Sky+'s interface. For most of us though, it's really a no-brainer after about 30 minutes of clicking and exploring the menus. So basically a tie in



Airtel digital TV Recorder

this aspect, with Tata Sky+ just nosing ahead if you're the type to shake a fist at all the confounded, new-fangled gadgets around you.

Connectivity

Airtel wins hands down here, because it's just nice to see an HDMI connector on a device that's mostly going to be used with HDTVs. Although it may only reduce cable clutter, and not really offer any significant picture improvements, since neither is offering anything near HD quality video, I still think cable clutter's reason enough to have an HDMI-out.

Channel surfing

This is an important aspect to the whole DTH and DVR phenomenon. Both offerings have easy to use scan menus that tell you what's on the other channels, without actually changing the channel. What this means is that you can record that *Saas-Bahu* serial without missing a second of your cricket match. When you change to a new channel, the Airtel box lags a bit more before displaying the channel. Not a big deal if you just go to the next channel, but can become irritating quickly when you're channel surfing. Tata Sky+ wins here.

Pause, record, etc.

Here's what you're buying a DVR for in the first place, so read carefully. On both offerings, you can set a 90 minute buffer, which means that if you haven't changed the channel, and are watching a channel, you will be able to pause or rewind live programming up to 90 minutes earlier. Of course, every time you change a channel, this buffer starts filling from scratch, so this is only useful when you've been watching a particular channel for a long period.

When recording, Airtel can be set to record a maximum of 20 minutes before and after the program ends; Tata Sky offers up to 30 minutes.



We've compared satellite services previously:
www.thinkdigit.com/d/dth_services

78 Free flowing goodness

Exciting HD media players tested this month. Sit back and enjoy!

84 Desktop PCs

Promising desktops from well known brands tested this month. Take your pick from this month's test

Feature



Twenty minutes is more than enough for 99 per cent of the programs you'd ever watch, but every now and then, with soccer finals going into extra time, it's better to have more of a buffer. However, the higher this setting, the lower the total number of programs you can record. I recommend that you set this to 5 minutes, and to ensure that you record special events fully, just record the next program as well – works well for me.

If there's one particular function of Tata Sky+ that's given me nightmares, it's the Series Link function. The theory's simple. If you like a particular program, Series Link it, and it's automatically recorded every time it's aired. However, with Tata Sky+, sometimes the option just automatically appears, but most times it's just impossible to find.

With Airtel, this option is easily accessible, and easy to set, but in

no way can I say that Airtel has got this right. For example, I series linked Friends, and when I tried to change the channel to watch some sports, it promptly told me I could not, because two channels were already being recorded – Zee Café and WB. “When did I tell it to record WB?” I thought. Flicking over to WB I found my answer. Airtel was trying to record all programs called “Friends” on all channels. Hardly what I'd call a satisfactory solution, but still a lot better than my Tata Sky+ experience.

Favourites

Although this is a feature that's not really limited to only the DVR boxes, I have to mention the implementation of Airtel's Favourites feature. Whilst Tata Sky offers up to 20 channels to be set as favourites, Airtel has four sets of 15 favourites each. This is well thought out, because consid-

ering the average family to have four people, this means that each of the four can set their favourites. However, as I mentioned before, you have to go through a few more clicks to get there in Airtel than in

Tata Sky, which has a dedicated button that directly takes you to the first channel in your Favourites list. One additional feature that Airtel offers here is Most Viewed, which lists the channels you've spent most of your time watching. Clearly, Airtel wins in this regard.

Not that it happens very often, but if you want to reset your favourites list, Tata Sky users will find this easier, as it has a delete all favourites function – while Airtel needs you to de-select each channel individually from the long list of channels in the guide.

Other cool stuff

Apart from all of the above, both service providers come with some really cool features that you should know about. Airtel launched with a feature called Mobile Recording, which allows you to download a little app to your mobile that will let you instruct your STB to

record a program, from literally anywhere in the world! Now this was a really cool feature that set Airtel's offering apart, but as I was typing this article out, Tata Sky announced that by end of April, all subscribers to its DVR service will be able to instruct their STBs to record any program from their mobiles, or any internet connected devices. Ah, the joys of being a consumer in a hotly contested market!

Another feature that's emerging is Video on Demand services, which thus far consisted of you watching movies that are played at certain time slots, for a fee. Now, thanks to competition kicking in, we will be able to get movies, documentaries and episodes of popular serials, anytime we want them.

One Airtel-only feature is Widgets. You get cricket updates, stock reports, weather in your city, and more, all displayed in a small box on your screen. What this does is, for example, help you keep track of a cricket score while watching another program, without ever changing the channel.

Decisions, decisions

The bottom line of this article is supposed to help you decide which to buy. Honestly, if you're subscribing to one of these providers already, there's no real value in switching. Like the mobile provider wars, this segment is all set to get crowded, which will mean more features, more entertainment, and at cheaper prices. The battle's only just beginning.

If you arm-twisted me into making a decision, I'd have to choose Airtel, but only because Tata Sky's response, although announced, hasn't been implemented yet, and as it stands at the end of April 2010, Airtel's digital TV Recorder offers more features for hardly anything more in terms of price. **A**

At a glance		
	Airtel digital TV Recorder	Tata Sky+
Price		
	For new subscribers	Rs. 6,990
	For existing subscribers	Rs. 6,990 + Rs. 1,000 credited to account
Hard drive capacity, recording hrs	160 GB, 100 hours	160 GB, ~100 hours
Connectors	HDMI, Component, SPDIF, Ethernet, Audio/video out, 2 x USB	Component, SPDIF, Ethernet, Audio/video out, 2 x USB
Positives	Feature packed	Easy to use interface
	Mobile recording	Fast channel surfing
	Easy to series link	Easy to set and delete favourites
	15 x 4 favourites	Soon to offer Mobile and Internet activated recording, true video on demand
	HDMI output	
Negatives	STB hangs occasionally, and	Series linking feature works erratically
	Widgets don't work sometimes	Lacks features
	Series link records from multiple channels	Only 20 favourites
	Interface needs more clicks	No HDMI
	Channel surfing is slow	

Intel on a roll

Intel has a stunning first quarter and spoke about "Sandy Bridge" and "Tunnel Creek". Samples of Sandy Bridge have also started to ship



Apple of Dell's eye

A few photos of Dells new iPad look-alike have leaked, it's Android powered

...SNEAK PEEK...

Apple iPad

A touch-feel first look

While not officially available yet, Digit got its excited little paws on the Apple iPad a while back. The thoughts that ran through our head when we first laid eyes upon it were: (1) wow, (2) it's smaller than we thought, and finally, (3) it's heavier than we would like it to be. The Apple iPad is about 200gm too heavy for most postures which do not involve assisted support of the device and does not make for a comfortable viewing experience over an extended period of time.

If the weight brings a tiny frown to your face, the iPad's screen will turn it upside down and split it ear to ear. The Apple iPad's IPS display is a real winner with an amazing viewing angle and capacitive multitouch support. It turns the iPad into a new window to traditional content such as websites, e-books, comics, photos, maps, etc. The iPad experience can be summed up with the word "immediate". Everything is literally at your fingertips, and almost every content on screen is willing to be manipulated by said fingertips – your first few minutes with the iPad will be spent tapping, twisting, stretching, zooming, and flipping through content, with a giggle or two on your lips. It truly is a fresh way to discover old content.

As an internet device

While Safari is capable enough, the browser is let-down by the 256MB of RAM in the iPad. You won't be able to browse certain forums or sites, especially those with lots of images, or worse - GIFs. The browser might stall and fail to completely load such pages. Safari also doesn't render some sites as it should - but these are few and far in-between. However, since Apple refuses to support Flash, some sites will simply not work. You thus can't access the entire Internet on the iPad. Hopefully, the industry will sort this mess out and we can move forward without leaving our favourite sites behind.

don't live in that parallel universe, we can't have both (yet). The issue? Depending on your eyes, you might not be able to handle long periods of reading on the Apple iPad's screen due to its backlit nature. The iPad's dpi is also not as high as the iPhone's so the fonts rendered aren't as sharp as the iPhone's.

As a comic book reader

The screen is just a tad smaller than ideal. About 2-inches more and it would make a

prepare to rip them; ditto for Blu-rays. If you have movies from other sources, then consider buying Air Video – an excellent application that transcodes everything that isn't tied down by DRM. It does the transcoding on-the-fly, over-the-air and streams it to your Apple iPad. It also handles off-line transcoding and queues. Bottom line: if you have a lot of videos, Air Video will be the best \$3 you will spend on the Apple iPad.

As a gaming console

The Apple iPad is currently the most powerful handheld console. So what's the issue? Controls: A lack of any physical keys will invariably dampen your experience with more traditional games and genres. Over time, you could grow accustomed to on-screen d-pads and thumbsticks and what-nots; especially for slower genres such as RPG and strategy. But your mileage may vary. If you can overcome that hurdle – the games are excellent on this platform. In many ways, the Apple iPad is the true indie platform. You will often come across a gem that will hook you for a week, developed by a bunch of geeks (and often a small bunch too), sold for \$0.99, or often for free.

Our first impressions of the Apple iPad are mixed. While it offers a great screen, and an excellent repository of applications via its Store, the device is not without issues – whether hardware, or software. Before you decide whether to buy or import the iPad, visit us online for a more detailed look at the device including grey market availability and a look at some of the highlight apps.



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Hurry! Limited time offer.

perfect comic book replacement as comics would fit as is. Right now, comic readers need to do a bit of zooming to make the panels readable. Readers such as Marvel Comics offer a very cool panel-fly effect which pans, zooms, and moves around comic panels lending some drama to a comic book.

The Apple iPad as a movie device

It's perfect. Almost. Again, the source of your videos would determine your experience. If you have a lot of DVDs, then



Read the entire, seven page review on the Apple iPad on our website. Visit: www.thinkdigit.com/d/iPad

HTCs Incredible roll

Yet another HTC, Android based offering – the Incredible is set to launch, packing yet another 1 GHz Snapdragon

Google combats MS Office

The impending release of Office 2010 is the backdrop for Google to release a number of updates to their office suite

Bazaar

NVIDIA GTX 480 & GTX 470

When green is hot

Enter Fermi. The GTX 480 is a top-end product and has specifications to match – it's also really long, similar to the GTX 285 while the GTX 470 is shorter at 9.5-inches. NVIDIA uses slightly different heatsink on the GTX 480 – it has four extruding heatpipes and part of the shroud is also metal to aid in heat dissipation.

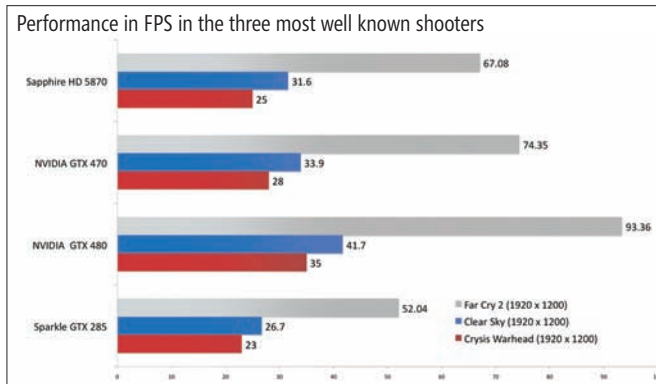
The scores this thing throws out are pretty satisfying – although we (admittedly unrealistically) expected more. There's no comparison to the GTX 285, which was NVIDIA's fastest single GPU. Even the GTX 470 is safely faster than the GTX 285 and is neck-and-neck with AMD's HD 5870. AMD definitely has a fight on their hands. Both cards get fairly hot on load and the GTX 480 just crosses 80 degrees in our air-conditioned lab. When not running 3D applications, the cores of both cards downclock to just 50.5 MHz and the memory clocks down to 67.5 MHz. On idle the temperature GTX 480 was 53

degrees and the GTX 470 ran at 46 degrees.

3D Mark Vantage gave us score of 20,601 on the GTX 480, while the GTX 470 gave 16,784. In comparison the Sapphire Radeon HD 5870 manages 16,991 while the Sparkle GTX 285 manages 14,482. What really surprised us was the announced price of the



GeForce GTX 480



GTX 470. These are NVIDIA review samples, and NVIDIA sent us prices for ZOTAC. At Rs. 22,999 the GTX 470 is cheaper than the HD 5870; as you can see, both are neck and neck. Maybe a price drop from

AMD is on the cards. These cards are fairly new, and driver support will only improve, so NVIDIA could well squeeze out a good 5~10 per cent more performance in the near future. Another promising fact is that SLI scales very well, at times, we saw an increase of nearly double – this is superb news for enthusiasts who can afford two cards. Check out our SLI scores for the GTX 480 on <http://www.thinkdigit.com/d/GTX480SLI/>. The GTX 480 is priced at Rs. 29,999 plus tax – expensive, but it is noticeably faster than the HD 5870. The only concern we have is the heating angle – 81 degrees on load isn't too good for a test lab, and this figure will zoom northwards in most houses, especially in summer. The GTX 470 might be quite a good option too – particularly since

8/10

Features.....8
Performance 8.5
Build quality8
Value for money.....7

an SLI setup will cost under Rs. 50,000 for the cards. We expect these cards to scale well with future games. They're both good deals – but be ready to spend more cool them down.

Specifications

GTX 480: 480 stream processors, 1,536 MB GDDR5 memory, 384-bit memory bus, 700 MHz core speed, 924 MHz memory clock, connects: 2 x DVI, 1 x mini HDMI

GTX 470: 448 stream processors, 1,280 MB GDDR5 memory, 320-bit memory bus, 607 MHz core speed, 837 MHz memory clock, connects: 2 x DVI, 1 x mini HDMI

Contact

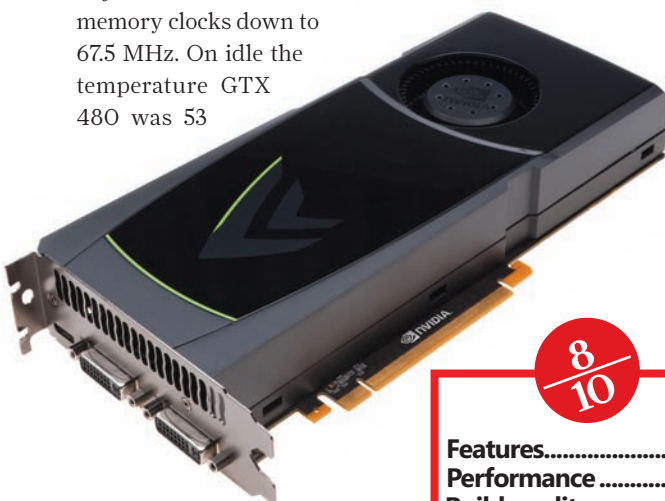
Aditya Infotech Ltd.

Phone: +91-11-4666 5666

Email: sales@adityagroup.com

Web site: www.zotac.com

Price:
Rs. 29,999 plus tax (GTX 480)
Rs. 22,999 plus tax (GTX 470)



GeForce GTX 470

8/10

Features.....8
Performance 7.5
Build quality8
Value for money..... 7.5

Samsung Carcinogenic?

Although tough to prove, a report alleges that Samsung production plants may be causing Leukemia in workers

Good Virus!

MIT researchers have have trained a home grown virus to split water and produce storable solar power

Western Digital SiliconEdge Blue 256 GB

From steel to silicon

WDs first SSD we have received. It's a good looking drive with a metal body that makes it feel sturdy as well as look good, but adds weight – which shouldn't be a problem for desktop users. WD quotes reliability and compatibility over perform-

ance as this drives ethos at the very start. WD doesn't state who made the controller which is very important, but they do mention that the drive features 64 MB of DDR2 800 MHz memory – which is very fast even as a cache block. TRIM is supported.

Testing it, we had a chance to compare its scores to

**Specifications**

Capacity: 256 GB; Cache: 64 MB DDR2; Commands supported: TRIM

Contact

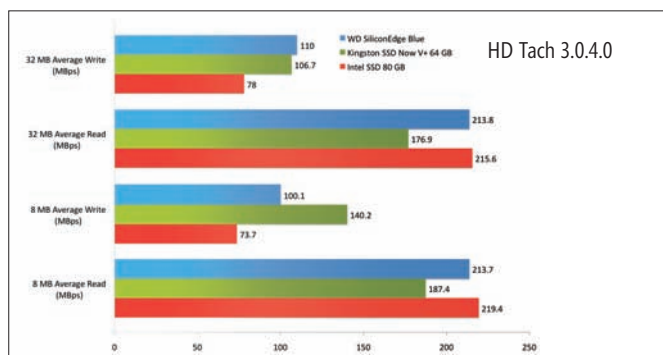
Western Digital Corp

Email:

amarjeet.singh@wdc.com

Web site: www.wdc.com

Price: Rs. 58,250

**Specifications**

Core speed: 3.33 GHz; No of cores: 2 (4 with hyper-threading); L2 cache: 512 KB; L2 cache: 4 MB

Contact

Intel APAC Support

Phone: +91-80-2854 2105

Email: apacsupport@mailbox.intel.com

Web site:

www.intel.com/in

Price: Rs. 13,500

Intel Core i5 661

Cool, affordable and fast

Intel's Core i5 processors haven't seen the limelight for inexplicable reasons. The 661 is built on a 32nm process that helps it run really cool while running at a blistering 3.33 GHz. This is regular stuff, however, and what makes the CPU really special is the addition of an integrated GPU on the CPU die. This CPU is based on a 1156 LGA socket and although P55 boards are supported, it's obviously designed for the newer Intel H55 and H57 chipsets that can make use of the integrated graphic solution. Testing the i5 661 we must say

it's very cool – the CPU never crossed 41 degrees throughout our testing.

The Maxon Cinebench R10 score of 8,586 is even higher than the similarly clocked Core 2 Duo E8600 (7,107) – another dual core from the older Core 2 Duo family. The WinRAR 3.9 score of 2,051 is higher than the 1,802 scored by the E8600. A 100 MB.VOB file was converted to the .divx format in 51 seconds – while this isn't record breaking stuff, it's still fairly fast. Priced at Rs. 13,500, the Core i5 661 is



expensive – and this is the only sore spot we have. After all, if you wanted power, you could buy a Core i7 860 for the same price – and that would outperform this. The i5 661s inbuilt graphics chip is also a factor however, and is decent scoring a 2061 in 3D Mark 2006. We cannot recommend it at this price point – for it is not a value proposition.

6.5/10

Features..... 7.5
Performance 7
Build quality 8.5
Value for money..... 4.5

6.5/10

Features..... 8
Performance 7.5
Value for money..... 5

Tweets and ads

Angry developers of Twitter have vowed to make their own platform, after Twitter started support for advertisements

New Macbooks

Apple have refreshed their notebook range with Core i5 and i7-based notebooks with improved GPUs and battery backup

Bazaar

Buffalo HD PXT320U2

Turbo charged portable drive

The Buffalo Mini-Station Metro HD PXT320U2 is a portable 320GB hard drive which is a successor to the HD-PXU2 series. The T represents Turbo mode which claims to double transfer rates. The hard drive comes with an inbuilt partition which has the turbo PC and hardware encryption programs. Hardware encryption allows you to encrypt your data with a 64-bit Advanced Encryption

Standard key. Coming in an all black body with a glossy front and a rubberised matte finish on the rear, this drive looks striking. It has a flex connect USB cable which connects into the chassis. It also comes with an extendable USB cable.

The test system comprised of an Intel DX58SO motherboard, Kingston 6 GB DDR3 RAM, a WD Velociraptor 500GB hard drive and a Corsair HX620W power supply. The real life tests like data



transfer showed and improvement in the turbo mode as can be seen from the tables.

At Rs.9,000 we feel it is costly even for the performance. It's for those who want high data transfer speeds but do not want to purchase the more expensive USB 3.0 drives just yet.

CORRIGENDUM

On Page 79 in the April 2010 issue, the correct price of the Novatron NTD38 is Rs. 13,500.

Specifications

Dimensions (WxDxH) mm : 135x91x20; Weight : 240g ; Power consumption : 2.5 W; Software bundled : Turbo PC, Picasso

Contact

Milinda Banerjee

Phone: NA

Email: b-milinda@melcoinc.co.jp

Web site: www.buffalotech.com

Price: Rs. 9,000

Tests	Normal mode	Turbo mode
File Write 4 GB Single File (secs)	156	120
File Write Test Assorted 4 GB File (secs)	234	128
Read Test Single 4 GB File (secs)	133	100
Read Test Assorted 4 GB File (secs)	141	104

*Less is better

6/10

Features.....7
Performance.....7
Build quality.....7.5
Value for money.....4.5

Gigabyte GA-D510UD

An entry level Mini ITX motherboard

Specifications

Intel Atom D510 processor; Express NM10 chipset; one IDE port; one PCI slot; four SATA 2.0 ports; four USB ports

Contact

GIGABYTE Technology

Phone: +91-22-4063 3222

Web site: www.gigabyte.in

Price: Rs. 5,500

7/10

Features.....6
Performance.....7
Build quality.....7
Value for money.....7.5

Gigabyte GA-D510UD is a mini ITX form factor motherboard that houses a dual core Intel Atom D510 processor. The D510 supports hyper-threading which allows the two cores on the 45nm die to run four threads simultaneously. GA510UD is based on the Express NM10 chipset and the processor runs at 1.66GHz. The layout of the motherboard is pretty neat. The processor is covered by a heatsink and a fan is located on top of it.

The board has four SATA 2.0 ports, an IDE port which seems redundant. A PCI

slot is present perpendicular to the two DIMM slots which can house upto 4 GB of DDR2 RAM.

Two PS/2 ports for the mouse and keyboard seems unnecessary, a three port audio jack and four USB ports are also present on the rear side of the board.

We used a Corsair Dominator 2GB DDR2 RAM for carrying out the real life tests. In the synthetic tests like PCMark 05 it gave a score of 2630. Real life tests like compression/decompression gave 563 KB/s whereas data transfer takes place at 47 Mbps (4GB



sequential file) and 40Mbps (4GB assorted file).

The economical pricing of Rs 5,500 for a dual core processor is a good one for those looking to buy a separate machine for their basic computing needs.



Fastest DDR3 memory

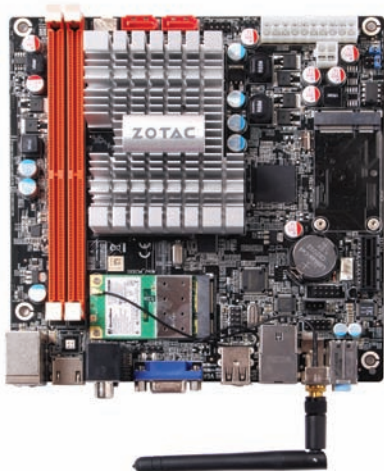
GSkill has announced the fastest DDR3 dual channel kit in the world, clocked at 2500 MHz

AMD on Apples

Rumours have it that Apple is considering AMD processors on their upcoming desktops

Zotac NM10 – ITX WiFi

WiFi-ready Mini-ITX motherboard



this motherboard comes with an NM10 express chipset with a graphics media accelerator 3150 integrated graphics. For those who think that is all, there is more. The motherboard comes with an HDMI out.

The layout of the motherboard leaves a lot to be desired though. For starters the heat sink around the processor occupies a large footprint on the board. Absence

of an external fan leaves the heatsink for both the processor and chipset extremely heated. There is some free space just beside the chipset which is wasted.

We tested this motherboard using a Corsair Dominator 2

GB DDR2 RAM running at 1066MHz. The results of the synthetic tests like PC Mark and SiSoft Sandra were quite higher than the MSI U210 netbook which was judged as the best performer. Real life tests like compressing/decompressing gave a score of 580 KB/s while a 100MB VOB file to DivX conversion took 157 seconds. Data transfer rate was a moderate 47 MBps (4GB sequential file) and 41 MBps (4GB assorted file). We also tested the WiFi adapter of the motherboard and it gave a good speed of 65 Mbps. It also played HD movies without any glitch. At Rs. 7,200 this board is priced on the higher end of the spectrum but considering its Wi-Fi and HD-ready, the price is justified.

Specifications

NM10 Express chipset; Dual core Intel Atom D510 processor; two 2 SATA 3.0Gb/s ports; PCI Express x1 expansion; onboard 802.11n WiFi; OpenGL 1.5 compatible

Contact

Vardhaman Technologies Pvt. Ltd.

Phone: +91-22-2500 7002

Email: nikit@panache.co.in

Web site: www.zotac.com

Price: Rs. 7,200

Zotac NM10-ITX WiFi is the low power consuming 802.11n WiFi ready motherboard in the Mini-ITX form factor. Based on the Intel Atom D510 dual core processor running at 1.66GHz,

7/10

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

LG GM200

Dolby Surround sound on the phone

Specifications

GSM 900 / 1800 / 1900;
Screen size: 2.0 inches; 176x 220 pixels; Micro SD card slot upto 2GB; Talk time: 8 hours; Standby time: 450 hours

Contact

LG Electronics India

Web site: www.in.lge.com

Price: Rs. 6,750

7/10

Features..... 7
Performance 7
Build quality..... 7.5
Value for money..... 6.5

The LG GM200 is one phone that despite its plain jane looks, hides a monster audio solution underneath. There are two speakers on either side of the phone with a 2.1 channel woofer located on the rear side.

LG GM200 comes in an all black body with a five way navigation pad. The keys are slightly raised which allows easy typing. On the right hand edge, under the speaker segment we have the charging point, FM and MP3 player shortcut buttons. On the left hand edge we have a

volume rocker below which there is the hot swappable memory. The user interface of the LG GM200 is pretty straight forward. The home screen has a shortcut menu which can be programmed to the four sides of the nav pad. The phone has twelve menus which can be accessed by the 12 buttons as well.

The phone has a decent 2.0 MP camera and does video recording

at QCIF@15fps. The main selling point of the phone is the speaker system and sound quality. The FM has as many

as 48 channel presets. There is an option to record FM which is good. Headphones bundled along with the phone are good although we would prefer a sponge cover on the plastic earphones.

It supports EDGE and GPRS but no Wi-Fi. At Rs 6,750 this phone is quite decently priced considering its a Dolby surround sound phone.





MS Project Pink

MS unveiled their Project Pink phones, aimed at social networking and the connected user

GOW 3 next year

Epic Games has announced Gears Of War 3 and this console-only title is set for release in April 2011

Bazaar

Epson Stylus Office T1100

For the stylish office?

This is one printer that will take up a lot of space on your desk, thanks to its capability to print A3+ size papers. The Epson Stylus Office T1100 is a printer suited for small to medium sized offices.

Both the input feeder tray



and the output collection tray are made of sturdy plastic and extend a considerable length to accommodate the A3 pages. The operational panel comprises of the power button, status indicator buttons. As for connectivity, T1100 really disappoints as it has only the USB connection to the PC and no network connectivity as well as no PictBridge.

The good part about T1100 is its speed. It took under seven seconds to print a quality text document.

Mixed document printing at the highest quality took 80 seconds whereas at an economical quality it took only 15 seconds, but gave a very poor quality print. A photoquality print on a glossy sheet took 138 seconds whereas scaling it to A3 took 277 seconds. The colour quality is very good at photo level but deteriorates if changed to economy or speed mode. Scaling A4 size image to A3 was smooth and the printout does not seem to stretch or compress.

At Rs.14,999 we felt that this product was a bit overpriced as it does not have network or USB flash drive support.

Specifications

Resolution: 5760dpi; Dimensions (WxDxH): 616mm x 322mm x 214mm; Weight: 11.8 kg; paper hold capacity: 120 pages; No support for PictBridge, USB flash drive

Contact

Epson India

Phone: +91 8030515023

Email: think@eid.epson.co.in

Web site: www.epson.co.in

Price: Rs. 14,999

6/10

Features.....6
Performance7
Build quality.....6.5
Value for money.....5

Kingston HyperX T1 6GB

Perfect for high-end X58 setups

Specifications

Size: 6 GB (2 GB x 3); Speed: 2000 MHz; timings: @ XMP 2000 MHz (8-8-8-24)

Contact

Kingston Technology

Phone: +91-22-2659 2963

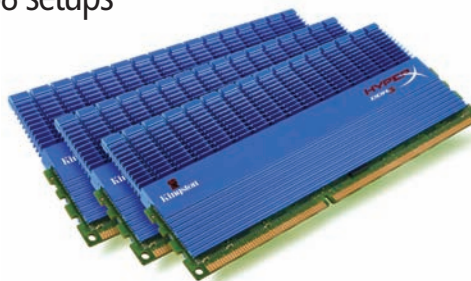
Email: sales_india@kingston.com

Web site: www.kingston.com

Price: Rs. 17,600

These memory sticks look imposing with high-rise heat-spreaders that rise at least an inch above the actual PCB. The heatsink has fins that will obviously aid in thermal dissipation. And it's needed for when running at 2 GHz the memory heats up by a goodly amount. This is a 6 GB kit intended for use with X58 motherboards – the only solution supporting tri-channel memory – therefore people with P55s, AMD-based motherboards and other Core 2 Duo systems – this isn't for you.

Without any configuring this kit boots into Windows with very tortoise-like speed of 1333 MHz at a timing of 9-9-



9-24. Command rate was 1T. This memory supports XMP or Intel Extreme Memory Profile that is a predefined enthusiast setting supported for extra performance. Setting the XMP 2000 MHz profile, we were able to boot flawlessly into 2000 MHz at timings of 8-8-8-24 at a command rate of 1T and we must admit – it doesn't get much faster than this. Our real world testing saw a buffered Far Cry load

15 per cent faster with XMP enabled – a huge jump considering the only thing changing was memory speed/timing. SiSoft Sandra 2010 Professional saw 30.46

GB/s (integer) and 30.47 (floating point) GB/s for memory bandwidth – an all time high. ScienceMark 2.0 saw 18,837.93 MB/s that was higher than the 14,596.51 MB/s seen at 1333 MHz. Priced at Rs. 17,600, the HyperX T1 isn't for most people – overclockers and those with really powerful rigs who demand the best will probably want to take a look, though it's worth mentioning that the prices are a bit silly in India.

7.5/10

Features.....8.5
Performance9
Build quality.....8.5
Value for money.....4.5

What a tow!

A towing company in Michigan is suing a dissatisfied client who happens to be a student for defaming them on Facebook

AMD - 6 million and counting

AMD's CEO announced that the company recently shipped their six millionth DX11 GPU

ECS Elitegroup H55H-M

A new wave

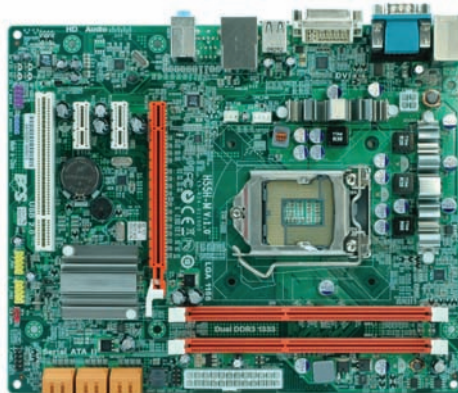
The ECS Elitegroup H55H-M motherboard is one of the few motherboards that supports the Clarkdale family of Intel processors that come with integrated graphics. This board is based on the Intel Express H55 chipset and comes in a micro ATX form factor.

The layout of the board appears decent at first glance but it seems a bit cramped as we add on the components. The heat sinks around the socket have intricate design with more fins for faster cooling. Two DIMM slots can house upto 8 GB of DDR3 RAM at 1333MHz. Adjacent to the DIMM slots, there are six SATA 2.0 ports which face sideways which prevents any

conflict with a card. There is no native support for RAID. An interesting addition to the feature set is the eJIFFY, a Linux based interface for faster booting which allows you to browse the web, photos, chat without the OS startup.

HDMI out is a glaring miss.

We tested the motherboard with a Core i5 661 processor running at 3.33GHz and a Kingston HyperX 4GB DDR3 RAM with a Corsair HX620W power supply. It gave a PC Mark 05 overall score of 8,813 and a 3D Mark 06 score of



2,061, which shows that the integrated graphics aren't that great. Real life tests gave decent scores. The 100MB VOB to DivX conversion took 35 secs, Doom 3 gave about 33 frames per second in the 800x600, medium mode.

Its priced at Rs. 4,875 which is very economical for the features it provides.



Specifications

Intel H55 Express chipset; 1 PCI Express x16 slot; 2 PCI Express x1 slots; 6 SATA 2.0 ports; VIA VT1705 6-channel audio codec; 6 USB ports

Contact

Rashi Peripherals Pvt. Ltd.
Phone: +91-22-67090828
Email: response@rptechindia.com
Web site: www.ecs.com.tw
Price: Rs. 4,875

7/10

Features.....6.5
Performance6.5
Build quality.....7
Value for money.....7

Specifications

Bands: GSM/HSDPA (3G ready); Screen: 3.0-inch; 320 x 480 pixels; CPU: Qualcomm 528 MHz; RAM: 256 MB; ROM: 512 MB; Camera: 5MP; battery rating: 1500 mAh

Contact

LG Electronics India Pvt.Ltd
Phone: +91-120-2560960
Email: krishnendu.banerjee@lgindia.in
Web site: www.lgezbuy.com
Price: Rs. 16,299

6.5/10

Features.....7
Performance7
Build quality.....6.5
Value for money.....7

LG GW620

Feature-rich but flawed

At first glance LGs GW620 impressed – it's got a very solid feel in-hand and despite the slightly flimsy battery cover, the rest of the phone looks pretty sturdy. The body of the phone is largely black, the battery cover is silver while the front bezel is chrome. The top is brushed aluminium and the bottom that also has a couple of backlit, touch buttons are glossy! Based on Android and having a resistive touch screen proves not to be the horror we expected, but still, after testing, this is the phones

biggest usability-flaw.

You'll frequently end up inadvertently selecting something. There is a slide-out QWERTY keypad that redeems usability on the messaging front – but this isn't perfect, as the keys feel hard and have far too little key travel, meaning you will need to use the edges and tips of your fingers rather than the softer pads. The volume buttons on the side are pretty usable, the music shortcut key is a nice addition, though the camera button is too small and too hard. In call clarity



is good, though there are better. Music quality is good. The camera is nice and gives decent detail.

It's a pity that the issues that plague Android are all on board for the ride. Priced at Rs. 16,299 it's one of the cheapest Android devices available and isn't a bad phone, but it's plagued with loads of tiny inconveniences and quirks, that make it less memorable.

TSMC to go 20nm by 2012

TSMC has bypassed the 22nm fab, says they will skip to 20nm directly, word is they will begin risk production in 2012

Light Peak over USB

Intel has already demonstrated the successor of USB 3 called Light Peak optical technology

Bazaar

Sandisk Cruzer Blade

A plastic one!

The Sandisk Cruzer Blade is one of the more compact flash drives to come by. The design is simple - it's designed to very comfortably in between your fingers and at the same time, it can sneak in between two USB slots in close proximity. The plastic material used doesn't really make it feel exotic but a tad better than most cheap flash drives.

There are no security features, and no, this isn't a USB 3.0 drive.

The synthetic benchmarks show promising performance in read speeds with all the tests showing stable 25MB/s and

the speed vs capacity graph showing a perfectly flat line. Write speeds turn out to be appalling in 4GB file transfer tests. Reboots and multiple formats didn't change this. And equally surprising, read speeds turn out to be excellent. A 4GB sequential file gets transferred back from the flash drive in a mindboggling 1:15 minutes. Write performance in random files is strange. 4 GB of data takes close to 30 minutes to complete. We tried the same drive on a couple of machines with very similar results.

At Rs. 2,999, it's definitely very expensive considering value products from other



makes are no more than Rs. 1,800. The compact size and somewhat attractive design make it worth but not Rs. 2,999, and not to mention the below-par write speeds.



Specifications

Capacity: 16 GB; USB 2.0

Contact

Rashi Peripherals Pvt. Ltd.

Phone: +91-22-67090909

Email:

amit.jain@rptechindia.com

Web site: www.sandisk.com

Price: Rs.2,999

6/10

Features.....6
Performance6
Build quality.....6
Value for money.....5

TAG 760B

Torture device!

At first glance they're smart looking with square driver enclosures and a unique headband. Then you put them on...and unfortunately your world turns to sorrow. For starters the foam padding is really thin and this hurts the region behind your ears after five minutes. Secondly the mesh on the driver enclosures bulges outwards and effectively squashes the outer ear. While the black/silver colour tones are appealing our first impression was one of horror as soon as we tried them on. The cable has a large volume unit and this also encloses the microphone - though the assembly is too bulky to be

termed as neat. Cable quality is decent though half of the length of the cable features a nylon fabric based sheath, while the other half uses some sort of fibre-based elastomer.

Quality wise, the TAG 760B terribly mediocre. There is no sense of involvement to the music - the bass lacks impact and volume, the mid-range confuses several instruments and low-volume sounds are not picked up. The treble is also very ordinary - hardly any extension and no emotiveness to the music. Overall this would be a bad



choice for anyone using headphones for any music purposes. Thanks to its shabby sonic abilities even the microphone failed to impress us. Overall priced at Rs. 499, they're very cheap, but the 760B cannot warrant approval - comfort and quality - the essence of any headphone regardless its price, are in sore want.

Specifications

Response: 20 Hz ~ 20 KHz;
Size: circumaural (around the ear); built-in microphone

Contact

Technology And Gadgets

Phone: +91-22-23823331/32

Email: sales@technologyandgadgets.com

Web site: www.technologyandgadgets.com

Price: Rs. 499

4.5/10

Features.....5
Performance2
Build quality.....5.5
Value for money.....7

HD 5870 record overclock

An ASUS HD 5870 card was overclocked to 1500 MHz - this is the highest recorded to date and likely the highest possible. Default clocks are 850 MHz

X-Box 360 with Natal

Microsoft is all set to release an Xbox 360 Slim with a motion sensor later this year

Lian-Li Lancool PC-K62

Cool n classy

The K62 is a very solid product - it's built well, extremely well in fact - no rattles or anything. Built of SECC steel, you aren't going to see a finish akin to brushed aluminium, but at Rs. 7,500, this isn't expected. The front is entirely made of mesh and with a mock plastic grille this gives a menacing look. The side panel is acrylic - great for showing off.

There are three 140mm, blue-LED fans, one in the front and two on the top and one 120mm fan on the rear. The cabinet is not very deep, so one might have slight clearing issues with really long cards although they state that cards up to 290mm will fit. Our GTX 285 fitted fine and this is thanks to the hard drive



bays that are mounted sideways - meaning there is no cable clutter towards the rear - all your HDDs will have their connects pointing outwards; incidentally installing HDDs is also pretty easy. There is a tool-less assembly for securing expansion cards that also

works flawlessly. Finally the optical drives are also secured by a simple, tool-less latch mechanism. When we tested it, we had no issues with cooling and this will suffice for a mid to high-end gaming rig as well; outlets for radiator unit piping has also been provided.

Throughout the cabinet simple, yet thoughtful additions are evident - no sharp edges, dust filters for inlet fans, even a cut out region on the motherboard tray for the CPU - for installing coolers with backplates without removing the motherboard. Priced at Rs. 7,500 the Lancool PC-K62 is expensive but it also has a lot to offer. If you can swallow the thought of spending 7,500 bucks on a cabinet, this is a very good option.

**Specifications**

Mid Tower (SECC steel);
Internal HDD bays: 4;
5.25-inch bays: 4; fans: 3
x 140mm; 1 x 120mm

Contact

XTREME GRAFIX

Phone: +91-99875 39043

Email:

sudhirsmani@gmail.com

Web site:

www.xtremegx.com

Price: Rs. 7,500

7/10

Features.....7.5
Performance 7.5
Build quality.....8
Value for money.....6.5

Requirements

Windows XP SP2 and higher,
Windows Vista, Windows
7, 300MHz or faster processor,
256MB RAM, 300
MB hard drive space

Contact

Symantec

Email: nortonindia@
symantec.com

Web site:

www.symantec.com

Price: Rs. 1,795 (1 license)

Rs. 3,200 (3 licenses)

6.5/10

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

Norton 360 V4.0

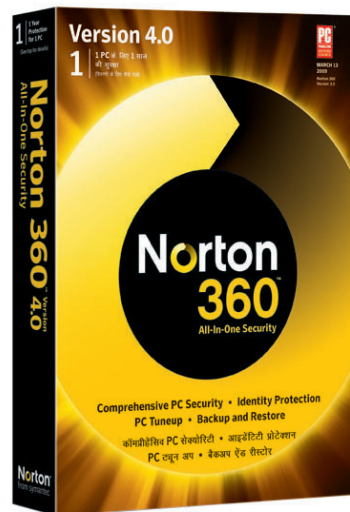
Still 360

Symantec's complete internet security solution Norton 360 V4.0 is a recent release. Like previous versions, the interface is basic and simple to use. The program is divided into PC Security, Identity Protection, Backup and PC Tuneup.

Memory consumption is under 30MB on idle. This figure goes to around 90MB with a drive scan. The backup feature is useful for storing your entire essential data secure online. Backups can also be done locally on a storage drive.

The silent mode helps cut down on visible popups and alerts so you gaming and movie watching stays uninterrupted. Virus scanning isn't all it does - it also checks the system for vulnerabilities and optimizes and cleans up the system for performance. The logging feature is no longer limited to network attacks but also for all software events, the causes and the fixes for it.

As a suite, there's nothing drastically different from previous versions. As a threat tackling solution, it's still complete and you can't go wrong



with it. The price tag of Rs. 1,795 for a single license is decent considering the 2 GB online space you get along with it. An automated backup of important documents ensures you won't lose your data ever.

Palms possible buyers

Analysts have listed HTC, Motorola, Nokia, LG and RIM as potential buyers of Palm

Dual cores for netbooks

Intel confirms reports of dual core Atom chips for netbooks - one step closer to bridging the gap

Bazaar

TrustPort PC Security 2010

Two AV engines in one package

The suite has a traditional UI and is relatively simple to get around. Theme support might make things pretty, but it's the simple and advanced mode switch that makes it even more usable. TrustPort PC Security uses two antivirus engines - one from AVG and the other from Bitdefender. Technically, it means better detection and a slightly more fool-proof way to doing things.

The DataShredder feature is useful in clearing out all the temporary files from the disk

in one go. The other related feature called Panic Shredding allows you to quickly delete a folder with the press of a hotkey. For data security, there's a feature that lets you create encrypted mountable images. There's even secured certificate generation that might be of use to some. Data can be easily encrypted and then deleted using the well integration with the OS. Memory consumption is a little high with the entire suite taking upwards of 150 MB on idle and during updates. TrustPort PC Security 2010



tries unique techniques and in that way, it is pretty good. The memory consumption could have been better. At Rs. 995, it's a good price for a complete security suite.

Requirements

Intel Pentium IV processor; 512MB RAM; 310MB disk space; operating systems supported: Windows 7, Vista, XP, 2000

Contact

TAG Computek Pvt Ltd

Phone: +91-22-23874441

Email: sales@techno-gyandgadgets.com

Web site: www.trustport.com

Price: Rs. 995

6.5/10

Features.....7
Performance6
Easy of Use6.5
Value for money.....6.5

ASUS K52F-SX060D

Great computing power at a very economical rate

Specifications

Processor: Intel Core i3 350M @ 2.26GHz; RAM: 4GB DDR3 @ 1066MHz; Hard Disk: 320GB; Screen size: 15.6 inch TFT; Battery pack: 6 cell

Contact

Asus Technology Pvt. Ltd.

Phone: +91-22-6766 8800

Email: media.india@asus.com

Web site: www.asus.in

Price: Rs. 36,745

Asus K52F-SX060D is one of the few Core i3 laptops that we have tested and its performance scores speak for itself. The core i3 processors supports Hyper Threading which allows a four-way multi task processing. The individual cores on the Core 2 Duo range can handle only one processing thread at a

time whereas hyper threading allows Core i3 to run two processing threads simultaneously on each core., thus allowing faster processing

The laptop has the top flap with a black glossy finish whereas the palm rest, mouse pad have a dark brown textured design. K52F boasts of a palm proof technology that differentiates between the finger inputs and palm rests on the mouse pad, thus preventing faulty motion of the mouse sensor. The chiclet keyboard with its isolated keys lends itself to a smooth typing experience but it may seem a bit too wide in the beginning.

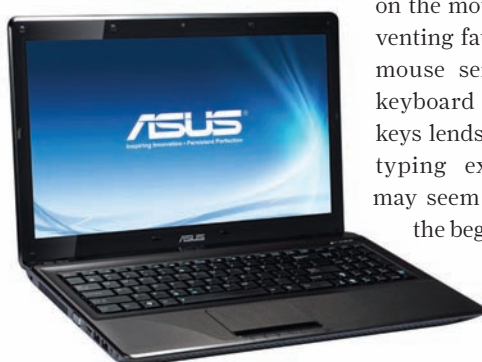
The K52F has a DVD drive and a USB port, card reader, LAN port

and power connector on the right hand edge whereas the left hand edge has the audio jacks, two USB ports, an HDMI port and a VGA port.

The 15.6 inch TFT screen has a native resolution of 1366 x 768. It runs on 3 GB RAM and has a total hard disk capacity of 320 GB. The annoying aspect of this laptop is that it does not come with any OS. So you will have to shell out extra money for the OS.

We used a Windows 7 operating system to carry out all the tests. In the real life tests it took 48 seconds for a 1 GB sequential file transfer and 55 seconds for a 1 GB assorted one. Converting a 100MB .vob file to divx took around 60 seconds.

At Rs. 36,745 we feel this product is quite competitively priced.



7/10

Features.....7
Performance7
Build quality.....7
Value for money.....8

E-paper displays hot

Five million electronic paper displays were shipped in 2009 according to reports. One possible reason cited is the popularity of E-Book readers

More on Fusion

AMD's Llano samples have begun to ship. Llano consists of a Phenom II processor and an HD 5xxx series GPU. The platform is designed with utmost efficiency saving in mind

Acer Liquid

Not quite as fluid as we'd hoped

Acer's Liquid created quite a stir upon arrival. Unfortunately, it's living proof of the adage first opinions are not necessarily the last. Let that be the solitary spoiler. The handset is well packaged and the accessories while adequately encompassing have mediocre build quality.

The handset itself is quite well sculpted with a curving top and base breathing life into a basic design. The white / black colour scheme is spot on – the phone is pure white everywhere except for the top and bottom and the front that is given a translucent black finish that blends the bezel and screen into a single plane – the only interrupt here being the bold “acer” moniker above the function symbols marked on the surface and of course the earpiece that is located above the 3.5-inch, capacitive-touch display.

There's a mini-USB port on the bottom, concealed beneath a pretty good flap and a 3.5-mm jack is conveniently located on the top. Juice is provided via a 1350 mAh battery that is can do a day of sporadic surfing and three hours of call-time – good enough for most people. Interface wise, the phone is pretty snappy, although the camera lags. The 768 MHz, Snapdragon processor is nigh impossible

to slow down, though this is not always evident from the interface. Being Android-based means you're subject to its set of quirks as well – no silencing an incoming call for example – something that will annoy people migrating from the Jurassic yet call-friendly Symbian interface. There are other noticeable quirks as well. The on-screen QWERTY keypad isn't as responsive as we'd like, and nowhere near as seamless as the iPhone – you'll frequently hit the wrong keys.

The loudspeaker clarity is pretty hopeless and the device vibrates with the loudspeaker turned on and the voice is jarring. In-call volume on the

earpiece is also pretty low and at times the other person will need to speak up, or you'll miss what is being said. The headset provides higher volume and slightly better clarity than the loudspeaker/earpiece. Music playback quality is acceptable, nothing more, though better earphones should yield better results. The display is a highlight – crisp, great text visibility and good colours. Although the technical spec lists it as a 262,000-colour screen we could notice no deficiencies of any sort, videos and any sort of web browsing is a fun experience – although we wish for slightly more precision to the touch-based interaction. The camera feels like an afterthought, for not only is the quality strictly so-so, but the camera button is pretty useless – pressing it at times evokes a sudden click, when a half-press is supposed to activate the focus.

On the hardware front, we'd like a better camera with a flash, we'd also like better earphones, a better loudspeaker and a better antenna for improved in-call clarity. On the software front, while Android is replete with connectivity options, it screws up big time with the basics – a smartphone, irrespective of the bells should be a good phone and Android has problems a mile wide when it comes to meeting this end. Obviously, it would require little effort to better this, and we've no doubt this will happen, for Google

are nothing if not smart/quick learners. Android 2.1 (Éclair) is not going to address a few of our complaints though, and thanks to Microsoft's secrecy, we won't know if WM7 is a positive step up from WM6.5 that had handset manufacturers innovating with their interfaces to cover loopholes. Till then, the Liquid, like many other devices of its time faces an identity crisis – good hardware/could-be-better platform and the resulting mediocrity. Priced at Rs. 24,900, it must be said, the Liquid needs a few firmware upgrades to niggly out some of the unexpected quirks we ran into – something in stark divergence to the polished image Acer would obviously wish it projected. It's a bit pricey to merit approval anyways.

Specifications

GSM/HSDPA (3G ready);
Screen: 3.5-inch, 480x800 pixels, 262,000 colours;
CPU: Qualcomm Snapdragon 8250 768 MHz;
RAM: 256 MB; ROM: 512 MB; Camera: 5-megapixel;
Battery rating: 1350 mAh

Contact

Acer India Pvt. Ltd
Phone: +91-80-2532 9520
Email: ailenquiries@acer.co.in
Web site: www.acer.com/mobile
Price: Rs. 24,900



6
10

Features.....7
Performance.....5
Build quality.....6
Value for money.....5.5

GOW 3 coming

Gears of War 3 expected to be out sometime in early second quarter of 2011

Opera Mini on iPhone OS

Opera Mini browser gets authorization for use on Apple iPod Touch and the iPhone

Feature

Rossi Fernandes

rossi.fernandes@thinkdigit.com

Ever wondered why your PC runs so slow? The first solution that comes to mind, is to upgrade your hardware by adding additional RAM. And quite often, that solution would be right, but there is more to it than just the memory. Everyone talks about how their system runs faster after a clean Windows install. It's not just a feeling; it really holds true. Unclogged Windows runs a bit faster and feels more responsive. Unfortunately, that doesn't last long.

If memory upgrades can't be done, the next best remedy given is to "defrag your drive" and then there's the clean your registry advice. So, is there any truth and proof of speed improvements or is it just a myth – like the one where refreshing the desktop apparently improves performance and clears memory. We decided to find out for ourselves.

The plot

We were going to try each one of these solutions to see how much of an improvement they would give. We were sceptical of the way things would pan out. We knew there would be a performance increase with some of these fixes, but how much of a difference? After installing a ton of software and dumping loads of data, operating systems tend to slow down. So to get the first reading, we wanted the operating systems in pristine condition. We setup Windows with just the drivers and a couple of software that we needed to test. No tweaks were made to the system, no virtual memory

SPEED UP YOUR PC

PC running too slow? Is upgrade the only way out? **Maybe not...**

Google Voice on PC

Google appears to be testing some kind of desktop application for Google Voice

More GPU powered browsing

NVIDIA demonstrates IE9 browser acceleration on their ION platform

setting changes, no defragging, no wallpapers changes or anything of that sort.

We would run the same tests again but this time with the software installed and all the data in place. The added bulk of the software on the drive as well as in the registry should have slowed things down. Once we had the system somewhat loaded with software like it would be in most cases with most users. That's when their PCs are the slowest. Care was even taken to ensure the same data was dumped on the same partition and the same software installed in the same order on both operating systems.

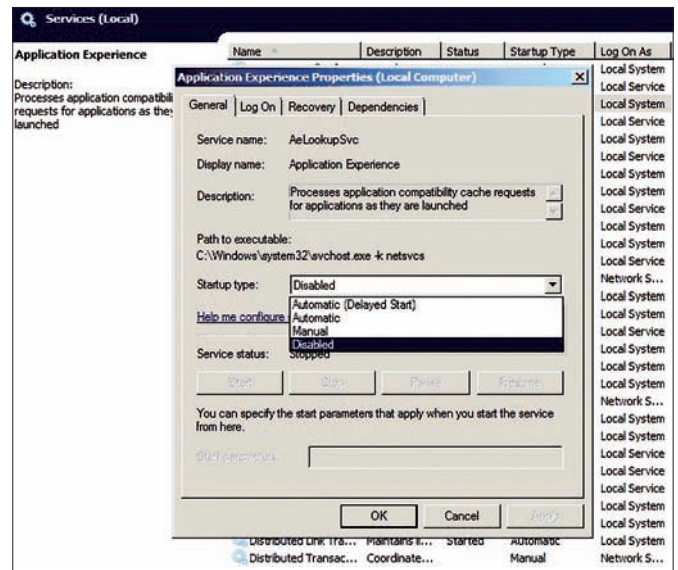
Now, we had to try and fix things. We first tried a simple system defrag first to see if it made things any better. The next in line was a registry cleaning and temporary folders cleanup using a popular free system maintenance utility – CCleaner. Some people feel that page files are unnecessary because the OS along with the software rarely uses more than 1 GB to 2 GB, and since most people today upgrade to systems with 2 GB or more of memory, why use a slower hard drive based page file system. We disabled the page file that was automati-

cally set by Windows for this test. Finally, we ran it with all the unnecessary system processes and services turned off. This should technically lower system resource consumption and therefore speed things up. We referred a few online web pages and recommended services to be shut and then decided on a few of our own as well. The aim of this trial was to see how much of an improvement these tweaks and processes caused and if there would there be any stability issues.

What tests were run

We chose to use the two most popular Windows operating systems of the decade – Windows XP and the recent favourite Windows 7. We setup a plan to run benchmarks on these two operating systems on an identical system which would run a couple of applications and tests to gauge the performance.

Our system configuration was a very basic Intel Pentium 4 with 2 GB of RAM, and a dated but healthy WD Caviar 80 GB hard drive. There was data on the second partition which wasn't tampered with. We used the same configuration on both the operating sys-



Disabling unnecessary services on Windows

tems. All the benchmarks and steps we ran were simulated in the same order on both the operating systems.

The first step was to install the operating systems. Once installed, we updated the necessary device drivers. There were some software such as the Firefox browser, Cinebench 11.5 and also Quake III Arena which we installed.

We ran all real-world tests that Windows users could relate too. A random PCMark score says little. Time taken to start a Windows application or frame rate in games on the

other hand gives us a clearer picture of performance. Some of the tests we ran were the bootup and shutdown time for Windows. The bootup time the time began the Windows bootup screen showed up and ended when the desktop was displayed with all the system tray icons. To avoid interruptions in the bootup, we set only one user account with no passwords.

We ran our favourite Quake III Arena benchmark as well to see gaming performance and then, also recorded the time for a small patch render in Cinebench. File-transfer times for a folder 1.5 GB folder were also recorded. Firefox was the application we used to record application startup time and we also ran Peacemaker, a free web-based browser performance testing tool. We wanted to look as many aspects as possible and we did whatever we could with the number of test scenarios we had set.

Our observation

Windows startup times are the first to be hit as you install more software. Copying files, moving

Windows XP vs Windows 7 Performance

	Startup time	Shutdown time	Firefox startup	Peacemaker (points)	Quake 3 (fps)	Cinebench (sec)	1 GB Copy (sec)
Windows XP (SP3)							
Windows XP clean	28.78	6.38	5.03	1984	223	52.06	112
Windows XP software installed	30.00	13.97	4.55	1978	223.4	54.00	122
Windows XP defragged	25.60	25.81	5.47	1979	223.6	52.44	125
Windows XP Registry cleaned	25.88	26.59	5.09	1929	223.5	52.88	126
Windows XP with no page file	26.31	23.97	4.50	1981	223.6	53.22	159
Windows XP with services off	22.06	5.39	2.66	1966	223.4	52.47	130
Windows 7							
Windows 7 clean	33.25	8.06	5.63	1887	229.2	54.22	84
Windows 7 software installed	35.78	10.35	3.53	1850	230.6	55.12	106
Windows 7 defragged	35.69	7.97	6.50	1842	229.7	55.47	98
Windows 7 Registry cleaned	30.25	8.72	1.66	1841	229.7	55.36	99
Windows 7 with no page file	28.19	7.36	2.59	1863	229.6	55.31	110
Windows 7 with services off	20.75	7.22	3.16	1852	230.6	56.44	97

Twitter Tweetie

Twitter takes over Tweetie and releases it as a free app for the iPods Touch and iPhone

MOAR Core!

Intel to send out their latest 48-core project platform to researchers

Processes to be shut - Windows XP

Application Layer Gateway
Automatic Updates
Background Intelligent Transfer Service
Cryptographic services
Error Reporting Service
Help and Support
Indexing service
Net logon
Netmeeting remote desktop sharing
Remote Registry
System Restore Service
TCP/IP NetBIOS Helper
Uninterruptible Power Supply
Wireless Zero Configuration

Processes to be shut - Windows 7

Application Experience
Windows Update
Cryptographic Services
WLAN Autoconfig
Windows Search
Printer Spooler
IP Helper
Diagnostic Policy Service

them, deleting them, uninstalling programs all leaves data scattered on your hard drive and that's mostly to blame. Defragging doesn't affect the speed of running applications but just the process of moving large amounts of data seems to take a little more time. A defrag on Windows 7 did better than what Windows XP did. Registry cleaning by itself also seems to do little to the system performance and there was almost no difference there.

Moving on to running Windows without a page file enabled, we expected a somewhat large boost in performance. This would be because of the memory handling doing its task instead of sharing it with the hard drive. The physical memory has more bandwidth than a hard drive. There was a substantial increase in performance in startup times with it disabled on both operating systems. Sometimes, not all the changes result in large performance boosts. That was the case with tests run with the page file disabled. There was also a major drop in file transfer times especially while moving large amounts of data. Applications once loaded into the memory performed the same as previous scenarios. Maybe running many more memory intensive applications simultaneously would affect performance. Defragging or running registry cleaners didn't change things around.

The noticeable improvement only came when we also disabled all the unnecessary services from Windows. You can take a look at all boxes to see which services we disabled in either operating system. Keep in mind that specific applications might require some of these processes, so be aware of the ones you've turned off in case you turn them on again. The boot-up times and application times improved even further and the drop in file copy tests improved somewhat but not as much as on a clean install.

To turn off services, click on Start > Run. Type services.msc and right click on the process, click on Stop. Next, disable the process by right-clicking on the process and clicking on Properties.

So what's recommended..?

By looking at all the scores across all tests, turning off processes is the way to go. We've seen that turning on a single process or turning it off takes a couple of seconds. It helps in boot up and shutdown times and also saves a ton of memory. Turning off the page file completely is a bad idea in general no matter how much memory you have. Letting Windows set a page file is fine but if you want to limit the amount, setting a 2 GB or 4 GB file on one of your partitions is fine. When an application crashes, the physical memory will run out quickly and eventually slow down everything.

For those who've wondered whether Windows 7 is any better than Vista or XP, then the answer is yes, it is. We saw this in a lot of the tests we ran. File transfer speeds showed the biggest difference and even after being heavily loaded with data and software, there wasn't the same drastic drop in file copy speeds that could be seen on Windows XP. Quake III Arena running on the same graphics driver versions showed a tiny but yet, appreciable 3 per cent jump in frame rates. Applications which normally feel lighter and launch quicker, in fact are loading faster on Windows 7. We noticed a tiny drop in Firefox performance on Windows 7 and in general, start-up times lag behind Windows XP. With faster systems than the one we used, it's even better. It's also the fact that Windows 7 seems to degrade a little slower than Windows XP when you install all kinds of rubbish on it. So all in all, it's thumbs up for Windows 7 from us. **d**



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New Delhi - 093120 86932, Lucknow - 0522- 400 5840/
391 5840, Nagpur - 0712-325 3811, Nashik - 098605 39199,
Pune - 020- 2432 1298, Patna - 0612- 326 0947,
Raipur - 0771- 329 3674, Ranchi - 0651- 324 4199,
Secunderabad - 040- 2789 4847.



4.5 lakh iPads

Apple sells 4,50,000 iPads in the first week itself

Light Peak

Intel working on Light Peak, a technology for data rates faster than USB 3.0



Free Flowing HD Goodness

A high-definition television playing low-res content isn't cutting it. It's time to go full HD! We test the best HD players in the market!

Rossi Fernandes
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LCD and plasma TVs are expensive products. Even then, people have been willing to spend lakhs on them. We buy these 42-inch and 50-inch TVs and use them to watch cable TV. It never really occurs to us that we aren't getting the best out of our TVs. In

almost all cases, high-definitions are a total waste watching cable TV or even DTH. High-definition content is rarely available on DTH.

Before we start, there are few options to consider. You could buy a Sony Playstation 3 or an Xbox 360, but they're both pretty expensive. If you aren't a gamer, then it's an even bigger waste of money. An HTPC would be the ideal

solution, but it too would be expensive and it's bound to be bulky, have higher power consumption and most of all, the software can be very slow and painful to customise and setup.

The easiest and simplest solution out there is then HD media players. Some call them media streamers while some others call them digital media players. Either way, they are devices that will let you play

all kinds of video formats on your large screen TV and sometimes even deliver quality content over the internet, all this in the comfort of your couch using a simple remote control. You don't need expensive oversized keyboards either. All this makes the HD player a very simple product to handle and something that anyone, even your grandparents can use. It's even simpler than using some

Dual core netbooks

Intel planning on launching dual core Atom processors for netbooks

Browser benchmarks

After Futuremark, Rightware launches new browser benchmark - Browsermark

HD Player Test

DTH services! All you do is plug in your portable drive and view the content off it.

The HD player market has been bubbling with activity in sync with the TV market since the trend started off. WD was one of the first to enter to market and we received three of their products. We also received a Seagate HD player and two ASUS products. Xstreamer, a product that has been doing very well internationally was also available for this comparison review. Each player had something unique about itself. While there were some that couldn't play all the popular formats, there were some which could stream video podcasts and some which could even download BitTorrent files to the drive. We had the task of finding which one did the most and how well. This meant we had the grueling task of playing lots and lots of high-definition movies and clips for extended periods of time.

ASUS O!Play HDP-R1

ASUS sent across two players. The first player we tested was the O!Play HDP-R1. The player sits horizontally taking up some table space but keep in mind most HD players are the size of a thick diary. As a player that will hardly see rough use, it's built well. There are TV and Ethernet ports at the back of the player and USB ports on

its side. One of the two ports can also be used as an eSATA port. The body has a plain matte finish and a glossy front with the indicators. It looks like a fancy set top box.

The remote is somewhat fat and larger than some of the other players, but more comfortable to hold than some of the small, thin remotes. The buttons are pretty large as well. The playback buttons could have been as large as the directional buttons. Placement isn't ideal either the playback buttons lie at the top and the volume buttons at the left bottom of the remote. The remote has a good range as well, but you need to point at the player for it to work well.

The interface is designed well. It's very responsive. There's little load time for movies and device startup times are also equally low at just under ten seconds. Videos ran fine and there was little to complain about the quality. We faced some problems with certain standard resolution FLV files where as high-definition ones worked just fine.

ASUS O!Play HDP-R3

The O!Play HDP-R3 model is almost identical to the HDP-R1 in almost all aspects. The user interfaces and the products look the same. There are a couple of things that make it different - there is a memory card reader on one side of the player but the

same USB and eSATA ports on the other as the R3.

The only problem we faced with some of these products was the inability to manually enter an IP address or PC name to access shares if they don't show up automatically in the list of network devices. We had problems running media over

to be one of the smaller players you can buy. It comes with an HDMI port, 2 USB ports and composite connectors for audio and video. It's built well and you could even hide it near your TV if you wanted to. Being the first of its kind, it came with no Wi-Fi or even a wired network connection.

The interface is pretty - it has lots of simple icons with a very basic colour scheme to it and is still one of the nicer interfaces. The remote is extremely simple to use. It's small and maybe a little too small for some. There are no volume level controls on the remote which makes things a little more difficult. You have to run to your TV or audio system remote.

You can have music playing in the background while you browse through all the other folders for more music, videos or photos. Video quality appears somewhat harsher and grainier. Fast forwarding doesn't seem to be effective with

the wireless network setup, as was expected on most wireless networks. There are no antenna provisions made available either. The problems were present even with the player kept some three feet from the router. Using the wireless functionality is not recommended in general if you're thinking of streaming 720p or 1080p content over the network on 802.11g networks. We faced similar problems with the formats as we did on the HDP-R1 model especially with standard FLV formats. All the other formats played flawlessly.

WD HD TV Player

The WD HD Player was one of the HD players to first arrive in the market and it was a phenomenon then. It was one of the most versatile and reliable players to get the job done. The WD HD player continues

all formats. The speed of fast forwarding isn't constant.

The FLV sample gave us some problem playing. Otherwise, it'd be a perfect HD player for a family that requires no network support, just a cheap dependable HD player. If lack of FLV support doesn't bother you so much, this is a good player to consider.



ASUS O!Play HDP-R3



WD HD TV Player



ASUS O!Play HDP-R1

HD Player Comparison Test

Brand	Amkette	ASUS	ASUS	Iomega	Seagate
Model	Flash TV	O!Play Air HDP-R3	O!Play HDP-R1	ScreenPlay Director	FreeAgent Theater+
Price (Rs.)	Rs. 2,995	Rs. 10,500	Rs. 9,000	Rs.12,000	Rs. 9,500
Overall (Out of 100)	27.23	60.00	57.16	69.97	67.86
Features (Out of 50)	7.15	24.40	22.40	36.50	32.50
Performance (Out of 50)	20.08	35.60	34.76	33.47	35.36
Features					
Max resolution supported	1080p (upscaled)	1080p	1080p	1080p	1080p
Connections					
USB / ports	1	2 (1 Shared)	2 (1 Shared)	3	2
eSATA / ports	0	1	1	0	0
Ethernet (standard)	N	Y / 100Mbps	Y / 100Mbps	Y / 100Mbps	Y / 100Mbps
Wireless (standard)	N	Y / 802.11n	N	N	N
File support					
Video (MKV / FLV / Real video / MOV / MP4)	N / N / Y / N / Y	Y / Y* / Y / Y / Y	Y / Y* / Y / Y / Y	Y / Y / Y / Y / Y	Y / Y* / Y / Y / Y
Audio (FLAC, WMA / AAC)	N / Y / Y	Y / Y / Y	Y / Y / Y	Y / Y / N	Y / Y / Y
Web content support					
Youtube / Google Videos	N / N	N / N	N / N	Y / N	Y / N
Flickr / Picasaweb	N / N	N / N	N / N	Y / N	Y / Y
RSS feeds / Weather / News	N / N / N	N / N / N	N / N / N	Y / Y / N	Y / Y / Y
Network support					
Windows shares / FTP	N / N	Y / N	Y / N	Y / N	Y / N
Remote access (web)	N	N	N	N	N
Bittorrent	N	N	N	Y	N
Internal storage					
Capacity	NA	NA	NA	1 TB	NA
Drive form factor	NA	NA	NA	NA	2.5-inch
NAS support	N	N	N	Y	Y
HDMI	N	Y	Y	Y	Y
Component	Y	N	N	Y	Y
Composite / RCA	Y / N	Y / N	Y / N	Y	Y / N
Digital audio	Y	Y	Y	Y	Y
Performance (Out of 10)					
Startup time (sec)	6.5	8.1	9.6	114	9.03
Movie load time (sec)	5.9	5.1	6.6	7.59	4.25
AVI (480p) (Performance)	8	8	8	8	8
AVI (480p) (Quality)	6	7	7	7	7
MKV (720p) (Performance)	NA	8	8	8	8
MKV (720p) (Quality)	NA	7	7	7	7
MKV (1080p) (Performance)	NA	8	8	7	7.5
MKV (1080p) (Quality)	NA	7.5	7	6.5	6.5
Video skipping	8	8	8	8	8
Build Quality					
Buttons	NA	NA	NA	6	NA
Stand	8	7.5	7.5	7.5	7.5
Body	8	7	7	7.5	7.5
Remote Control	6.5	6.5	6.5	7	7
Range	7	8	8	5	8
Noise	8	8	8	6	8
Heat	7	7	7	7.5	7

WD TV Live

When we first turned on the player connected to the internet, it had already detected a firmware upgrade for itself. All we had to do is confirm the update. Updating was therefore, simple. The player is the same size as the HD TV player. All the ports and connections are identical. There is an additional Ethernet port

and the "Live" moniker in the model name denotes the network capability. The device even shows up on your network list of PCs with the shares for the drives you have connected to it. This can be turned off as well. It even allows file

operations between different paths. Although possible, it's simpler to use a desktop to move files about.

The interface and theme are more or so the same as the other WD players. The player runs a little warmer than the WD TV player. While some other players have preview options, they're very slow to render the preview. The WD TV Live does this a lot better no matter what file size or format, but it does slow the menu options down a bit.



WD TV Live

WD	WD	WD	Xtreamer
TV	TV Live	TV Mini	Xtreamer
Rs. 6,500	Rs. 8,500	Rs. 4,500	Rs. 8,990 (Wi-Fi)
49.43	62.01	31.08	69.13
15.90	28.05	10.15	33.15
33.53	33.96	20.93	35.98
1080p	1080p	1080p (upscaled)	1080p
2	2	1	2
0	0	0	0
N	Y / 100Mbps	N	Y
N	N	N	Y(optional) / 802.11n
Y / N / N / Y / Y	Y / Y / N / Y / Y	Y / N / Y / Y / Y	Y / Y / Y / Y / Y
Y / Y / Y	Y / Y / Y	Y / Y / Y	Y / Y / Y
N / N	Y / N	N / N	Y / N
N / N	Y / N	N / N	N / N
N / N / N	N / N / N	N / N / N	Y / N / N
Y / N	Y / N	N / N	Y / N
N	N	N	Y
N	N	N	N
NA	NA	NA	NA
NA	NA	NA	2.5-inch
N	Y (shares)	N	Y
Y	Y	N	Y
N	Y	Y	N
Y / N	Y / N	Y / N	Y / N
Y	Y	Y	Y
5.12	7.09	7.8	50.5
6.59	4.6	3.4	5.8
8	8	8	8
6	6	4	7.5
8	8	NA	8
6.5	6.5	NA	7.5
7	8	NA	8
6.5	6.5	NA	8
7.5	7	8	9
NA	NA	NA	NA
7.5	7.5	8	7
7.5	7.5	8	7
6	6	6	7
8	8	8	8
8	8	8	7.5
7	5	8	7.5

While Youtube and Flickr should cover most people's needs, it would have been nice to have support for other services and maybe even implement a small web browser. There is also online music support in the form of Live365.com and Pandora. Live365.com is a temporary trial provided with the player and Pandora isn't available in India unfortunately. Some of the Live365 free stations still work. Again, a Shoutcast radio listing would have been somewhat simple to implement and would have added a lot of value to this product. Quality and performance is identical to the WD TV player.

Seagate FreeAgent Theater+

The Seagate FreeAgent Theater+ covers a larger area on your table. It's flashy and comes with a glossy finish. There is a covered drive bay that's designed to accommodate a Seagate portable drive. If you don't have a Seagate drive or one with the same dimensions as a Seagate external drive, that space is a waste. The FreeAgent Theater+ could have been a compact player. There are also standard USB ports, one at the front and

the other at the rear. Wired network connectivity is also present. Wireless connectivity is an optional feature.

Updating of the firmware can be done over USB or over the internet. We chose the internet option but it takes a surprisingly long time to update the firmware even though the download was completed in a jiffy.

The interface looks like fun, but it drastically slows down when you try and stream content over the internet or list internet channels. There was also some flickering of the screen while going from one menu to another.

Poorly designed network congestion errors are also displayed every now and then. The online video feeds section like the rest of the interface has colourful artwork designed to look very authentic. There is support for text RSS feeds, weather as well. All in all, the web content is presented well and its almost like choosing from a list of channels on a DTH service. Another great design aspect is



Seagate FreeAgent Theater+

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Moving upwards

AMD announces profits of \$257 million in the first quarter of this year

Infinity Ward Respawns

Ex-Infinity Ward members create new Respawn Entertainment

the status bar at the bottom of the display. This shows you the current position like any other player but it also displays the amount of cached video while streaming online content. It's a pity performance in the menu deteriorates so much.

Iomega ScreenPlay Director

The Iomega ScreenPlay Director HD player is a somewhat bulky media player in comparison to some of the other products that we received. It's a product that comes with a glossy finished plastic case. It has an internal one terabyte desktop drive which makes the product a little heavy but sturdy. Powering on the device takes ages – something we discovered when we plugged it in for the first time. It's likely it's reading all the data on the drive.

The remote control is large and almost identical to the Seagate FreeAgent Theater+'s remote.

In terms of video quality, the colours appear somewhat paler and washed out if compared to the other players. Detail was more or less the same as the others. One of the specialties of the remote are the dedicated buttons for music, video and audio, which let you quickly jump between the types of content without going back to the start screen. Switching between menus is very slow. BitTorrent is difficult to get working although instructions given are straight forward. While



Iomega ScreenPlay Director

some of the video and audio internet streams are easily accessible through the player, any advanced options cannot be setup on the player. You need to register on the Iomega site, log into it, and then use a pesky Flash powered interface to get things going. It could have been a much simpler ordeal is all we're saying.

WD TV Mini

For those looking at cheaper alternatives to full-fledged HD



WD TV Mini

players, there's always the WD TV Mini to ponder about. With a product size that's no larger than three small slices of bread placed one on top of another, it's capable of playing most commonly used formats. There is no HDMI connectivity but you have component and composite connects which should be fine for most TVs. It does upscale to 1080p which means you can use it to play standard DVD quality

rips. Anything more, typically around 720p resolutions cannot be processed. Some formats can run at higher resolutions than some others. Although it might seem like a low power device, it can power standard 2.5-inch portable hard drives just fine.

The menus are designed to be a little from other the WD players. It's simpler and quicker to operate due to lacking features. Videos are also able to

be fast forwarded and skipped much quicker because of this. There is a visible drop in video quality that is magnified on a large 46-inch TV like ours. The WD TV and Live and all other players rendered standard definition much better. The resolution and performance drop also can be seen in the photos as well. With the reduced

features, the settings menu isn't subdivided into many subsections, so you scroll through one long list of parameters.

If you need something very compact for a CRT TV, and that can be hidden away behind it, this might be it. Keep in mind, remote control range isn't great.

Amkette Flash TV

The Amkette Flash TV player is very similar to the WD Mini. Just when we thought things couldn't get smaller, the Amkette goes one step further. It's the smallest player in this test. It connects to television sets in the same way as the WD Mini. This too comes



Amkette Flash TV

with a single USB slot but also a card reader for SD/MMC cards.

The remote control is slim, runs off a button cell battery; range is decent. For the somewhat simple feature set, the remote seems overkill. Buttons are really small but there are many of them. The interface feels basic but it's difficult to get lost. For example, the player starts into a display showing only the drive and the settings option.

For a compact basic player, the video quality is a lot better than the WD Mini although the Amkette refuses to play many more formats. Fast forwarding and skipping across the video isn't as fast as the WD Mini either. It comes with a text reader so you can read

CONTACT DETAILS

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Amkette	Rahul Gandhi	+91-11-2638 9876	rahul.gandhi@amkette.com	www.amkette.com
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Iomega	Iomega	1800 180 2237	malaia@iomega.com	www.iomega.com
Seagate	Fortune Marketing	+91-11-2641 4468	sales@fortune-it.com	www.seagate.com
WD	Anil Kukreja	NA	anil.kukreja@wdc.com	www.wdc.com
Xtreamer	Xtreamer India	+91-11-2751 5000	india.sales@xtreamer.in	www.xtreamer.in

\$1997 woofer

Bang & Olufsen to launch BeoLab 11 subwoofer starting from a price tag of \$1997

Next stop : 14nm?

TSMC already preparing for 14nm fabrication processes

HD Player Test

a few ebooks on the screen if required. For example, FLAC and FLV files are out of the question. There is no way of running music in the background while browsing through photos or even reading text files!

Xtreamer

The Xtreamer got into the test at the last moment, and we're glad it did. The Xtreamer is in a class of its own. It doesn't come in any fancy clothes as some of the other players in looks. It's a little smaller than the bulkier products and can house a 2.5-inch hard drive within it. The device comes with an optional USB Wi-Fi module for wireless connectivity and it also has an Ethernet port.

The remote control and device allow for good multi-tasking. Music while through the other menus is possible. You can even go to the Setup menu without exiting a movie. You can even enter the time you want to fast forward to. It's almost as good as using a HTPC in several ways.

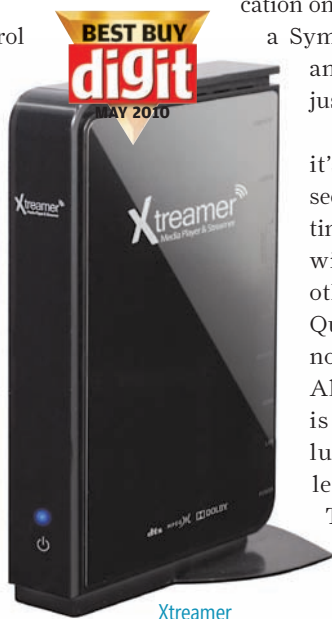
Format support is excellent

and online content in the form of Shoutcast (audio) and Youtube streams is available. The presentation and sorting isn't as professionally done like on the Seagate FreeAgent Theater+, but it isn't shabby. There are plenty of podcasts as well.

The network component isn't there for simply streaming content from Youtube. It can be used as a NAS. It has support for a web server, a media server and a FTP server component. You can even control the device using a web browser. It even lets you upload content and stream content directly off the player on a browser. There's even an iPhone app for it. We tried the web application on Wi-Fi using

a Symbian phone and it worked just fine.

Other than its long (50 second) startup time, it's at par with all the other players. Quality is top notch as well. All in all, this is an absolutely excellent product. The Rs. 8,990 price tag isn't bad either.



HOW WE TESTED

All the players were tested on a 46-inch full-HD Vu LCD test at 1920x1080. We used HDMI connections on all the players. In the compact products with no HDMI connectors, we used the component connectors. We had our sample videos and movies in different formats. Primarily for quality, we used a 1080p (1920x1080) trailer, a 720p (1280x720) clip and a standard DVD quality 700MB clip. The high-definition clips used were primarily MKV files and the DVD quality test sample was an AVI. We also used a lot

of FLV, Real Media and MOV videos. For the audio test, we primarily used FLAC.

We also recorded the time players take to startup and to load high-definition movies. One of the most annoying moments is fast-forwarding a video clip. Some of the players we received came with many other features which allow users to access content on network shares and even stream content over the internet. Weight was allotted for each one of these features. Build quality of the player, the remote and the range were also kept under consideration.

Final thoughts

Of the two compact players, the WD TV Mini and the Amkette Flash TV, the Flash TV feels limited. It might perform better than the WD TV Mini in image quality but what use is it without good format support. In all honesty, the WD TV Mini is only a little better. The standard WD TV is the better option of the lot.

On the other hand, if you've spent a lot on a full-HD LCD / Plasma TV, you shouldn't be hesitate over a couple of thousand rupees more. For that little more, you get much more media support and features.

The Best Performer award goes to the Iomega ScreenPlay Director for the number fea-



tures, the Bittorrent functionality and also the humongous terabyte drive, which makes a good overall package.

However, the Xtreamer is the one to seriously consider. Except for the Bittorrent feature which would have been nice to have on this player, and a feature that would definitely make it beat the Iomega ScreenPlay Director, it's got pretty much everything you need – performance and quality and if you think about, very affordable if you've just spent on a TV worth Rs. 50,000 or so. For all these reasons, we award it the Best Buy award. Although the Iomega beat it, there's only a gap of 0.84 in between them.

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**Lenovo C200 All-in-One**

Lenovo's C200 features the NVIDIA Ion 2 GPU, an 18.5-inch screen, with an aspect ratio of 16:9, a 160 GB HDD, and capable of 1080p playback

USB SSD drive launched

Buffalo's SHD-LVS-BK USB SSD drive is powered over USB 2.0, has a 64 GB storage capacity, and has probably started a segment for external SSDs

Desk Invaders



Desktop PCs are here to stay no matter how portable computing gets. We sample some desktops across form factors this month

Nimish Sawant

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Personal computing may have become portable with the unprecedented growth of notebooks, netbooks and smartphones, off late. But when one needs more processing power, or comfort within your home – nothing beats a desktop.

Desktops are varied beasts. The reason for the varied form factors that we see nowadays is the need to address various usage scenarios. Most desktop PCs still follow the cabinet monitor setup, but all-in-ones come with just a monitor, keyboard and mouse for the ultimate space-saving design. Net-tops on the other hand come in a very compact form factor. Based on Intel Atom processors and motherboards with a mini ITX form factor, these devices are meant for users who are looking at basic computing with decent internet experience. We got around eight PCs in all

for this month's test, covering all the form factors. We got four desktop PCs from Acer, one from HP, one all-in-one from Lenovo, a nettop from ZOTAC and an Apple iMac. Sadly, our test coincided with year-ending and accounts closing for most companies, meaning the de facto product line refresh was underway, which is the reason for this rather paltry figure. We have not declared any winners, but look forward to

perhaps revisiting this category later in the year.

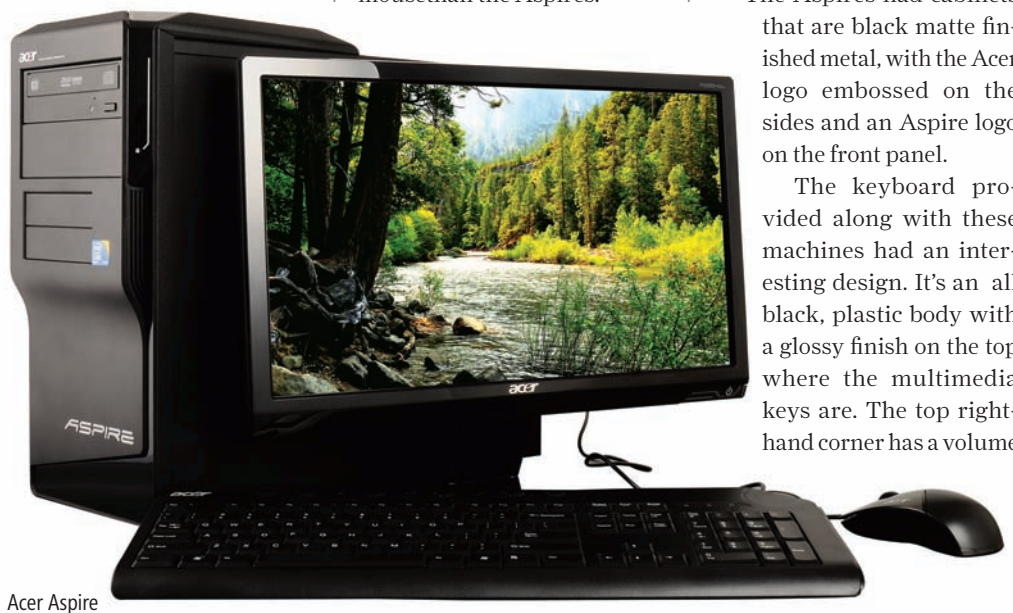
Acer Desktops

We got four Acer machines of which three were from the Aspire series and one was an Acer eMachine. Except for the different processors, all three Aspires were pretty much the same configurations – motherboard, chipset, etc. The Acer eMachine comes with a different keyboard and mouse than the Aspires.

Acer's eMachine 3540 is a low-end PC, marketed by Acer. This PC is meant for those who want a system with average computing power, and will only play the occasional entry-level games. The cabinet is very ordinary, featuring two USB slots, a FireWire port and audio jacks on the front panel. On the rear, you'll find outdated looking connectors, such as serial, parallel and VGA ports, four USB ports, three line audio jacks and a LAN port. The eMachine's PS/2 keyboard is very basic, and doesn't have enough space to rest your palms. Typing on this is not that great. The keyboard's made of strong plastic, and is very light. The optical mouse also has a PS/2 connection.

The Aspires had cabinets that are black matte finished metal, with the Acer logo embossed on the sides and an Aspire logo on the front panel.

The keyboard provided along with these machines had an interesting design. It's an all black, plastic body with a glossy finish on the top where the multimedia keys are. The top right-hand corner has a volume



Acer Aspire



56 inch monster monitor

TVLogic LUM-560W is a futuristic 56 inch Quad HD 4K LCD monitor sporting a 1.07 million colour LCD panel



Will this kill USB 3.0?

Intel's Light Peak which boasts of data transfer speeds of 10 Gbps to come out in 2011

Desktop PC test

control dial that gives the keyboard an artistic feel.

The bundled optical mouse feels like it's made of cheaper quality plastic, but its quite responsive and has a rubber coated scroll bar.

The components in the cabinet are neatly laid out, and there's enough space between the DIMM slots and the processor in case you want to change your heatsink solution. The two DDR2 DIMM slots can house up to 4 GB of RAM. The board has one PCI Express x16 slot, a PCI express x1 slot and two PCI slots. The problem area on the board is the gap between the PCI x16 slot and the DIMM slot. There is a very little gap between the two if you are planning to add a large graphics card. Also the four SATA 2.0 ports on the board point upwards rather than sideways which can cause problems. Then again, this PC is not meant for high-end gamers, so these issues are negligible.

The board has two redundant IDE ports just behind the DIMM slots. Space problems arise when attaching

wires there. All the capacitors on the motherboard are electrolytic. Edges inside the motherboard are rounded, to protect you from getting scratched up – thoughtful. The cabinet comes with an inbuilt Delta Electronics power supply which has a moderate 250W rating. An air flow guide is attached on the inner, left-hand side of the cabinet, for enhanced cooling.

We got the Acer P195HQL LCD monitor along with the Acer PCs. This 18.5 inch LCD monitor has a native resolution of 1366 x 768. The P195HQL is surrounded by a black glossy bezel and has a power button on the lower right-hand corner with the monitor controls located just beneath.

We ran DisplayMate on the LCD monitor, and got poor results in tests for black to grey transitions – we could barely tell the shifts between black and grey. Also certain combinations like white text on a yellow background and vice versa were unreadable. The monitor's strictly average, and features DVI and VGA ports.

In terms of performance, we discovered that the Acer Aspire

HOW WE TESTED

We tested all the PCs with the operating systems that they came with. Most of the PCs came with Windows 7. In certain PCs which did not have a pre-installed OS, we installed Windows Vista (32-bit). The proprietary software which would affect performance scores was uninstalled.

While testing a desktop PC, we have to take into consideration many factors as there are lots of components involved. So we used benchmarks like PC Mark Vantage and 3D Mark 06 for testing the core system performance. SiSoft Sandra was used to test the memory performance of the HDD.

In the real world tests we used Cinebench R10 to test the rendering prowess which depends on the processor and system memory. WinRAR

compression decompression gives a good idea of the CPU and memory performance as well. Other than these we had the 4 GB sequential and assorted file transfer tests which gives an idea of the data transfer speeds.

As most of the systems are used to convert file formats we also checked the time it took for converting 100MB VOB file to DivX format. We also checked the gaming prowess of the system by observing the frame rates for games like Doom 3 (at 800x600, medium resolution) and Company of Heroes : Tales of Valour (1024 x 768).

Apart from these tests which were performed on the system, we also looked at the features provided, connectivity options, ease of use, accessories etc and points were allotted accordingly.

IQ4832P had the highest scores in the synthetic benchmarks. It had an overall PC Mark Vantage score of 4,345 with the IP4750P coming in second at 3,899. In the 3D Mark overall scores the IP4750 managed a score of 267. In the real world tests, the IQ4832 was the fastest with the 100 MB VOB to DivX conversion clocking in at 47 seconds. Compare this with 52 seconds for the IP4750

and 65 seconds for the Acer eMachine 3450. As expected, The gaming benchmarks did not yield high scores, with both the IP4750P and the IQ4832P barely managing 25 fps. If you're looking to game, you're going to need a better GPU.

The desktops seem suited for home

use – documents, surfing the internet and watching movies.

The Acer eMachine 3450 is priced at Rs. 18,999 while the Acer IE3450P sits at around Rs. 24,299. The only difference seems to be the extra stick of RAM in the IE3450P. The IE4750P is priced at Rs. 27,999, while the IQ4832P comes in at Rs. 30,513. Quite competitively priced.

Lenovo B500

Lenovo's B500 IdeaCentre is quite an eye-catcher. An all-in-one (AIO) desktop PC, this machine has quite a unique design thanks to the angular cuts at the right places. The colour theme maintained throughout is black, grey and orange.

The Lenovo B500 is targeted at multimedia enthusiasts, and comes with a 23-inch monitor with a black glossy bezel and tapered corners. Just below the monitor you will find the inbuilt JBL 2.0 speakers. Located just below the monitor is an LED light that runs



Acer eMachines eM3450

Plug and Print

HP LaserJet Pro P1100 Printer series is going to be the first 'Plug and Print' printer which requires no CD installation



Welcome Bendy

Bendy M is a quirky mouse designed by Kim Hye-Shin which bends a flat strip into an infinity shaped device

Desktop PC Test

Brand	Acer eMachine	Acer Aspire	Acer Aspire	Acer Aspire	Zotac	
Model	eM3450	IE3450P	IQ4832P	IE4750P	MAG	
Price (Rupees)	Rs. 18,999	Rs. 24,299	Rs. 30,513	Rs. 27,699	Rs. 17,500	
Performance (Out of 55)	11.75	12.45	18.44	14.90	10.60	
Features (Out of 45)	19.10	20.80	23.20	21.70	18.10	
Total (Out of 100)	30.85	33.25	41.64	36.60	28.70	
Processor Model No. / Speed	Dual Core E5400 / 2.7GHz	Dual core E5400 / 2.7	Core 2 Quad Q8300 / 2.5	Core 2 Duo E7500 / 2.93	Atom 330 / 1.66	
RAM (MB) / Type / Speed (MHz)	1024 / DDR2 / 800	2048 / DDR2 / 800	2048 / DDR2 / 800	2048 / DDR2 / 800	1024/DDR2/800	
Chipset	Intel Express G31	Intel Express G31	Intel Express G31	Intel Express G31	Nvidia ION	
Graphics Solution	Intel Express G31	Intel Express G31	Intel Express G31	Intel Express G31	Nvidia ION	
Audio Solution	Intel HD audio	Intel HD Audio	Intel HD Audio	Intel HD Audio	Nvidia HD audio	
HDD size (unformatted) (GB)	298	298	596.17	298.09	149.05	
Screen (inches) / Resolution (native)	NA	NA	NA	NA	NA	
Operating System	NA	NA	NA	NA	NA	

Specifications and General features

No of USB ports	6	8	8	8	6	
No of eSATA ports	0	0	0	0	1	
No of FireWire ports	1	0	0	0	0	
Audio connectivity (Coaxial / SPDIF)	Y/N	Y/N	Y/N	Y/N	Y/Y	
Video connectivity (VGA / DVI / HDMI)	Y/N/N	Y/N/N	Y/N/N	Y/N/N	Y/N/Y	
Memory Card reader (Y/N)	N	N	N	N	Y	
Speakers	NA	NA	NA	NA	NA	
PCI Slots						
x1	1	1	1	1	NA	
x16	1	1	1	1	NA	
PCI	2	2	2	2	NA	
DIMM slots	2	2	2	2	NA	
Power Supply (in Watts)	250	250	250	250	NA	

Performance

Synthetic Scores

PC Mark Vantage

PCMark score	3535	3699	4345	3899	1725	
Memory	704	787	919	782	1369	
TV and Movie	2691	2867	3584	2882	1324	
Gaming	1388	1450	1466	1569	1700	
Music	4220	4157	4683	4503	1764	
Communication	4293	4404	4919	4824	1309	
Productivity	4030	3516	4592	3827	1504	
HDD	3721	3728	4493	3925	2594	

SiSoft Sandra 2010

HDD

Drive Index (MB/s)	82	75.73	96	85.3	48	
Random Access Time (ms)	19.85	19.52	11.81	19.41	18	
Memory Bandwidth						
Integer (GB/s)	4.4	4.39	4.6	5.41	3.12	
Float (GB/s)	4.38	4.4	4.54	5.16	2.7	

3DMark 06

CPU	2241	2248	3258	2460	853	
Overall	229	258	262	267	1407	
Cinebench (CPU)	5498	5446	9340	6057	1547	
Cinebench (GPU)	1239	1237	1163	1366	1197	
WinRAR file compression (KB/s)	933	941	1128	1033	406	

Real World Tests

100 MB DivX file conversion (secs)	65	60	47	52	170	
4 GB Sequential file transfer (secs)	217	187	112	150	264	
4 GB Assorted file transfer (secs)	184	167	125	145	235	
Doom FPS (800 x 600, medium detail)	12	10.8	11.1	10.4	28.2	
Company of Heroes TOV (1024 x 768)	14.9	13.7	24.2	24.5	39.5	
Webcam Quality (Out of 10)	NA	NA	NA	NA	NA	
Speakers (Out of 10)	NA	NA	NA	NA	NA	
Keyboard / Mouse usability (Out of 10)	5 / 6.5	7.5/6	7.5/6	7.5/6	NA	

Google Earth 3D

New York City can now be seen in 3D thanks to Google Earth. Only other cities with this facility are London and Cape Town

3D film camera

Holga 120 lomo-cam is capable of shooting 3D images on a 120 mm film thanks to its dual lenses

Desktop PC test

HP Pavillion	Lenovo
p6373in	IdeaCentre B500
Rs. 47,990	Rs. 37,590
26.81	30.72
35.50	29.50
62.31	60.22
Core i3 530 / 2.93	Core 2 Quad Q8400 / 2.66
4096 / DDR3 / 1333	4096 / DDR2 / 1066
Intel H57 Express	Intel 4 series chipset
NVIDIA GeForce GT220	NVIDIA Geforce GT240M
NVIDIA HD Audio	Realtek HD Audio
697.64	931.51
NA	23 / 1920 x 1080
Windows 7 Home Premium	Windows 7 Home Premium
8	6
0	0
1	0
Y/Y	Y/N
Y/Y/Y	NA
Y	Y
NA	Y
3	NA
1	NA
0	NA
4	NA
300	NA
6692	6395
4488	4477
4274	4325
5153	5083
6937	6635
5566	6298
5551	6257
5332	4774
85.73	97.74
13.18	16.27
11.34	6.62
11.26	6.65
3069	3789
6860	6580
7460	11239
4354	3521
1535	1341
40	43
109	82
121	103
161	188
59.7	60
NA	7
NA	8
7 / 7	7.5/6.5

across the length of the monitor. It's ideal for illuminating your monitor in the dark. This light can be turned on or off with the help of the touch button indicators located on the bottom right corner of the monitor bezel. There are also brightness and volume touch controllers.

The left hand edge of the AIO has two USB ports, two audio jacks and an SD card slot. On the right you will find the power button and a tray mounted DVD drive.

Four USB ports, a TV-in port, a LAN port, a PS/2 port and an AV-in port embellish the right side. The absence of an HDMI port is quite shocking considering the 23 inch monitor is full-HD compliant. The JBL sspeakers sound is quite crisp, and there's no screeching at higher volumes. Bass and treble are also decent.

The wireless remote that comes with the AIO can be used to play the games that are bundled in the CD called 3Dijoy. The remote control has Windows Media Centre controls, so you can use the AIO as an HTPC. The Bluetooth keyboard is slim with a tapering design, and is sturdy. The key placement is pretty good, and lends itself to a wonderful typing experience.

The mouse accompanying the keyboard is also Bluetooth enabled. It has a lovely black glossy finish on the top with an orange scroll and rubberised black edges. The grip on the mouse is quite good and it responds quite well even at a distance of 6 feet from the PC.

PC Mark Vantage gave us a score of 6,395 and 3D Mark06 gave an overall score of 6,580. It's pretty decent for gaming, and *Doom 3* gave us a score of 188 frames per second.

The price of Rs. 37,950 for this product is extremely economical for the kind of features and performance on offer.



Lenovo B500

ZOTAC MAG

ZOTAC Multi All-in-one is an Intel Atom 330 processor based net-top. It comes in a compact casing which has a glossy black finish on the sides. It rests on a stand and comes with an additional all plastic accessory with which the net top can be attached behind a monitor.

The MAG is powered by an Intel Atom 330 processor running at 1.66 GHz, and is based on the NVIDIA ION chipset. It comes with 1 GB of DDR2 RAM and houses a 160 GB hard disk drive. As soon as the nettop is turned on, an orange circle glows just below the ZOTAC symbol. On the front portion you have the power button on top followed by two status indicator lights below. In the lower half we have a USB port, an SD card slot which can also support Pro, XD formats and two audio jacks.

On the top, you'll find a single USB port with the air vent covering most of the area. There are four USB ports, a LAN port, VGA, eSATA, HDMI and an optical output.

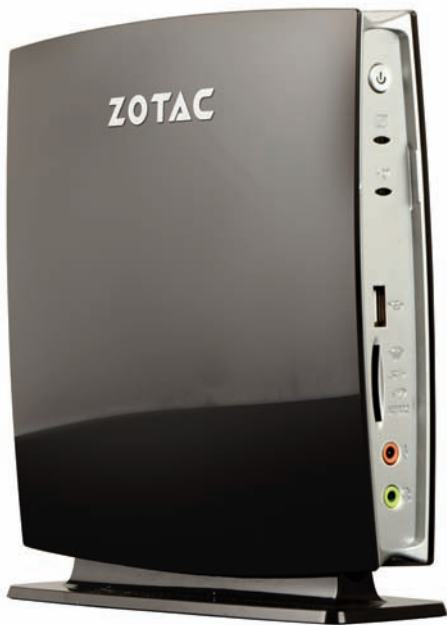
The main bone of contention in this otherwise decent nettop is the heating. While running programs, the board tends to get very hot. We found the system just hanging due to the overheating - and in an AC room at that. We had to manually increase the fan speed, but the system still runs hot. As it's a net top, and is targeted at those who only need a basic system that's capable of decent multimedia, the

Drag and Drop Attachments

Gmail has added the drag and drop functionality to its attachments on Chrome and Firefox browsers as of now

1TB SSD Drive

OCZ Colossus LT 3.5-inch is a Solid State Drive Series with a 1 TB capacity designed for pro-sumers and enthusiasts looking at maximising storage arrays



ZOTAC Mag

scores obtained were not as high as the other desktop PCs. We got a moderate 1,725 overall PC Mark Vantage score, and 3D Mark gave an overall score of 1,407. Real world tests such as our 100MB VOB file conversion, and gaming benchmarks gave us very ordinary scores. The ZOTAC MAG is ideal for use as a basic no frills system, or as a low-powered download rig.

At Rs. 17,500 the price is a little too steep for our liking. It's a decent buy if you can get your hands on it for about Rs. 14,000 – heating problems notwithstanding.

HP Pavillion 6373in

The HP Pavillion desktop PC is the only Core i3 desktop PC we got and a first glance leaves a lasting impression. The cabinet front panel has a semi-circular bulge. The all-black cabinet is very sturdy, and has a glossy finish on the front. The topmost area is occupied by a universal card reader slot. The power button is placed on top of the cabinet.

On the rear, there are a variety of connectivity options thanks to the populated PCI slots inside. The graphic card has VGA-, HDMI- and DVI-out ports. It has a TV tuner card that adds standard connects. The TV tuner card comes with a full fledged remote control which can also control Windows Media Player. There are IR receiver ports

on the rear. Also, there are two Wi-Fi antenna outs thanks to the Wi-Fi adapter on one PCIe x1 slot.

The cabinet is opened easily thanks to the use of thumbscrew. It houses an Intel 845 E chipset. Four DIMM slots are present on the board which can house up to 8 GB DDR2 RAM. This PC comes with 4 GB DDR2 RAM, and has three PCI Express x1 slots of which two are occupied by the AVerMedia DVB-T/PAL TV Tuner card and the Wi-Fi adapter. An NVIDIA GeForce GT220 graphics card is bundled for gaming enthusiasts, and it occupies the only available PCI Express x16 slot. The

presence of a sound card and a GT220 is HP's way of targeting this product at multimedia and basic gaming enthusiasts.

The hard disk drive is smartly placed vertically. The board has four SATA 2.0 ports of which two point sideways and two point in the upper direction. The power supply is provided by a 300W Bestec unit. The Bluetooth keyboard and mouse are quite good, but we experienced problems setting up the keyboard. It would really be helpful if there was an option to add a USB cable to connect to the keyboard as the bluetooth requires AAA size batteries. The response of the keyboard is quite good though.

The overall experience of using the HP Pavillion

PC comes alive in the multimedia department. With the IR remote control, this system can also be used as an HTPC or a TV apart from a PC. Its these additions that integrate various applications is what gives the HP Pavillion the edge over other PCs that we tested.

In terms of performance, this PC delivers decently. It gave a PCMark Vantage score of 6692 which was highest among all the PCs that we tested this time around. 3D mark gave us an overall score of 6860. WinRAR compression / decompression gave a good score of 1535 Kbps which was again the highest among all the tested PCs. Real world tests also yielded decent scores. It took merely 40 seconds to convert a 100MB VOB file to DivX. Gaming also gave scores like



HP Pavillion 6373in

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Lenovo	Lenovo India	NA	NA	www.lenovo.com
HP	HP India	NA	NA	www.hp.com
Zotac	Vardhman Technologies Pvt. Ltd.	+91-22-2500 7002	amit@panache.co.in	www.panache.co.in
Apple	Apple India	1800-425-0744	indiasales@mac.com	www.apple.co.in

Acer eMachine EL1352-H22C

Acer has announced the launch of small form factor PCs with EL1352-H22C running on a 2.7 GHz AMD Athlon II X2 215 dual core processor

2800 fps at 1080p

Vision Research's camera Phantom Flex can capture 1080p images at a whopping 2800 frames per second with a 1000 ISO sensitivity

Desktop PC test

APPLE IMAC 27 INCH

Apple does it again. With its 27 inch iMac, Apple has set new standards yet again, in terms of screen resolution. At a massive 2560 x 1440 pixel, this is probably the only all-in-one with that kind of resolution. The screen comes with an expensive IPS panel with LED backlighting. Thus the contrast ratio is very high and the output is highly luminescent. It has a very high pixel density of 109 pixels per inch, which is higher than the 30-inch Cinema Display screen, thus making the text and images on the screen appear very crisp. It has an aspect ratio of 16:9 and despite the large size, the viewing angle at 178 degrees is quite good. It will definitely take some time getting used to the large screen size.

This iteration of the iMac is powered by an Intel Core 2 Duo E7600 running at 3.06 GHz. It comes with 4 GB of DDR3 RAM with an ATI Radeon HD5670 graphics card. It can run games smoothly at HD resolutions of 1920 x 1080, but don't expect exceptional frame rates at the full 2560 x 1440 pixel resolution.

The traditional black and silver-gray colour combination is followed along with the aluminium build which is very sturdy. The screen is surrounded by a black glossy bezel which is quite reflective. The speakers are housed on the bottom edge of the screen. All the port connections are present on the rear side of the iMac screen. There are four USB ports, one mini DisplayPort, one

FireWire 800 port, one LAN port and the audio jacks. It's very annoying of Apple to place audio jacks on the back of a PC. A power button is merged with the chassis on the left bottom edge, and is easily missed. On the right edge you will find the optical drive and an SD card slot. Sadly the iMac does not sport a Blu ray drive, but it does come with 1 TB of HDD storage.

The keyboard is equally disappointing. The keyboard is bluetooth enabled, with an extremely slim body. This compact sized keyboard has been



achieved at the cost of the number pad. buttons like Page Up, Page Down, etc. The keyboard is somewhat uncomfortable to use, due to its ridiculously small form factor.

The wireless magic mouse on the other hand is an innovative accessory that has support for multi-touch gestures. Running your fingers down its length executes a scrolling action, this explains the missing Page Up and Page down buttons; by moving fingers sideways on the mouse, you execute the next/previous commands. The two black plastic fins present under the mouse, make operating the mouse somewhat sluggish. Either ways, navigating the huge screen from end to end with this tiny mouse, will require some getting used to.

This is one lifestyle product aimed at professionals. At the same time, the ease of setting up the system and getting started with using it leaves one thoroughly impressed. Startup time is as quick as 25 seconds. It just has one power connection as the keyboard

and the mouse is Bluetooth-enabled. It comes pre-installed with Mac OS X version 10.6.2 with inbuilt applications such as Aperture, iMovie, Final Cut Pro, Garage Band, etc. This is good for professionals who work on specialised software. The large screen size allows you to divide the screen into a workbench and output sections easily.

We ran a couple of benchmarks like Xbench and Geekbench, and also real world tests. Xbench gave a score of 176, while GeekBench gave an overall score of 4214, which is 200 points higher than the iMac 24-inch with an Intel core 2 Duo E8435 @ 3.06GHz. Real life tests like data transfer took 81 seconds for a 4 GB sequential file transfer, and 91 seconds for a 4 GB assorted file transfer.

Keeping in line with the Apple tradition the iMac 27 inch comes at a hefty price tag of Rs. 89,900 which is understandable considering this the only desktop in the market with such a huge screen and build quality is also absolutely top notch - this is a quality product. It's practical and powerful.

121 frames per second for Doom 3. The HP Pavillion 6373in will set you back by Rs. 47,990 which we feel is a bit expensive considering you only get an 18.5 inch monitor along with it. In terms of performance its only marginally higher than the Lenovo B500, but it's priced at Rs. 10,000 more. **d**

DIGIT RECOMMENDS

We decided from the outset that we would not award any winners this month due to the limited number of products. Also the products spanned various categories: from normal PCs and all-in-ones to a nettop. We decided to give you the scores based on the performance and features so that based on your usage scenarios, you can decide for yourself which PC is ideally suited for your needs.

In terms of performance, we found that the HP Pavillion p6373in was ahead of everyone, but only marginally ahead

of the all-in-one Lenovo B500. At the same time its price was also the highest. Among the Acer PCs, the performance purely depended on the processor as all the other accessories were the same.

We'd recommend any of the Acer PCs to those looking for an entry-level PC that does decent graphics. For those looking at high-end graphics, the p6373in and B500 are both very close. If price is the deciding factor then B500 is ideally suited as it is around Rs.10,000 cheaper than the HP.

Game on

Agent goes on hunting for the latest and greatest DX11 GPUs

Agent001

agent001@thinkdigit.com



Last September, AMD shocked everyone by announcing DX11 parts, slightly before DX11 was available. Seven months down the line, they have a slew of new DX11 parts at all price points and finally, finally NVIDIA has woken up with a DX11 offering of their own. My quest for shopping for a new card began quite unexpectedly. Siddharth, one of our newer team members suddenly decided to assemble a new PC, spurred on no doubt, by taunts from old timers Rossi and Michael to join them online for *Quake 3*, *Warcraft 3* and *Bad Company 2* matches. Siddharth's PC, being the fossil it was, would barely run the former two games, but the latter well beyond its capabilities. Our editor in typical fashion, suddenly decided, that he too wanted a new graphic card, so I was in business.

Eleven doubts

If you are wondering what the fuss about DX11 is about, you can read more about it on page 42 in this issue. Both NVIDIA and AMD will sell you a lot of PR talk about how GPUs are not just for gaming and using one with the relevant application support will result in your GPU doing a lot of CPU-like tasks. For example, video encoding, where an NVIDIA-based CUDA application is shown to be five times faster than a CPU at video encoding. Sure – this is true – and today's high-end GPUs are several times more powerful than the best of CPUs, but they weren't designed with X86 applications in mind and are not going to replace a CPU any time in the near future, irrespective of the hype generated.

Decision making

Siddharth wanted something basic – this was his first GPU and “don't go overboard” was his only prerequisite, other than DX11-compatibility. A wise move, because, a year down the line, you would probably only find DX10 and DX11 titles, meaning DX9 cards would not work with these titles. Up to a year ago, the market was mostly NVIDIA dominated from top to bottom i.e. at all price points. Although NVIDIA still dominates the entry-level market, the mid-range spectrum is a little more competitive since only AMD has newer, DX11 GPUs. The high-end segment is pretty much AMD dominated, although the introduction of the GeForce GTX 480 and GTX 470 might change that.

However, nothing much changes when dealing with shopkeepers as I discovered, and they still try to suggest the cheapest card on hand, to make a sale. Most vendors are so eager to make a sale that they hardly bother suggesting something that is “bang for buck” preferring instead to recommend the cheapest item available. One Lamington Road dealer, who obviously did not remember me, actually offered me a GeForce 6200 for 900 bucks – a Jurassic card that I would not have kept if given free. I even saw a Zebronic GeForce FX5500 – I urge people to skip such ancient chipsets altogether. I also get a lot of mails from people who have AGP slots and want to game. I recommend against this, as AGP cards command a premium since they're end-of-life. It's better to simply upgrade to a PCI Express-based motherboard.

The market is full of cards from XFX, Sparkle, Palit, Sapphire, MSI and

ZOTAC. I did not come across any cards from ASUS, although they are available if one wishes to order through a dealer. EVGA was not available at all – most dealers quoted no stock with the distributor. Palit typically uses innovative coolers on their higher range of cards, but I feel the quality of PCB used by Palit is a little inferior to the likes of ZOTAC, XFX and Sapphire. If you're looking for a graphic card to use in an HTPC I suggest looking for something under Rs. 2,500 – there's no sense spending more if you are not going to be gaming and even an entry-level graphic card will easily run 1080p content. A GeForce 8400GS chipset will suffice, I recommend Palit or MSI, both of which should be available for around Rs. 1,800. Siddharth wanted something to game on as well. AMDs Radeon HD 4670 and HD 5670 were available, for Rs. 5,000 and Rs. 5,600 respectively – the latter is a DX11 card. NVIDIA's GT 240 is also available – a really fast card, for 5,500 bucks. For AMD, I saw options from Sapphire, PowerColor and Palit whereas the NVIDIA options were Palit, XFX and MSI. He opted for the Sapphire HD 5670 and I was able to haggle and get him the card for a hundred bucks less.

In the high-end spectrum, I could find no DX11 NVIDIA cards in the market. The GeForce GTX 295 is the sole campaigner along with the slower GTX 285. AMDs Radeon HD 5870 and HD 5850 which are their higher end DX11 offerings were available and PowerColor was priced a little below the Sapphire cards. In the end, I chose a HD 5850 for our editor and after a quick phone call, he agreed. The price difference between Sapphire and PowerColor was close to 600 bucks and I managed to haggle with the dealer for a better price. After 15 minutes of bargaining, I picked up the PowerColor HD 5850 for Rs. 16,600 – this card will run all games on resolutions up to 1920 x 1200 – and is a good choice for gamers looking at something future proof but not too expensive, for the next series of GPUs are due by the end of this year. **d**

Q I want to buy an LCD monitor (around 22 inches) within Rs. 11,000. Please suggest me a brand, preferably Samsung. What do you think? And also I want to buy an all-in-one deskjet printer within 9000. I hope you will do me this favour.

Subham Gartia

A I would recommend looking at brands such as AOC and BenQ, instead of limiting yourself to just Samsung. The BenQ G2220HD was a decent monitor – this one is well within your budget at Rs. 9,200. For an all-in-one deskjet printer, I recommend Canon's MP496 – it's available for around 6,000 bucks – a good deal, with decent print quality for photos.

Q I'm planning to buy a notebook nothing fancy something between Rs. 20,000-Rs. 30,000. I'll just be using it for presentations watching movies surfing and burning DVDs

Frank Siangshai

A Check out Acer's Aspire 4736 – a good choice with good components on a good budget. It should be priced within your budget and will meet all your needs. It has a good Core 2 Duo processor, 3 GB of RAM and a 250 GB HDD.

Q Can you suggest me a mobile with the best features available in range of Rs. 20,000. I want GPS, games, touch, good speed, good camera, Wi-Fi, Bluetooth and good sound quality as I love music. I would love wireless FM too.

Ankur Gupta

A I would recommend either a Nokia N series device or a Sony Ericsson. That being said, even a Nokia E72 worth Rs. 17,500 on the street will be a good choice except that it has a mediocre camera and does not have a touch-screen. Your budget actually straddles two categories – smartphones and smartphones with really good touch interfaces. For the former, any phone between Rs. 12,500 and 20,000 will be a good choice, while for the latter you may need to spend a

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little more. I do not recommend a touch-screen phone, unless you're willing to spend above Rs. 26,000. Although if you do wish to buy one on the cheap with a good feature set – look at Nokia's 5800 XpressMusic for Rs. 13,500.

Q I want to buy a Laptop (Brand name preferably DELL). My Budget is around 30,000 to 35,000. Please provide me a best model under this range.

R. Lakshmanan

A I do not think any technology is future proof for five years, let alone a notebook in that price range. If you must get Dell, only the Inspiron 14 fits that price bracket. Else I would recommend an Acer Aspire 4736 which is priced well within your budget.

Q I am using an XFX GeForce 9600GT. I want to upgrade my graphic card. My Budget is 10,000. I would like an ATi graphic card, but NVIDIA is also fine by me.

Emil

A For Rs. 8,800 you can pick up a Sapphire Radeon HD 5770 – a DX11 card that will be quite a performance upgrade over the 9600 GT. A Radeon HD 5830 would cost you just around the Rs. 10,000 mark.

Q I want to buy a graphic card for my PC that can run games like Prototype, Transformers etc. My budget is Rs. 2000. My PC configuration is, processor: Intel core2 duo E4600 (2.40 GHz). Motherboard: Intel D945GCEP: RAM: 1.24GB

Aditya Kalsi

A Firstly, if you wish to run such games at high resolutions and/or with high level of detail, you will need to spend more, say around Rs. 8,000. You will also need to upgrade your system RAM to at least 2

GB. Even the CPU you are using is pretty weak for gaming – at least a Core 2 Duo E8400 should be considered. However, if you're looking a decent GPU within 2,000 bucks, I recommend you try getting a

GeForce 9400GS – you will need to hunt a bit to get a good deal.

Q I'm looking to buy an assembled PC without the monitor and speakers with a budget of 30k that would be future-proof for at least the next 2-3 years. I'll be doing gaming at moderate settings on a 17-inch LCD monitor in a non air-conditioned room. From the webinar, I concluded that the following configuration would be would suit my needs - AMD Phenom II x4 945, HD 4850, WD 500 GB HDD, 2*2 GB DDR3 RAM. Please suggest a good motherboard, CD drive, PSU, keyboard, mouse and cabinet. If it gets too expensive I can go for a 9600 GT and a Seagate HDD. Please specify the edition of HDD in WD I should go for (or will any do). If possible please include a UPS within the budget and please tell me the market price of the products.

Dhruv K

A Hi Dhruv, thanks for attending the webinar and I hope it was a learning experience. For a 17" LCD, that graphics card is enough. You can go with an AMD 785G board – the Gigabyte MA785GM-US2H priced at Rs. 4,400 will be a good choice. A Corsair VX450 (Rs. 3,800) will provide sufficient juice for this PC, even if you upgrade, or you could opt for a VIP Gold 500W that will cost you Rs. 2,300. For the cabinet, choose something that has fans on the side blowing on the CPU – 2 x 80mm or 1 x 120mm fan(s) would be ideal. Other than that a 120mm fan on the rear to exit hot air from the CPU and a couple of 120mm fans on the front. For the keyboard and mouse, go with a regular Logitech multimedia keyboard and optical mouse. You can upgrade to a Logitech MX 518 (Rs. 1,350) later. For a CPU a warranty of three years is standard. Any WD Caviar Blue/Green Edition drive will do. The Black Edition is faster, but costlier. **d**

3D Technology Awards

With a slew of 3D movies hitting theatres, the International 3D Society has come up with an award ceremony for the same

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Processors

Model	Brand	Market Price	Socket/Interface	Brief Specs	Tested in
Sempron 140	AMD	Rs. 1,810	AM3	2.7 GHz / single core	September 2009
Athlon II X2 240	AMD	Rs. 3,000	AM3	2.8 GHz / dual core	September 2009
Athlon II X2 245	AMD	Rs. 3,175	AM3	2.9 GHz / dual core	-
Phenom II 550	AMD	Rs. 4,830	AM3	3.1 GHz / dual core	September 2009
Phenom II 555 BE	AMD	Rs. 5,250	AM3	3.2 GHz / dual core	-
Athlon II X3 425	AMD	Rs. 3,700	AM3	2.7 GHz / 3 cores	-
Athlon II X3 440	AMD	Rs. 4,600	AM3	3 GHz / 3 cores	-
Athlon II X4 630	AMD	Rs. 5,250	AM3	2.8 GHz / 4 cores	-
Phenom II X3 720 BE	AMD	Rs. 6,450	AM3	2.8 GHz / 3 cores	September 2009
Phenom II X4 945	AMD	Rs. 7,750	AM3	3 GHz / 4 cores	September 2009
Phenom II X4 955 BE	AMD	Rs. 8,400	AM3	3.2 GHz / 4 cores	September 2009
Phenom II X4 965 BE	AMD	Rs. 9,430	AM3	3.4 GHz / 4 cores	September 2009
Celeron 430	Intel	Rs. 1,890	LGA 775	1.8 GHz / single core	-
Pentium Dual Core E5400	Intel	Rs. 2,900	LGA 775	2.6 GHz / dual core	September 2009
Core 2 Duo E7500	Intel	Rs. 5,150	LGA 775	2.93 GHz / dual core	-
Core 2 Quad Q8400	Intel	Rs. 8,100	LGA 775	2.66 GHz / 4 cores	September 2009
Core i7 920	Intel	Rs. 14,100	LGA 1366	2.66 GHz / 4 cores	September 2009
Core i7 930	Intel	Rs. 14,800	LGA 1366	2.8 GHz / 4 cores	-
Core i7 980 Extreme	Intel	Rs. 58,000	LGA 1366	3.33 GHz / 6 cores	April 2010
Core i3 530	Intel	Rs. 5,850	LGA 1156	2.93 GHz / dual core	-
Core i5 661	Intel	Rs. 13,500	LGA 1156	3.33 GHz / dual core	May 2010
Core i5 750	Intel	Rs. 10,400	LGA 1156	2.66 GHz / 4 cores	-
Core i7 860	Intel	Rs. 14,500	LGA 1156	2.8 GHz / 4 cores	-
Core i7 870	Intel	Rs. 27,400	LGA 1156	2.93 GHz / 4 cores	-



Motherboards

Model	Market Price	Socket/Interface	Brief Specs	Tested in
ASUS P6T Deluxe	Rs. 20,450	LGA 1366	2x PCIe x16, 8-channel audio, 8 x SATA ports	September 2009
ASUS Rampage 2 Extreme	Rs. 24,500	LGA 1366	2x PCIe x16, 8-channel audio, 8 x SATA ports	September 2009
ASUS Rampage 2 Gene	Rs. 16,400	LGA 1366	2 x PCIe x8, 8 channel audio, 6x SATA ports	-
Gigabyte X58 Extreme	Rs. 21,200	LGA 1366	2 x PCIe x16, 8 channel audio, 6x SATA ports	September 2009
Gigabyte X58 UD5	Rs. 17,100	LGA 1366	2 x PCIe x16, 8 channel audio, 6x SATA ports	September 2009
MSI X58 Pro-E	Rs. 11,300	LGA 1366	2 x PCIe x8, 8 channel audio, 6x SATA ports	September 2009
Gigabyte P55 UD6	Rs. 17,100	LGA 1156	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 8x SATA ports	October 2009
ASUS P5P55-D	Rs. 9,750	LGA 1156	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	October 2009
MSI P55 GD65	Rs. 9,100	LGA 1156	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	October 2009
ECS P55-HA Black	Rs. 8,900	LGA 1156	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	April 2010
MSI P45 Platinum	Rs. 9,100	LGA 775	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	September 2009
ASUS P5Q	Rs. 8,500	LGA 775	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	-
ASUS P5Q3 Deluxe	Rs. 13,500	LGA 775	1x PCIe x16, 1 x PCIe x8, 8 channel audio, 6x SATA ports	September 2009
ECS AB 890GXM-A	Rs. 7,100	AM3	2 x PCIe x16, 8-channel audio, 6x SATA ports	April 2010
Gigabyte 890GPA-UD3H	Rs. 7,900	AM3	2 x PCIe x16, 8-channel audio, 8x SATA ports	April 2010
ASUS M4A78STD-V-EVO	Rs. 6,500	AM3	1 x PCIe x16, 8-channel audio, 6x SATA ports	-
ASUS M4A78T-E	Rs. 8,800	AM3	2 x PCIe x16, 8-channel audio, 6x SATA ports	-
ASUS M4A79T-DELUX	Rs. 13,100	AM3	2 x PCIe x16, 8-channel audio, 8x SATA ports	September 2009
Gigabyte MA78GMT-USB3	Rs. 5,950	AM3	1 x PCIe x16, 8-channel audio, 6x SATA ports	-

High Gains

The markets have opened up, and tech companies including Yahoo!, Apple and HCL are posting promising first quarter earnings, IBM is an exception with a drop in profits

Bionic Man is here

Russians doctors have successfully managed to implant a completely artificial heart into an old woman

Price watch



Power supplies

Model	Price	Tested in	Capacity	Modular
Cooler Master Real Power Pro 460W	Rs. 3,705	-	460W	N
Cooler Master eXtreme Power 650W	Rs. 4,200	-	650W	N
Cooler Master GX 550W	Rs. 4,500	March 2010	550W	N
Cooler Master GX 650W	Rs. 5,500	-	650W	N
Cooler Master GX 750W	Rs. 6,500	-	750W	N
Corsair HX 850	Rs. 10,100	January 2010	850W	Y
Corsair CX400W	Rs. 3,200	Sept-09	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-08	3	5	1	7
Antec Three Hundred	Rs. 3,900	Oct-08	3	6	2	7
Cooler Master 690 (with sidepanel)	Rs. 5,000	-	5	5	3	7
Cooler Master ATCS 840	Rs. 16,100	Nov-09	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	Feb-10	3.2-inch	5 MP	Android 1.5
HTC Touch HD 2	Rs. 35,000	-	4.3-inch	5 MP	Windows Mobile 6.5
LG KP500	Rs. 7,300	Jun-09	3.0-inch	3.15 MP	-
Nokia E55	Rs. 17,000	-	2.4-inch	3.2 MP	Symbian S60
Nokia E63	Rs. 9,700	Nov-09	2.36-inch	2 MP	Symbian S60
Apple iPhone 3G 16 GB	Rs. 35,500	June 2009	3.5-inch	2.0 MP	iPhone OS
Nokia E72	Rs. 19,500	-	2.36-inch	5 MP	Symbian S60
Nokia N97	Rs. 31,000	Aug-09	3.5-inch	5 MP	Symbian S60
Nokia XpressMusic 5330	Rs. 9,000	-	2.4-inch	3.15 MP	-
Nokia XpressMusic 5800	Rs. 13,500		3.2-inch	3.15 MP	-
Samsung Omnia HD i8910	Rs. 29,500	December 2009	3.7-inch	8 MP	Symbian S60
Sony Ericsson Satio	Rs. 30,000	March 2010	3.5-inch	12 MP	Symbian S60
Sony Ericsson Yari	Rs. 12,800	Feb-10	2.4-inch	5 MP	-
Blackberry Bold 9000	Rs. 26,500	Jun-09	2.4-inch	2 MP	Blackberry OS

Time to exercise...

In a world where companies are out there to earn profits by every passing moment, don't be the convenient bait. It's time to exercise... your rights as a consumer. You don't have to flex your muscles when you have laws to work for you

Case File #14

After reading our LCD monitor test in 2007, Sudip Kumar Saha decided to buy a ViewSonic monitor. It was encouraging to learn how he based his buying decision after reading our verdict. After decent performance for close to two years, the monitor developed some problems with spots appearing on the display. When Saha first wrote to ViewSonic, they told him, "After studying your case deeply and verifying all the technical specifications of the products, we have come to this conclusion that the black patches/spot that appeared on the screen is a result of misuse, external pressure e.g. touching small dot(s) on LCD screens or physical damage and is not covered under warranty. All such problems basically come up due to mishandling. Such cases do not fall within the scope of ViewSonic."

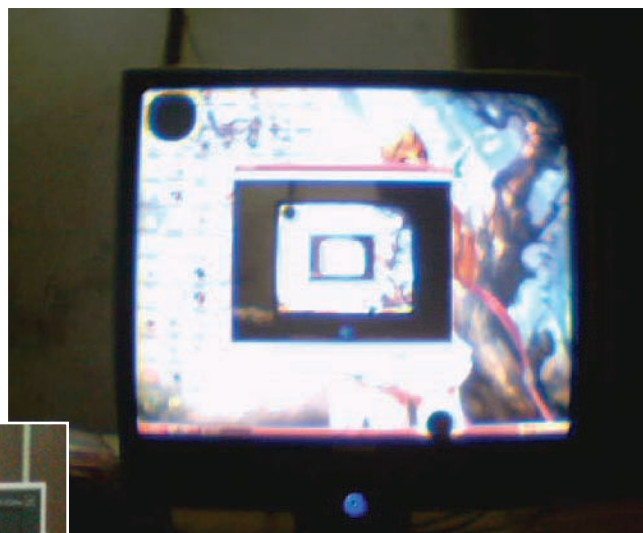


ViewSonic replaced the faulty monitor with a brand new unit two months before the warranty expires

What transpired

On March 22nd, Saha sent an email to servicewatch@thinkdigit.com and a copy of the mail to the editor. Two days later, On the 24th, Ahmed Shaikh, Editor-at-large and online architect, called Saha asking him for all the details of the case.

On the 26th, Saha received an email from ViewSonic along with a RMA/Complaint No. The next day, RT outsourcing's West Bengal branch called Saha and told him that the panel for his model is not available, and will take 3-4 days to repair the monitor. Saha asked for a replacement and was told they



The black spots visible on Saha's ViewSonic monitor

would inform the Bangalore head office about it. On 29th, Saha got another call from the Bangalore head office - they told him they will replace the monitor with another model expected by 2nd April. On 1st April, he got another call and was told that the replacement unit will reach him by April 06. On the 6th, Saha called up their West Bengal branch and enquired about it and they told him it was shipped from Pune. At 6.30 pm on April 06, 2010, the defective unit was replaced with a new one.

Case File #25

Last month was all about a Nokia customer who wrote to us about his Nokia N72 that abruptly started malfunctioning. Within a year of purchasing the phone, Srirengam's phone just died. He approached Nokia's service personnel at the respective service centre in his locality. Unfortunately, he was told nothing could be done about his phone.

A response such as that could be so disheartening. You buy a product with immense hope, and probably most of the time after a lot of asking, consulting, saving and waiting. And one fine day, all you hear is nothing can be done about it, it's gone forever. Amidst the despair and rage, there needs to be a sense of restraint. Patience will take you places, not reckless pursuit. In order to see your product working fine, you could take on one stupid move that would absolve the company of any responsibility.

He wrote to us and we promptly started our follow up. We shared his email with Nokia, and waited for responses. A month later they did get back to us saying the customer had tampered with

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Stand-by Time

The duration you can leave your fully charged phone on, before the battery dies out. Check out similarly used jargon at <http://bit.ly/8XPb6F>

Important buying factors

Before you buy a laptop, read important advice at <http://bit.ly/aeVmVN>

Consumer Support

the handset. Although that may sound surprising, we must ensure none of the steps we take are detrimental to our course to justice. Unaware of the proper course to be followed, Srirengam gave it all away because of haste. Consumermate.com has an informative guide to your safety as a consumer.

Go to www.tinyurl.com/digit-protect to read some really valuable tips. For example, point 2 of the checklist states, in case any defect/deficiency is detected in the product, first you should approach the seller and preferably submit the complaint in writing giving complete details. In case the seller agrees to rectify the problem to your satisfaction, ask for time it should take to do the same and have a copy of acknowledgement of receipt of complaint for your records. If the seller fails to attend the complaint in due course of time or creates dispute, the buyer can approach Consumer Court, MRTP commission, Weight and Measurement Department, or file criminal complaint in case of cheating. Now a days, consumer courts are very effective in helping the consumer resolve disputes.

If only Srirengam had followed these words of advice, he would have been assured of a solution from Nokia. Today, although his would be a genuine case of injustice, there is nothing he can do to get a replacement or a service

because all warranties and guarantees absolve companies from any obligation if the end user tampers with the equipment, in this case a mobile phone. The fact is although Srirengam himself didn't open the mobile phone, he did in fact go to the local mobile repairer expecting a miracle to happen. Be wise, and keep your side of the case strong from the very beginning. In fact, save all documentation and receipt from the day you purchase your product.

It is a universally accepted fact – quality does cost money. When you pay a higher price, you have a right to demand better quality and service. Similarly, when you take the cheaper way out, you'll find yourself sooner or later calling out for help with no one obliged to help you. If buying your next mobile phone costs you marginally more to get you a receipt, go for it. The same bill will be your first documentation that you could present in your legal battle should there be a malfunction as Srirengam experienced.

Case File #48

A surprising victim this month was Digit's Michael Browne. We're all consumers after all. He has been using broadband services by Reliance Communications. As a customer, he says he's pleased with their network. Technically, they satisfying. But as a service, he didn't

seem very content. Maintaining a neutral stand here, we got in touch with Reliance Communications. Never for once did we mention that Michael Browne is an employee of 99 Media or Digit.

We presented his case as a reader of Digit, in the same way we represent you. It started on March 07, 2010 when a franchisee agent went to Browne's residence to check on his newly installed connection and since "he happened to meet him" also collect the bill amount of Rs. 800. Not sensing any foul-play, Browne handed him the amount and continued his normal schedule of online gaming and streaming music. A couple of days later while in office, he received a call stating his services have been discontinued because he hasn't made the necessary payments. Most of April passed without Internet services and he was levied an additional bill for the month along with the outstanding of Rs. 800 mentioned earlier.

Here he was, paying money, then charged for it again, and levied with normal billing despite termination of all services. We could see the frustration building within him. We decided to follow it up for him, without any bias. We presented the case as we saw it. We got in touch with the Corporate Communications department of Reliance Communications. Anuj Bakshi was the spokesperson who was in touch with



Saha's excited about his brand new monitor

us. He said, "this is a one-off case where due to an error somewhere in the flow, things get out of hand. However, we'll do our internal investigation and find out about the same. Since we are certain about the credentials of the customer and know it is not a wrongful denial of payment, we've made the necessary modifications to the database."

That sounded reassuring. His net was up and running in a couple of hours, and Browne was happy. There were frustrating hiccups again. The net was disconnected again and he was receiving calls saying his earlier request for disconnecting service was finally closed. Overall, it was a state of absolute confusion where one executive didn't know what the other was talking. Once we initiated communication with Reliance, Browne was even asked about some other Reliance services he had subscribed to in the past! Everything is now at ease with him enjoying the luxury of a fast broadband connection in the comfort of his home. **d**

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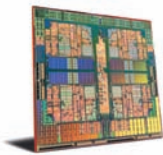
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- AMD Athlon 2 X4 630 / Rs. 5,050
- Phenom X4 945 / Rs. 7,600
- Intel Core i7 920 / Rs. 15,100



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
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- 2 x 2 GB DDR2 800 MHz (Corsair) / Rs. 4,000
- 3 x 2 GB Kingston HyperX T1 2000 MHz / Rs. 17,500

GRAPHICS CARD

- None
- ZOTAC GeForce 9600GT / Rs. 4,750
- Sapphire Radeon HD 4850 / Rs. 6,900
- Sapphire Radeon HD 5870 / Rs. 25,500



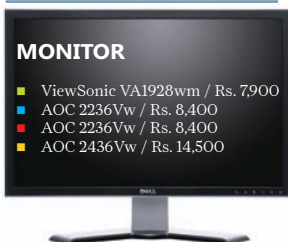
HARD DRIVE



- Seagate 500 GB 7200.11 / Rs. 2,800
- Seagate 500 GB 7200.11 / Rs. 2,800
- Seagate 1 TB 7200.12 / Rs. 3,950
- WD Black Edition 1 TB / Rs. 6,100

MONITOR

- ViewSonic VA1928wm / Rs. 7,900
- AOC 2236Vw / Rs. 8,400
- AOC 2236Vw / Rs. 8,400
- AOC 2436Vw / Rs. 14,500



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
- None
- 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 Multimedia / Rs. 500
- Logitech G15 / Rs. 4,000

MISCELLANEOUS

TABLET



- None
- iBall Design Tablet PF1209 / Rs. 8,900
- Wacom Intuos4 Medium (PTK-640) / Rs. 21,280

MOUSEPAD



- None
- Razer Goliathus Speed (Oversized) / Rs. 1,400
- Everglide Titan / Rs. 1,650
- Steel Series QCK Heavy / Rs. 2,000

HEADPHONES



- None
- Sennheiser HD 201 / Rs. 1,500
- Sennheiser HD 280 Pro / Rs. 5,500

GAMING CONTROLLERS



- MS Xbox 360 Controller / Rs. 1,450
- Logitech Momo / Rs. 5,500
- Logitech G25 / Rs. 17,500

PRINTING SOLUTIONS



- Canon PIXMA iP1980 / Rs. 2,695
- Canon iP3680 / Rs. 5,595
- Epson B-500DN / Rs. 22,999

POWER PROTECTION



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- APC 550W / Rs. 2,400
- Numeric 1 KVA / Rs. 4,200



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How I Did it

Sasken's Founder and CEO Rajiv Mody narrates his journey through the years

Work from home

Telecommuting employees is often overlooked as a viable option when considering cost cutting measures



India's IT managers review, analyse and reflect on the latest technology trends – and vote on the ones that will make the cut this year

Deepak Kumar
readersletters@thinkdigit.com

The robust performance of the Indian economy over the past few months has reinforced the belief that downturn, at least in India, is well and truly behind us. IT budgets that were hurriedly slashed a few quarters ago are being slowly reinstated. Shelved project plans are being revived,

and IT managers are once again being tasked to identify and evaluate technologies that can help their organisations capture and monetise new opportunities, and improve operational efficiencies.

The beginning of a new year is also the time when industry experts and vendors identify the latest technology trends and make predictions for the year. This is also the time when IT managers responsible for creating, maintaining and operating corpo-

rate infrastructure and services recommend and select the technologies and solutions for their organisations. A big challenge for IT managers making these decisions is to cut through the hype and hyperbole – and identify the ideas that will matter.

The IT Next team identified a range of technologies that have the potential to make a mark in 2010 – and asked the community of IT managers evaluate and rank them on four dimensions:

Illustration: Anil T

1. Leverage of existing IT assets:

With increased organisational emphasis on cost control, the ability to reuse and leverage existing technology and infrastructure is a huge plus since it not only helps optimise capital expenditure but also reduces the difficulty of transitioning to a new paradigm.

2. Maturity of technology: Technology maturity often has a direct correlation to ease of installation, deployment and management. IT managers responsible for ensuring application and infrastructure reliability tend to value technology maturity over novelty.

3. Potential benefits and utility:

Evaluating a trend or technology on this parameter helps organisations sift hype from reality. Issues like return-on-investment and time-to-market are important considerations here.

4. Cost of implementation: Superior or new technologies often come at a significant cost, or can become expensive to deploy. A discrete assessment (of the technology) on cost considerations ensures its relevance.

We now present the Top 10 Technologies that will matter this year.

① Security 2.0

Just protecting devices in the network will not suffice – the focus of security needs to be the data

As 2010 sees uptake of several community-based technology and communication paradigms like UC, TP and Social Media, the traditional perimeter security models will need to change and give way to a paradigm that is more user-driven and user-propagated.

Information dissemination and user awareness will play a more important role, and IT managers will need to pay more attention to implementing security policies in a relatively open and dynamic IT framework.

Now that the boundaries of enterprise networks are no longer rigid, with partner and client networks meeting in fuzzy zones, protecting devices in the network is not enough. Even protecting the servers and storage devices that contain data will not suffice—the focus of security has to be on data.

IT Next is of the view that it would be meaningful to develop security policies that lay greater emphasis on data and

information protection, followed by endpoint protection and network protection. Essentially, it is about having data at the center of the security policy.

It would be advantageous for IT managers to use the social media and integrated communication tools to sensitise users about security policies, and develop security champions for addressing security-related concerns in the dynamic enterprise.

② Business Intelligence and Analytics

While BI can help analyse business information better, the value is in performing a predictive analysis

The economic crisis that caught many enterprises and governments unprepared, also spawned the realisation that a greater use of BI and BA tools could have facilitated a speedier damage control in the aftermath of the crisis.

Market intelligence teams in enterprises are now placing greater emphasis on such tools to help their organisations captivate on new opportunities as the economy recovers.

While business intelligence focuses on monitoring operational information for understanding the gaps and taking corrective measures, business analytics aims to perform a predictive analysis of the market and the business.

In today's globalised and highly competitive marketplace, BI and BA tools can help your organisation compete better. Line managers increasingly rely on their IT counterparts for improved performance management.

IT Next urges you to evaluate and recommend BI/BA tools that can be neatly integrated with your enterprise IT systems, and help market intelligence and marketing teams in your organisation use the data to formulate smart growth strategies.

③ Data Center Transformation

Virtualisation, server rationalisation, site consolidation, and energy management are ideal ingredients of a data center transformation recipe

While 'measured green' alone would be a good enough reason to initiate a data center transformation, there are

other equally strong reasons to do it. These include measurable cost savings, improved productivity and efficiency across the organisation.

The ideal ingredients for a data center transformation would include virtualisation, server rationalisation, site consolidation, and energy management.

IT Next advises IT managers to develop a data center transformation roadmap that will distribute the capital expenditure (capex) over a period of years while ensuring return on investments for each year or a periodic interval. For example, you could identify inefficient and energy hogging servers and chart a phased plan to replace these by smart form factor servers that are more efficient.

Data centers often operate with more-than-surplus cooling equipment, to fight off 'hot spots' that get built up in certain zones due to air-flow deficiencies. Experts have pointed out that most data centers suffer from the problem of over-loading and that the solution lies in identifying the hot spots and creating airflow in those zones. You could draw measurable benefits by installing energy monitoring and management software in the data center.

④ Virtualisation

A virtualisation strategy will help you get the best out of your IT infrastructure. Evaluate and perform a mid-term adjustment, if necessary

Given that the most pronounced goal of virtualisation is to leverage existing IT infrastructure and reduce buying, its relevance for you as an IT manager will continue to be very high in the prevailing economic situation. So, stick to your virtualisation roadmap, and do the necessary adjustments and refinements, if you are already working on one. If not, put your virtualisation act together, especially if you have a data center to manage.

In general, server and storage virtualisation will make immediate sense because redundancy of these resources is usually high in many organisations in India.

Adoption of desktop virtualisation and application virtualisation would work on a small scale, at least through 2010. One, because for virtualised desktop

Cloud Print

Google is believed to be developing a service enabling you to print a document from any device to any printer even in the absence of drivers

Deloitte predictions

Watch our interview with directors from Deloitte on our Playware DVD, as they chart out tech trends for the coming year

environments to be cost competitive, the implementations need to be fairly large-scale, something that one may not be inclined to consider, particularly when transitioning through a recovery phase.

Investments in application virtualisation could be worth postponing while the SaaS paradigm gains momentum. That is because SaaS could reduce the need for additional licensed software – and reduce the need to virtualise applications.

Overall, the larger your organisation, the more visible would be returns on a virtualisation investment, especially for large and larger-among-the-medium enterprises. However, vendors are also offering virtualisation solutions for smaller businesses.

ITNext believes that in a dynamically evolving market and technology scenario, a two-phased approach to virtualisation is the way to go: while need-based part-virtualisation projects should be rolled out for quick benefits, end-to-end, full-blown virtualisation projects may be evaluated from a long-term perspective.

5 Enterprise Mobility

Enterprise mobility solutions will give businesses much-needed dynamic flexibility in competitive market places

The scope of enterprise mobility ranges from intra-premise to inter-premise, and from intra-city to inter-city connectivity, and seamless access to enterprise applications. As enterprises strive to better compete in the marketplace, enterprise mobility is becoming a key differentiator.

Enterprise mobility is expected to register higher adoption levels across a wide range of verticals in 2010. The fact that laptop shipments will continue to grow at much higher rates than desktops, and smart phone shipments are already higher than PC sales, is a testimony to the ground being ready for enterprise mobility.

IT Next believes that enterprise mobility solutions will give businesses the much-needed dynamic flexibility in competitive market places. In particular, if you manage IT in businesses such as insurance, retail, logistics, transportation, manufacturing and healthcare, adoption of EM could bring in substantial business benefits, and also simplify

concerns such as location tracking and integrated view of inventory.

6 Unified Communication

The key advantage of UC lies in its ability to resolve a query in a given session. This increases productivity, and reduces resource and time costs

The commonly accepted key components of a UC solution are: e-mail, instant messaging, IP telephony, and presence, with video conferencing getting added to the suite.

The benefit is the integrated connectivity among different communication media and platforms like texting, voice and video. It allows the user to switch from one medium to another, literally at the click of a button.

You can use UC in your organisation for, say, a customer query resolution, within the span of a given session, to increase productivity and reduce resource and time costs. This is radically different from traditional communication which relies on a single medium, say email or telephony, and would typically involve multiple sessions spread over many days, even weeks, to close a query, business deal or customer complaint.

IT Next recommends UC, especially because the cost of implementation is not high, and given that UC leverages and integrates existing communication platforms like IP, hybrid PBX, e-mail and IM in the enterprise.

7 Green Technologies

Besides addressing the concern of rising energy costs, the focus on 'green' can contribute to CSR and sustainability initiatives

As an IT manager, you may have been witness to power and cooling requirements associated with IT rising to alarming proportions. You may even be directly affected if this expense now goes from the IT budget, as is the case for an increasing number of organisations.

A couple of years ago, a report by the Environmental Protection Agency of the US estimated that data center energy usage would nearly double by 2011 over 2006 levels if the then prevailing operating practices continued. While there is no

similar study for India, the rate at which data center adoption has grown over the past couple of years leads to the conclusion that the situation could be much worse.

If we take into account the fact that power supply situation in India is not dependable and that generators have become second way of life for most data centers, we're on a dangerous path...

You as an IT manager have a pivotal role to play here: you can use 'green' to effectively address the concern, while also contributing to your organisation's CSR and sustainability initiatives.

A good market development is that the cost of deploying green IT has come down significantly with IT vendors now shipping green IT as a mainstream rather than in a niche product.

IT Next is of the view that you are ideally positioned to be a green agent, and bring about the change in your organisation. Make the most of this opportunity to contribute, and save the environment.

8 Private Clouds

Get your vendor to package infrastructure, platforms, and applications together for greater economic benefit

A private cloud is an emulation of the public cloud in a controlled enterprise environment. Given the perceived advantages of (public) cloud computing, and the security and availability concerns surrounding it, a private or internal cloud holds the promise of offering the best of both worlds.

A private cloud, however, is not likely to be as cheap as a public cloud equivalent. Yet, if offered by your long-standing and trusted vendor or solution provider, IT Next suggests that you go for it. While virtualisation provides significant improvement in infrastructure utilisation rates, a good cloud management solution can drive utilisation even more.

A private cloud offering would make even more economic sense if the vendor is able to package infrastructure, platforms, and applications together in a seamless fashion as a robust solution. And, contrary to perceptions, private cloud offerings in 2010 will be useful and economically viable even for smaller businesses. IT Next suggests that as you take calculated

Free Microsoft

With free software suites such as OpenOffice eating into profits, Microsoft released Office Starter 2010 with stripped down versions of Word and Excel and excludes PowerPoint

Work@tech

steps towards private cloud computing for your organisation, look for good 'appliance' versions of such offerings. These appliances are likely to be relatively cheaper, have better plug-and-play characteristics, and would typically be a fusion of proven discrete products, say a platform and an application.

9 XaaS Since any thing as a service reduces the risk of failure, it is a good bet when experimenting with new software and solutions

While software-as-a-service (SaaS) is the better known and talked about category, but there are others too – infrastructure-as-a-service, platform-as-a-service, and so on. All these services are delivered over the cloud.

In India, as elsewhere, telecom service providers are emerging as mainstream XaaS channels and providers, as part of their attempt to offset falling average revenue per user in their regular voice and data service offerings.

XaaS has largely been marketed as a pay-as-you-use or utility pricing

model, which has fueled buyer interest and adoption. However, it can be correctly argued that an enterprise-wide usage would demand contract pricing to come into play, and perhaps render the cost advantage of XaaS less obvious.

Yet, XaaS will have a clear overall advantage over box-based pricing models, despite the leasing and financing options promoted by box vendors.

IT Next's opinion is that XaaS would be a particularly good bet when experimenting with new software and solutions for non-core functions, as it lowers risks associated with failure. You may consider XaaS alternatives for proven solutions deployed in the core, only after being convinced by success studies and robust proofs of concept.

10 Enterprise-grade Social Software By plugging social media tools into an enterprise application or process, organisations can achieve 'contextual collaboration'

Have you fought against the invasion of various social media platforms into the enter-

prise, haunted by security concerns? It's time to realise that the use of social media is a cultural-cum-generational shift in human-to-human communication. The best way to defend against its perils is to embrace it, with security filters built in. That's what enterprise-grade social software is all about!

Deployment of social media in the enterprise will earn IT managers accolades, not just for providing the communication environment that employees are already used to, but more importantly for initiating a cultural shift that will help enterprises compete better in the marketplace.

A salient feature of enterprise social networking is "collaboration in context". This can be achieved by plugging in social media collaboration features into an enterprise application or process to enable information sharing between users right when the need for sharing is felt.

IT Next suggests that IT managers spend time in evaluating various enterprise-grade social media solutions and looking for success studies. Carry out the deployment only after you are convinced of the benefits. **d**

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Inmarsat

The British satellite communications company that Sasken created the handheld phone for was founded in 1979 as a United Nations body

Low salaries

According to analysts, IT companies will not increase joining salaries of engineering graduates.

From the garage to the stock exchange

It's a classic Silicon Valley start-up. Rajiv Mody, along with his two friends, left his job to build their dream project out of a garage in California. The business soon travelled miles away to Bangalore, where it continues to rake in millions of dollars in profits. Sasken Communication Technologies is known for its expertise in developing software embedded within chips, and multimedia technology for cell phones. Nearly 50 million handsets worldwide carry intellectual property created by Sasken. Mody is now pulling all-nighters to wrap up his final-frontier project – the next generation of satellite phones.

**Always learning,**

Mody feels his willingness to learn and experiment has helped him immensely in building his million-dollar business.

As told to Jacob Cherian
readersletters@thinkdigit.com

I was born in Mumbai and did my schooling in Rajkot. After I completed my engineering in 1981, I went to the Polytechnic Institute of New York University. In my second year there, I began teaching undergraduate students. It was a tough job – I was teaching a class of nearly 50 students about things that I wasn't completely sure of.

The American students asked really difficult questions. After my very first class, someone reported me for doing a lousy job. I had to face the administration. Thereafter, I fought hard to overcome the fear of teaching and went on to teach graduate students.

I gleaned a valuable lesson – consider the view point of the person sitting on the other side of the table. These years also taught me the importance of preparation and the trick to dealing with a rough crowd.

In 1983, a campus interview got me placed at Advanced Micro Devices, better known as AMD. We did a lot of skunk work there, trying to look for the best possible approach for circuitry on microchips. It was a great time to be in California. The area was full of old friends doing similar work at good companies.

Two years later, I moved out of California. I joined a small company, called Seattle Silicon, and did some cutting-edge stuff. By 1987, I moved back to California since my dentist

wife could practice there, but not in Washington. I joined VLSI Technology, where I met my future partners, Suresh Dholakia and Badru Agarwala. We would throw around ideas and dissect them over lunch. The concept of building a venture, which would have a face in the US but would leverage the cost advantage of India, emerged during such meetings.

In October 1989, all three of us quit on the same day and began working out of Badri's garage in Fremont, California. We managed to raise US\$200,000 from investors and added to that our grand savings of US\$35,000. By January 1990, we had our first order from Bell-Northern Research Labs to develop software at a distance.

Almost simultaneously, we also applied for an Export Oriented Unit licence in India. I am a believer of the old adage that luck favours the bold. We were given the licence on the condition that we would export Rs. 90 lakhs worth of our product in the next five years. The exchange rate stood at Rs. 14 to a dollar. It seemed like a huge target back then, but we surprised ourselves by achieving it in a year and a half. In April 1990, we sold our digital simulator, called Vx-SIM, to NTT and Konami in Japan for US\$250,000.

My wife and I headed back home. It was a risky decision, but I still had my Green Card if things went terribly wrong. I shuttled between India and US, meeting potential clients.

Growth costs

According to T V Mohandas Pai, Head of HRD and Education and Research, Infosys, salary hikes and employee promotions costed the company Rs. 590 crore last quarter

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Entrepreneurship

We also concentrated on getting some really smart people. I visited IIT Bombay, where professors like G Venkatesh and Sunil Sherlekar, who later joined us, were doing cutting-edge work in the communication technologies field.

We began sponsoring projects for Rs 10,000 a year; the money helped students get a masters degree in technology and helped us strike up a relationship with some of the best brains on campus. This fuelled our technical developments. By 1995, we had become a destination for quality talent. The same year, Suresh and Badru, spun off our chip design simulator product into another company and left.

Three significant decisions helped boost our stand in the market. We started working in GSM with Nortel, not realising that this would become the de facto world standard. Secondly, we were working on ADSL

technology, which we licensed some of that work to a company in the Valley in 1998. Thirdly, we began work on 3G WCDMA technology – a pretty ambitious move at that time. The credit for these decisions primarily lies with Venkatesh, whose technical expertise and knowledge helped us spot trends well in advance.

Four years later, Intel and Citibank channelled US\$10 million into Sasken for a 10 per cent stake. We used that money to build our Bangalore facilities.

In 2000, we decided to focus our energies better. We removed electronic design automation from our bouquet of services. Our turnover grew from US\$17 million in 1999 to US\$28 million the next year – simply because we were more focussed.

As an entrepreneur, my biggest challenge has been to transform from being someone

who is passionate about something to a person who can look at things holistically. I learnt to step back and see if the object of my affection is actually good for business.

At the turn of the century, the tech bubble went bust. We had to ask people to take a 20 per cent pay cut. The gloomy air and the nervousness of that August afternoon reminded me of my teaching days. I learnt that day that when people see your vulnerabilities, they usually understand you, and accept that these are temporary times.

Three years later, we went for a public listing. Those were heady days; like being on opium. We were oversubscribed 72 times. Later that year, we were voted the second-best place to work at by a survey.

In 2006, we acquired Botnia Hitech in Finland for US\$45 million to get close to

“My biggest challenge has been to look at things holistically; step back and see if the object of my affection is good for business.”

Nokia, as a customer. Our plan worked; it is our single largest customer. That same year, we also set up shop in Mexico.

Then, in 2008, the economy cratered and survival became the order of the day. At the same time, Texas Instruments exited the chip design space. This was really bad news for us, since they were a partner. Tough times bring on tough decisions. I had to ask Hari Iyer, head of HR, and Sri Kannan-kote, head of marketing, sales and offerings, to resign. We started downsizing from the top. Since then, we have been focussing largely on raising the bar on our efficiency.

We are now working to finish the satellite phone. The launch date is July. Our cell phones transmit a signal one or two km to the closest transmission tower. A satellite-phone signal will be able to push past 36,000 km, and yet not kill the six-hour battery-life of the phone. It's a project that has almost come to represent the next frontier. We are proud of this accomplishment.

I believe it is important for every person to challenge themselves to do things that seem impossible. The hardest part is the act of doing something; once you take the plunge, there is nothing more gratifying. The journey that follows is your reward. **d**



Resonance of success, Rajiv Mody ringing the bell at the Bombay Stock Exchange in 2005. The public issue was oversubscribed 72 times.

Content courtesy:

Incia

Motion control

Project Natal from Microsoft drives the latest Xbox controller that enables you to perform dance moves or kick a ball, while a camera tracks your movements

SMERA

SME rating agency of India Limited (SMERA) is an initiative by SIDBI (www.sidbi.com) and several leading banks in the country



PHOTOS.COM

Getting 'em work from home

Telecommuting employees can deliver big gains only if enterprises adopt robust technologies and the right policy measures

Pragya Singh
readersletters@thinkdigit.com

Work is something we do, not something we travel to. While this is not yet a catch phrase in Indian organisations, but it seems well on its way getting there. With urban centres such as Delhi, Mumbai, Bangalore and Hyderabad getting more congested, the corporate sector is presenting its employees flexible work options that enable them to cut travel time and boost productivity. A recent survey conducted by IDC revealed that 81% of executives polled across the Asia-Pacific region strongly agree that telecommuting improves productivity. In 2005, only 61% thought so.

For a growing number of businesses, telecommuting has proved to be favourable for both employer and employee.

If your company is in a business where employees do not need to be physically present to carry out work, or if your organisation is facing problem finding an adequate and suitable workspace, then telecommuting can be an answer. The concept has come of age, thanks to the availability of high-speed connectivity and handheld devices, at least in major Indian cities.

According to Kalyan Banga, Research Analyst at AMI Partners, "Telecommuting penetration is on the rise across Indian enterprises, particularly amongst SMBs. While it has increased from 3%



"Telecommuting is possible wherever there is clarity in the role, and data security is in place"

Dr Deepak Shikarpur,
Computer Society of India

in 2006 to 11% in 2008 amongst smaller companies, it has jumped from 8% to 27% amongst medium level enterprises. These figures point to the growing importance of telecommuting among Indian SMBs."

In small businesses, telecommuting penetration is highest among professional businesses followed by manufacturing units, that have remote production facilities and specific service needs. However, in the medium business segment, the penetration is highest in the banking and finance sector as they have agents and brokers working from remote locations.

But, like in other technology deployment, the concept cannot be rolled out without a proper enterprise strategy for telecommuting. IT managers need to understand a host of issues – from security to performance management, policies for data classification and defining access rights – to prepare their organisations.

Says Dr Deepak Shikarpur of Computer Society of India: "Telecommuting is possible wherever there is clarity in the role, and data security is in place."

In addition, telecommuting requires robust technological support to enable hassle-free communication between the organisation and the employee. According to Shikarpur, a PC with wide screen and high bandwidth Internet with adequate audio is the minimum setup needed for home operation.



Vue's wireless home video network is an effective way to keep a close watch on your home

Feature

"Secured access to the corporate network is also a must," he says, adding, "Privacy at home and a good telephone instrument with speakerphone facility would be ideal."

Performance management

Security becomes a major issue in telecommuting. Adopting measures such as secured access to business data, phone systems, applications and other resources through secured, wireless and fast Internet connections can go a long way in making remote functioning possible (see box "How to make it work").

For long-term benefit, it is important for an organisation to put in place a clear-cut security policy as well as performance measurement tools. It also needs a way to handle softer issues by clearly articulating the total number of work-hours for such employees, and vacation time.

Amit Malik, Vice-President-East, Cisco India and SAARC, says, "Telecommuting is feasible only if the organisation has structured performance management approach in place." According to him, organisations need to be very transparent

about how to assess a telecommuting employee's work and productivity.

"We also have clear processes and advanced communication technology in place that allows employees to work efficiently, no matter where they are. As the employees' bonus is mapped onto productivity, it also provides a clear reason to deliver on work assigned," he explains.

Hurdles and benefits

Despite the fact that the advantages of telecommuting, such as increase in number of productive hours, better professional and personal life balance, less exhaustion due to reduced or no commutes and, more importantly, reduction in carbon footprint outweigh the negatives, the proportion of organisations adopting telecommuting is still small.

Many employers have difficulty in breaking free from the 'keeping an eye' mindset, and evaluating the employees on the basis of their physical presence, rather than their performance.

However, providing flexible working options does enable organisations to retain the best talent, even when they

are facing personal problems. In the case of women staff, this option works particularly well during times of family pressures or maternity leave.

Says Rajesh A R, Vice-President (temporary staffing) at TeamLease Services, "The concept can bring in potentially large gains in productivity and substantial savings in time and cost. At the same time, it offers good work-life balance to the telecommuting workforce. However, for these benefits to come to fruition, it is extremely important for companies to have excellent performance management systems in place."

Besides, telecommuting can also help enterprises in terms of talent retention and offering the staff flexibility on a regular basis, or when they are on long vacation or leave.

However, to be the change agent driving the concept, IT managers need to carefully explore the options provided by various vendors. They also need to examine the various technology options and weigh the pros and cons before offering a solution that can help the organisation extend this facility to employees. **E**

Content courtesy: ITNEXT

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Partial List

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Watch your music!

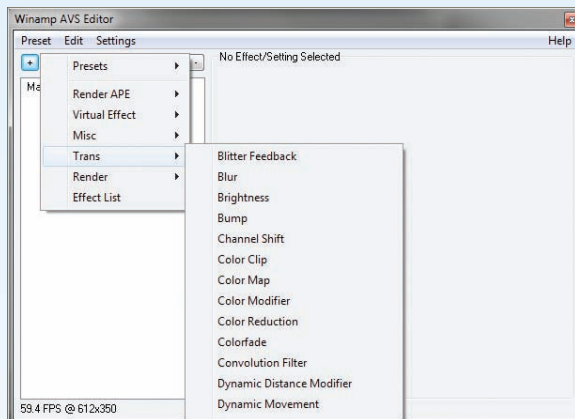
Add colour to your favourite psychedelic music while watching amazing visualisations that add to the whole effect!

Rahil Banthia

readersletters@thinkdigit.com

Visualisations in any media player, are just dynamic add-ons or plugins that produce images, colours and textures that change based on elements in the music being played. If you're not happy with the default visualisations, worry not! We'll show you how to create your own.

Although we'll create our own visualisation in Winamp, you can do create similar visualisations in Windows Media Player, KM Player or any other player that supports plugins. Winamp offers two primary



Adding a Module in AVS

visualisation plugins: AVS(Advanced Visualization Studio) and MilkDrop.

These allow you to create different presets, the term used for outputs of a visualisation platform. Using these, you can customise the visualisers and get any effect you want.

Let's start with AVS visualisation environment and see how we can combine the library of inbuilt effects in endless ways and create our own AVS visualisation preset masterpiece.

What's AVS?

For starters, AVS is the mother of all Winamp visualisation plug-ins that lets you build a countless number of custom visualisations from an ever-expanding library of effects. It supports windowed/fullscreen rendering, preset customisation, module stacking, skinnable windows, support for Sonique visual plug-ins, and a ton of other features. The best part is that it comes bundled with all versions of Winamp after v2.6, so everyone can get a taste of its visual sonic goodness.

How to create presets?

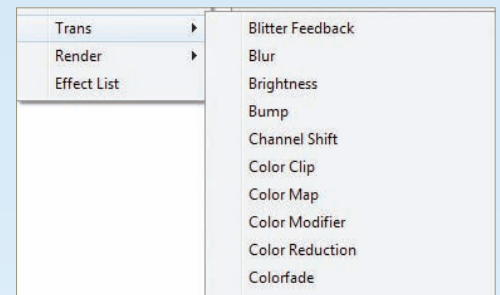
Let's start by making a simple preset with one render module and a few trans

modules that will subtly manipulate the effects. To get started, run Winamp and change the present to AVS from Preferences. Then right-click on the AVS window and open the AVS Editor. Click on preset. This will give you a drop down menu, where you've to choose the New blank preset option.

Click on Main in the new window that pops up and make

sure the option to "Clear every frame" in the right pane is unchecked, so that the screen is not painted black at the start of each frame. This will make the visualization appealing and continuous. Now, let's add an effects module to this new preset. For this, you've to click on + and then select Render > Moving Par-

ticle. The right pane will change now and show you various options that you can associate with this module. Choose a colour that you want in the colour box that pops up when you click on the label "color" in that. Enable the Onbeat Sizechange option. By now, you've created a blob of colour that

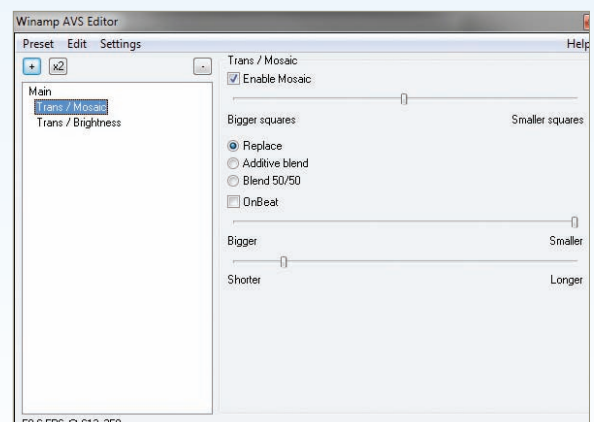


Add the Water, Blur and Movement trans modules

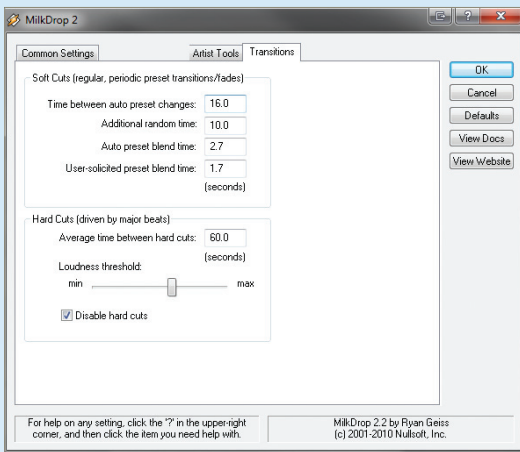
moves based on the music that you will play along with this visualisation.

Let's add some transitions to it, because come on, how interesting is a moving blob of colour? Click on + and add three Trans modules: Water, Blur and Movement. In the Movement module, select sunburster from the right pane. This is our basic visualisation, more or less. You can experiment with any permutations of the existing modules and with minor modifications, they turn into completely new effects. An interesting one to check out is the Effect module "up or down" which ensures that your visualization plays with sequencing.

If you want to delve deeper into AVS and create visualisations with more effects, you'll not be left disap-



The right pane of a Mosaic module with the settings available to you



How to change the transitions in MilkDrop

pointed. Everything in an effect list gets rendered into a separate buffer before being added to its parent buffer. Because of this very fact, you have the power to create completely separate effects off screen, manipulate them freely, possibly blending them together, all before finally displaying the final effect in one shot.

To demonstrate this feature, we will create a new preset and add an Effect List in the similar fashion that we used in the previous example. Check the Enabled and Clear every frame check boxes in the right frame of the Effect list and select Ignore for the Input blend mode and Subtractive Blend for the Output blend mode. Next add a Mosaic Trans module and a Simple Render module. After this, exit the Effect List menu and go back to main. Here, add a Fadeout Trans module and set it to Fade to Color

Box with a colour of your choice. Also select the Bass Spin in the Main Render module.

This will give you a dark coloured Simple effect overlaid over the white Bass Spins because AVS will place the Bass Spin on the main preset buffer and the Effect list on a secondary buffer. This buffer starts out black (cleared every frame), ignores what is in its parent buffer and a Simple waveform is drawn into it. Now that all effects in the Effect List have been processed, the secondary buffer is blended back into the parent buffer using the blend mode Subtractive Blend 1. What this means is that you can prevent Trans modifiers from affecting whole groups of modules, which in turn gives you much finer control over the visual effects. You can keep trying other things in AVS and we're sure you will come up with very interesting visualisations.

What is MilkDrop?

MilkDrop is yet another music visualiser plugin for the Winamp music player. As you listen your music in Winamp, it creates spectacular visualisations that take the actual music you're hearing, and uses beat detection to trigger myriad psychedelic effects and create a rich visual journey through sound. The best part about this is that it takes the full power of modern graphics chips and programmable pixel shaders to the realm of music visualisation. Hundreds of complex instructions can be executed for every pixel on the screen, every frame to create the effect that you will cherish.

Like AVS, it is also a fully configurable platform that comes in-built with Winamp and allows you to design and create your own MilkDrop visual presets, which for MilkDrop is a collection of parameters that tell MilkDrop how to draw the wave, how to warp the image around,

and so on. Each preset is saved as a file with a .milk extension and you can use MilkDrop's in-built "preset-editing menu" (the [M] key), to edit presets on the fly, on-screen, from within the program. You can make slight adjustments to existing presets, or even write insane new mathematical equations, of your own imagination, into your preset files and come up with things that MilkDrop has never done before.

To edit the properties of the current preset, press [M] while using MilkDrop. It will bring up the Preset Editing Menu. From here, you can either change the existing presets or write your own .Milk file to make your own preset. To check out how to write .Milk files, go to http://dev.winamp.com/wiki/MilkDrop_Unleashed_Guide.

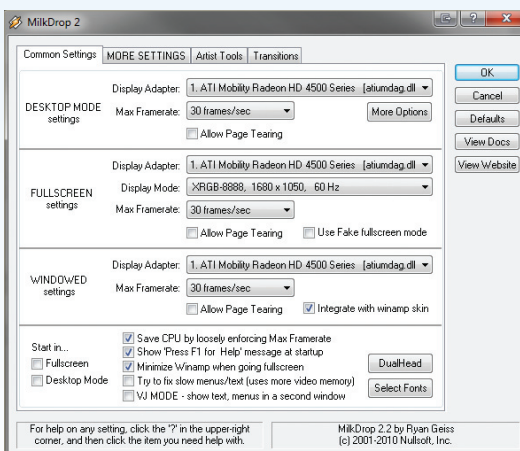


How to edit a .Milk file along with a sample .milk file

It'll give you a fair idea as to how you will need advanced mathematics with the knowledge of MilkDrop variables to create fascinating presets. Every line of a .Milk file is a variable and the value associated with it. You can find a sample preset for the butterfly effect at www.thinkdigit.com/d/butterfly.

Advanced Stuff

You can even write your own Winamp Visualizations plugin if AVS and MilkDrop doesn't provide you with all the transitions that you intend to have in your visualisation. You'll need the Winamp plugin SDK at www.winamp.com/nsdn/winamp2x/dev/plugins to get it to work with Winamp. We'll instead leave this to your creativity and programming skills. Send us your creations. **d**



MilkDrop 2 Settings

Metro 2033

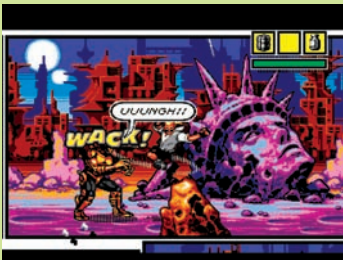
Enthrallingly, and eerily atmospheric – an adrenaline ride not to be missed

Dawn of War 2

The return of the finest warriors of the Emperor, and they have some new tricks

Hidden Gems of Gaming

Over the years, there have been a number of games that did not get the attention they deserved. We compiled a list of the best hidden gems of gaming. All the games below are on this month's Playware DVD



Comix Zone

Comix Zone is a fourteen year old game that is still ported to the latest consoles because of how great the gameplay is. The art of the game follows the comic styling, so the graphics are not dated even today. The protagonist is a comic artist known as Sketch who is drawn into a comic book (literally) by the comic book villain, Mortus. Now, Sketch has to cross his own comic book story, while Mortus draws villains and other obstacles in the panels. The game progresses as if you are reading a comic book, with dialogues delivered as the classic callouts. It's fun to beat up villains with "Pow!!" and "Wack!" bubbles showing up. The game is pretty hard to cross, and works well even on Windows 7.

Chromadrome

Irritating graphics, a horrible soundtrack, and the kiddish animations are all together, not enough to stop you from playing this indie game. Chromadrome is an action game where you have to follow a track, avoid bullets, and traverse obstacles such as loops, jumps and rings. The initial levels may seem slow and uninteresting, but increase the speed and each level becomes addictive. If you really want to challenge yourself, go for the Warp speed mode, an almost impossible task to accomplish. Although the game can be played by very young kids, it is a difficult game to play. The game is similar to a modern version of Skyroads, but with loads of interesting enemies and guns. If you want a no-brainer to beat the stress, this is it!



Duke Nukem: Manhattan Project

Duke combats the usual variety of monstrosities in this ignored release of the franchise. The game was confused for Duke Nukem Forever, which is the most famous game that never existed, and fans were disappointed. However, the sidescrolling platformer is pretty well designed, and if you liked Duke Nukem 3D, this game is the only option for some more

Duke goodness. Yes, there are the babes, the mutant monsters, the pig-cops, the strange weapons and a bunch of giant cyborg ladies that we suggest you stay away from. One irritating aspect of the game is the Mighty Boot kicking in and killing off enemies when you step on them, not giving you the satisfaction of blowing up their mutant faces with the Golden Eagle (Duke's pistol).

Battlezone

There are many titles with the name Battlezone, we are talking about the 1998 release. Games that are a hybrid between RTS and FPS are not too common, mostly because how complicated the gameplay becomes. Tremulous is a recent example, and Battlezone works on the same principles. Players basically have to shoot enemy tanks in a campaign or multi-player setting, and at the same time manage the mining operations on something known as bio-metal. The RTS element in the gameplay occurs parallel to the shooting, but this is not too complicated as there is just one resource to manage without a complicated tech tree. The game is great at stepping up the pressure, and it is easy to feel the heat of the battle.



114 Dawn of War 2

Command an arsenal of vehicles, weapons and even a killer grappling hook, leaving a country in smoking ruins at the end



Croc: Legend of the Gobbos

Croc is a third person 3D game with some very well designed gaming environments. The game is a 3D platformer, and the protagonist is a crocodile in a strange land. Over the course of the game, players have to collect crystals, navigate across many islands. Each island has a graphic theme, the ice domain being our favorite. The game has some nice touches, Croc will slip frequently in the ice levels, and there are some elaborate puzzles to solve on the way as well. This is a long and engaging game, and when you are done, there is a sequel, Croc II, which is as good.

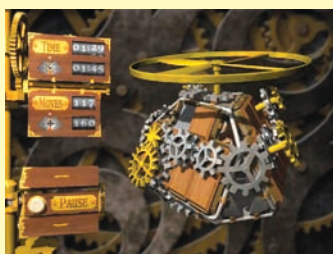
116 Unwind

The latest theories on cosmology, the cities of the future, Digit Diary, and more

Feature

Metal Fatigue

Metal Fatigue is a RTS that was released in 2000. The game still plays pretty well, provided players are not expecting a typical RTS game. Metal Fatigue stands out in the sense that there are only a handful of units, most of the game-play involves creating and deploying Combots (combat robots), or giant fighting mechas, and who does not like these. The Combots have to be "grown" in parts, and assembled, before being unleashed on enemy forces. Players can also re-use abandoned parts of Combots. There are three campaigns, RimTech, MilAgro and Neuropa, focusing on the various aspects of the gameplay (speed, strength, stealth etc). This game does not play well on Windows 7.



Cogs

Cogs is an indie puzzle game, and is a pretty inventive one when it comes to designing new challenges. Each level in the game can be considered a separate puzzle to solve. Players have to complete a number of contraptions by moving around blocks, these range from flying cubes, gas filled flying balloons, to steam engines. The replayability of this game is very high, as there are a number of awards for completing a level in a minimum number of moves, as well as a minimum amount of time. Apart from the inventor mode, the challenge mode can also be unlocked, which is a set of time trials or lowest-move games. Although the levels don't become increasingly tough, you do need to think out of the box every now and then to solve some puzzles.



Severance: Blade of Darkness

This is a RPG game from the turn of the century, and has amazing graphics considering the time it came out. Players can choose from four different characters, The Barbarian called Tukaram (yes, we would like to know why they chose this name too), Naglfar the not-so-short dwarf, Sargon the Knight or Zoe the thief/huntress. The game has stunning environments, with some great work on aspects such as light rays in lamps, or the refraction on water surfaces. The over-the-top combat is the heart of the game, and the most gripping aspect. There are a number of weapons to choose from, and some very satisfying combos to discover. The animations on the weapons are something to look forward to in this game.

Star Guard

Star Guard is the only Flash game on the list. It is a stand-alone executable, and use very minimal graphics to present a very accomplished game. You have to guide a small green man down into the catacombs, crossing hordes of monsters and obstacles. The platformer is very basic in terms of looks, but pretty innovative in terms of gameplay. Fortunately, you can save the progress, and this is not an easy game to play. The game is good at throwing new things to catch you off-guard, and it is refreshingly entertaining to play with some old school graphics. The game would not look out of place in the Alley Cat days.



Jazz Jackrabbit

Jazz Jackrabbit is an old sidescrolling adventure game, and is fun despite the outrageously dated graphics. This is a

game from the DOS era, so playing it on modern machines requires a DOS emulator such as DOSBox. You play as a fire shooting, hoverboarding rabbit in search of princess Earlong. The levels are typical platformer fare, but the soundtrack is pretty catchy, and has some early forms of ninjatune elements. The game is a sort of a revenge on the tortoise-and-hare story, as the enemy is played by a monstrous (and evil) tortoise.

Metro 2033

Enthrallingly, eerily atmospheric – an adrenaline ride not to be missed

Michael Browne

michael.browne@thinkdigit.com

Welcome to the future...

Post nuclear fallout, beneath a frozen, debris-ridden, irradiated wasteland, death is constantly one false step away. Humanity clings on; driven by perhaps the most primal instinct of them all – survival. Russia's underground rail system forms the ecosystem to which mankind clings tenaciously, for the surface is no longer inhabitable.

Into the Metro

While the stations remain safe, the tunnel system is anything but. Dangerous beasts lurk around corners, prowling around for what little game is at hand. The ambience is chilling, and Metro 2033 uses darkness to very good effect in this regard. Often, there is nothing more than the light of your headlamp and the greenish

glow exuded by odd radioactive fungi that flourish in certain parts of these dank tunnels. And the game can be unnerving at times; you'll hear snarls and expect to round the corner into a fight only to find an empty stretch. Suddenly, unexpectedly, a couple of creatures will rush you, while one pops up from behind a trash heap you dismissed as a part of the scenery. While your headlamp is pretty potent and goes a long way in exploring the derelict corridors of the Metro and even unearthing potential cover, it's also a dead giveaway, so you'll always be faced with a dilemma. The enemies range from prowling ravagers that use teeth and claws to smaller variants that employ nasty hit-and-run tactics to massive winged beasts, although the latter you will only encounter on the surface. There are human foes too, and these will often test your tactical skills, although they're seldom as hard to dispatch as the monsters, for the latter use speed and agility to great effect. Once in awhile, you'll emerge to the surface, in which case a gas mask is mandatory. Often, passing such levels is a test of speed, as you continuously hunt for gas filters for your mask – run out of these and it's a sure trip to your maker. Throughout the Metro, you'll pass through stations where you can

Metro 2033

Publisher: THQ

Developer: 4A Games

Platforms: PC, Xbox 360


Price: Rs 1,299

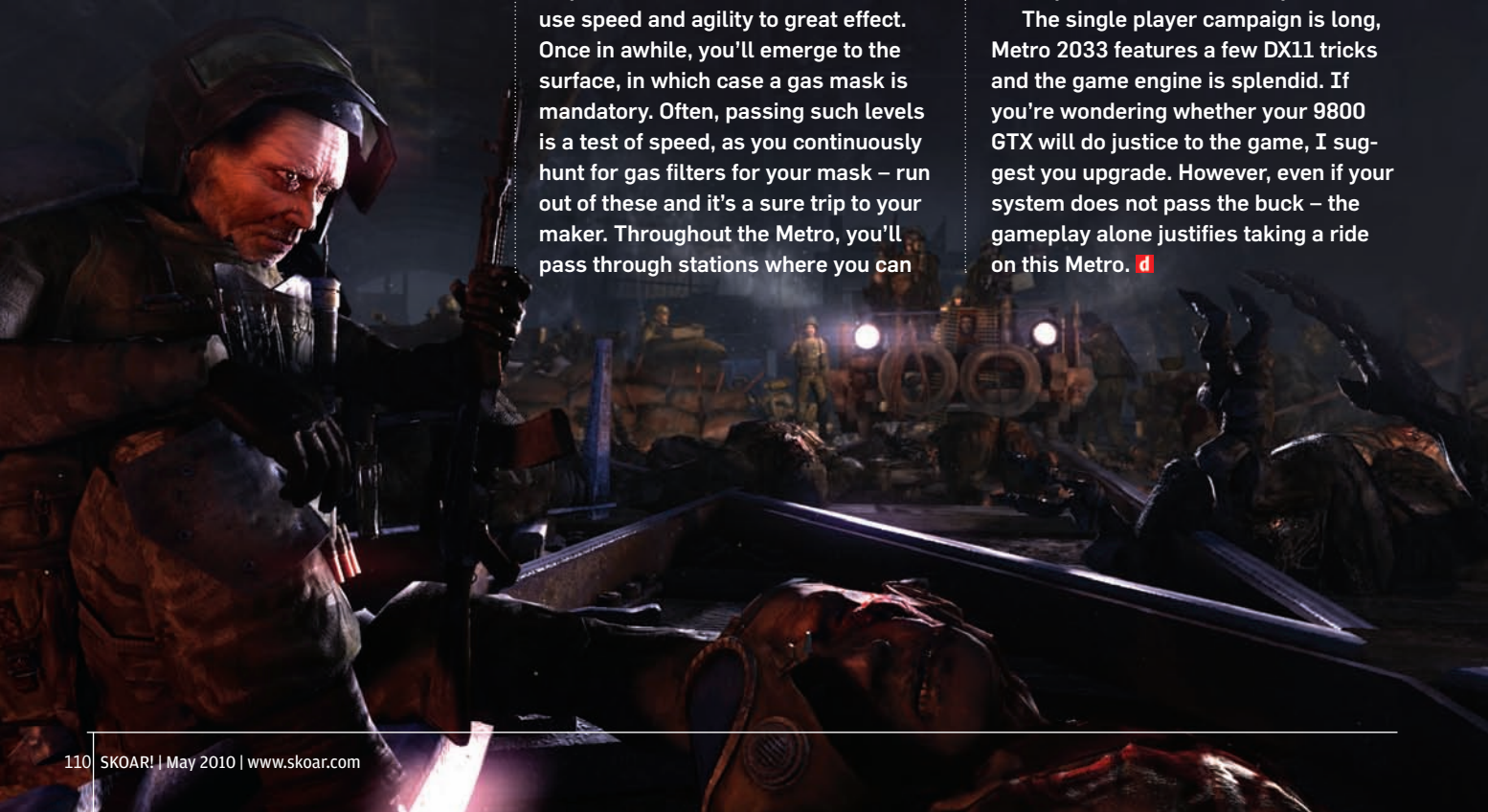
THE SKOAR  8.5

sell off looted gear to hawkers for better weapons – the currency is pre-war ammunition! So you use rounds, to buy rounds, although the ones you'll use, pack less of a punch than the factory manufactured rounds. It's a matter of sheer quantity over quality.

Dilapidated beauty

Often you'll just stop, gaping in awe at the realism of your surroundings. On the surface, you'll spend time watching the play of moisture and gusts of wind on your gas mask. Underground too, the corona and particle effects generated by a campfire or lantern will enthrall you. Both light and the lack of it have been used exceptionally well to create a believable, riveting world. The textures, detail of weapons and environments are all pretty immaculate. If anything, facial expressions could have been worked on, but hey – it's not like you're going to be seeing many people anyway. Weapons have a nice impact to them giving combat a visceral feel. The audio component also dishes out atmosphere and realism in spades.

The single player campaign is long, Metro 2033 features a few DX11 tricks and the game engine is splendid. If you're wondering whether your 9800 GTX will do justice to the game, I suggest you upgrade. However, even if your system does not pass the buck – the gameplay alone justifies taking a ride on this Metro. 





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DAWN OF WAR II: CHAOS RISING

Publisher: THQ

Developer: Relic

Platform: PC

Price: Rs 999

THE SKOAR

8

Dawn Of War II: Chaos Rising

The Emperors finest...return

Michael Browne

michael.browne@tbinkdigit.com

A vitus, Tarkus, Cyrus and Thaddeus are back; and thanks to a new level 30 level cap, have a few new tricks up their sleeve. A huge warp storm has blown up. This has resulted in the appearance of a colossus-like ghost ship that travels along in space and is spotted only once a hundred years. And our Blood Raven's best ex-buddies – the forces of Chaos are there as well. Their objective is to raise one of the servants of Nurgle – who once freed will rain suitably epic destruction down on the surrounding region. Naturally this doesn't bode well for the Space Marines, for whom this cluster of planets represents prime recruiting worlds for their chapter; and thus the battle is on.

While the single player campaign is much shorter than the original, the multiplayer component has sev-

eral small but noticeable tweaks that makes it much more fun and addictive. There are now five playable factions including the Eldar, Space Marines, Orks, Tyranids and Chaos Space Marines, more multiplayer maps are also included. The single player campaign is also pretty interesting and the missions are quite varied. New equipment, new skills and a challenging new enemy are just some of the things that await you. A betrayal from within the chapter is also an unexpected.



Chaos Rising is a good expansion pack to what was already a novel (and successful) attempt at trying something new with what was dangerously close to becoming an over-used franchise. Whether or not the name of Emperor gets you on your knees in supplication, Chaos Rising will entertain – the graphics engine is nicely detailed, combat is pretty bloody for an RPG and suitably righteous voice acting seals the deal. **d**



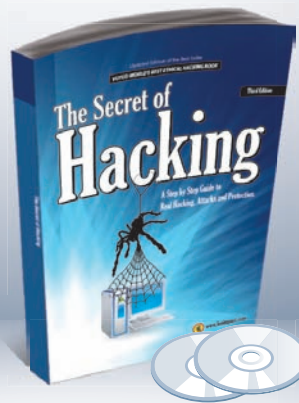
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SKOAR! Special

Genre: Action, Third Person Shooter, Sandbox
Studio: Avalanche Studios, Square Enix London Studios
Publishers: Square Enix, Eidos
Platforms*: PC (MS Windows, Steam), PlayStation 3, Xbox 360
Price: PC: INR 699 / PS3, Xbox 360: INR 2499
**Reviewed on PC*

THE SKOAR

8



A just cause or for no cause at all? Command an arsenal of vehicles, weapons and even a killer grappling hook, leaving a country in smoking ruins at the end. Saddam wasn't half as bad...

Faiyaz Shaikh
readersletters@thinkdigit.com

Rico Rodriguez reprises his role as a CIA operative in the sequel to Just Cause—the 2006 sandbox-style action game developed by Avalanche Studios. This time around his mission takes him to the fictional island country of Panau situated in Southeast Asia. The mission is to destabilize the newly instated government led by a certain Baby Panay. Working undercover as a hired gun, Rico works with three other factions in Panua that are just as keen to usurp the incumbent government's rule.

The game's paper-thin plot unfolds like a typical US black-ops mission that is often discussed in the fringes of political debate, but never in the mainstream. Cash earned can be used to purchase equipment and vehicles from the agency. These vehicles and weapons can be upgraded by spending upgrade

parts that are scattered across the map. Alternatively, the player can also jack any vehicles from the game-world that are not available for purchase.

The game-world is huge and there is an impressive variety of transportation means with a plethora of ground-based vehicles, motorboats, helicopters and airplanes. The player can even hijack and fly around in a Boeing 747! For a more unconventional mode of transportation, the player can use the combination of Rico's trademark grappling hook and parachute to slingshot across the map. This method – if used effectively – is one of the fastest ways of getting around with maximum mobility.

The grappling hook is invaluable even in combat as it can be used in a variety of ways to quickly turn the tide of a battle in your favour. For instance, when the player is on foot and is pursued by a helicopter, one can grapple onto the hull of the chopper and subsequently take control of the craft.

Side-mission are littered across the map and new ones appear as the game progresses. While most of these side-missions may appear similar at first-glance, it is impressive to see that the level design and enemy types keeps things fresh and challenging.

Compared with the choice of vehicles, the game has limited arsenal of weapons. However, in all fairness it is adequate to carry out any type of mission.

Avalanche studio has used an improved version of the engine that they used to develop the first game in the series and the result is mostly positive. The load-times are impressively low and the textures scale very well without any 'popping-in' effect or noticeable drop in the frame-rate. However, the game suffers from occasional clipping errors. Another area where the developers could have done a lot better is with the game's script and voice-acting. The whole game takes around 20 hours to finish, and a roller coaster ride it is.

In my experience, sandbox games are fun to begin with, but just as easy to lose interest in. Just Cause 2 is one of the exceptions as it manages to keep you engaged and interested right till the end and beyond. **d**

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Star Factory

A number of newborn stars ten times the size of the sun have been spotted in this dust cloud known as the Rosetta Nebula.

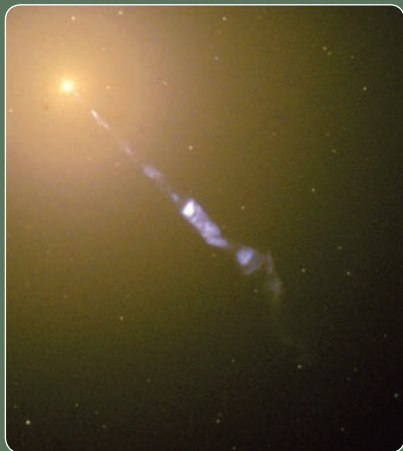


Nokia Comes with Music

The Comes with Music service launched in China allows users to download thousands of DRM free music for free. The service is going to be launched in India soon.

Bleeding Edge

Fresh theories, concepts and speculations from the world of science



THE OMG PARTICLE: Theoretical quantum physicists are having some problems because their theories are falling short of observed fact. The oh my God particle is a form of radiation with so much energy, that there is no way that scientists can explain it. These particles are observed in gamma ray showers, or to be very accurate, extreme-energy cosmic rays. Apart from being unable to explain how the particles have such high energies, the scientists are at a loss to explain where the particles come from. Although not proven, the most likely candidate for the origin of these particles are supermassive blackholes in the center of galaxies. Scientists have almost no proof for

these claims though, and it is equally probable that there is a Ultra-high-energy cosmic ray gun at every galactic center. The scientists are good at covering up their lack of knowledge with a sense of humour though, and the OMG particle is named as a comic retaliation to the God particle. The LHC at CERN made the search for the God particle famous. The atom smashing scientists are breaking open atoms to understand how they work, which is similar to throwing a computer from a building, looking at all the components, and figuring out how the computer works. This approach might not make too much sense, but that is what they are doing.

The gamma ray emission jet from the active galactic nuclei of the M87 galaxy. If you travel along the jet at the speed of light, it will take you five millennia to traverse.

THE SEARCH FOR EXTRATERRESTRIAL LIFE:

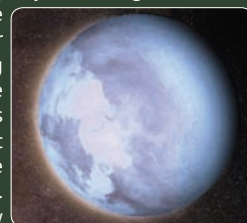
This is not to be confused with the search for extraterrestrial intelligence. The SETI program was dedicated to analyzing radio waves from space in the hope that if an ET was calling, we would at least pick up the signal. However, we ourselves used radio waves for broadcasting for a very short period, and mankind switched to fibre optic and other undersea cables as the principle mode of communication. Scientists are aggressively looking for extraterrestrial life,



A famous photograph of a Martian meteorite, which possibly shows the signs of bacterial life.

both intelligent and otherwise in a variety of ways. Bacteria is a good place to start, as these little creatures live in the most demanding geographic locations, lava vents that are deep underwater, cracks in the Antarctic ice cap, and in the atmosphere close to the boundary of space. There are clouds of amino acids and alcohol (enough to make the all the people who will ever live drunk for life) floating around in space - especially in nebulae, and this is similar in composition to what scientists call "organic soup", the primordial base out of which life is believed to have emerged. Bacteria could even be found in our solar system, in a comet or wherever ice is, on the Moon, Mars or Europa. The new planetary rovers have small labs in the robotic arms that can analyse soil samples for signs of life, using recently developed tests and techniques. Meanwhile, the hunt for extrasolar planets (planets around other stars) has become extremely aggressive, with monthly updates to an ever-growing catalogue. The problem is in locating tiny planets that appear very close to the large stars. To understand more about this, view the Astronomy 160 lectures in our DVDs.

The 2006 COROT mission launched by the French Space Agency is marking down small planets. There are two major planet hunting missions in the offing, NASA's Terrestrial Planet Finder and The Kepler Mission.



Want to know the currently identified extra-solar planet most likely to contain life? It's called Gliese 581 d. Gliese 581 is a Red Dwarf planet in the Libra constellation with a number of planets orbiting it.

According to a small group of scientists though, life in the universe is superabundant, and we could always see it. Specks of dust in space are suspiciously close in size to bacteria. These scientists believe that space dust is just dormant bacteria, and a comet or a meteor smashing into any planet (even the extrasolar ones) seeds life on that planet.

DARK FLOW: Astronomers have a problem, galaxies are not moving in the sky the way they should. There is a mysterious object known as the "great attractor" which is termed a "gravity anomaly" as it is the origin of a large amount of gravitational force. Unfortunately, this gravitational anomaly is hiding behind the Milky Way, so we cannot really observe it too well as our own galaxy obscures it. Dark Flow is a related concept, only much larger than the great attractor. There is some mysterious force, at the edge of the visible universe, that is sending entire galaxies hurtling along at

nearly 3.2 million kilometers per hour. The great attractor has a known influence of at least fifty thousand Milky Ways, but the Dark Flow anomaly is greater. Dark Flow is gravitational influence from outside the observable universe, that is changing our skies - at least twenty degrees of it. In fact, the scale and the distance of the distortion suggests that this may be influence from material outside the universe. Some scientists even believe that we may be seeing two universes rubbing shoulders here. The universe is maintaining it's mysteries despite the dissection by the scientists.



Centaurus A is close to the region in the sky where the Dark Flow was detected



Opera mini on iPhone

This unlikely combination resulted from an approval on the official app store for the Opera build. However, it may not last long as Apple has a penchant for unexpectedly pulling apps from the store.



Organic Chopper

This concept bike called M-org actually has portions of it that are grown. The headlamp looks like it is made up of a cluster of LEDs, and the spokes are a little strange to say the least.

Unwind

Cities of the Future

We bring to you some of the most exciting concepts for future cities.



RAS AL-KHAIMAH GATEWAY

The Ras Al-Khaimah Gateway city is a planned capital city for the UAE, that is being constructed as you read this. The entire city is being built in desert wasteland, about a three hundred kilometers from Dubai.



THE LILYPAD PROJECT

The Lilypads hope to float humanity, 50,000 at a time when glaciers melt, and sea levels rise. Tidal, wind and solar energy are part of the design of the city, and there are living areas, gardens, and utility areas above and below the waterline. You would need about a 1,34,000 of these to support all of mankind.



THE FREEDOM SHIP

The freedom ship is a

project to build a massive floating ship-city to move some of the urban population out of the landmass and make some more room for more people. The ship is designed to be self-sufficient.



ON OFFICE TURBINE CITY

This is On Office, a Norway based architecture firm's design for a city off the coast of Norway that could provide all the renewable energy Europe needs by building this turbine city.



THE VENUS PROJECT

The Venus Concept is a project that includes underwater cities, and space colonies. Architect Jacques Fresco's visions for humanity's future includes massive construction robots pictured above, and urban areas over engineered to handle a drastic increase in population.

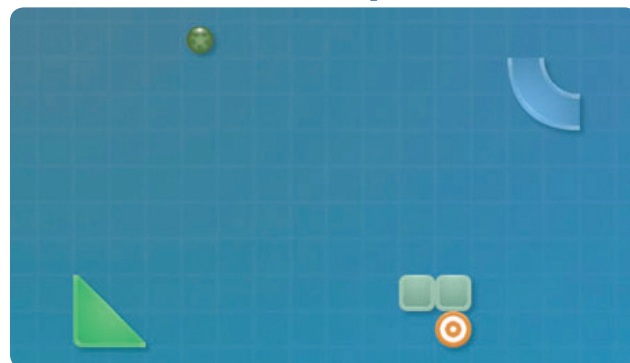


CITY OF ANSAN

This is a part of the proposed plan to redevelop Ansan. Apart from the

shift towards organic forms in Architecture, the sensibilities of the project are also eco-friendly and sustainable.

Flash Games: Blueprint



Blueprint is a flash game that requires you to re-arrange blocks on a grid to guide a ball to the target. These blocks are parts of different devices, that push the ball along, make it bounce, funnel it through pipes, and various kinds of ramps and curved piping. The game is well designed, and there are a handful of levels which will nonetheless take about an hour and half of intense play to finish. The puzzle game is not too difficult in the initial levels, but quickly changes with the progress of the game.

digitDIARY

Vijay escaped into the USA for a monthlong vacation, taking a well deserved break but leaving the office largely empty. The regular sessions of Quake have still not resumed, ever since Rossi went on a rail rampage and spoiled all the fun.

Siddharth is plagued with reboots, as he is still milking the beta version of Windows 7 for all it is worth. He has become so tuned in to his computer, that he can predict when the machine is going to shut down by just listening to the amount of noise on his speakers. If the hiss dies on your speaker, you have two seconds to pull a [Ctrl]+[S] before all your data is lost on a Windows 7 machine.

Rossi sneakily purchased a cycle, part of his mission to commute to work in an eco-friendly manner. Robert wanted to jazz up the bike with loads of gadgets, and screens. Rossi got scared of the idea and let the cycle be, choosing to commute to work in polluting rickshaws, rather than let Robert hack his bike.

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Three more calls

Activision all set to release three titles of the COD franchise in the coming two years

New Steam UI

Steam's new UI should come out of beta by the time you read this; lots of changes including move to Webkit over IE

digit READERS SURVEY 2010

Winners announcement

Digit thanks each one of the readers who gave us valuable feedback. **We have 75 of these goodies to give away!** Here we mention only some of the lucky winners. For a full list of winners head over to thinkdigit.com/d/surveywinners



Graphics Card
Vivek Datar, Mumbai
Sonu Kumar, Gaya



Strontium 500GB External HDD
Suresh M Jamkhandi, Belgaum



Amkette Flash TV
Syed Zubair, Bangalore
Naresh Kumar, Mohali
Avinash Srivastava, Kunal Dharamsi, Indore

McAfee Internet Security 2010
Varun Bhide, Navi Mumbai
Niral Rana, Bharuch
Sachin Kabra, Hyderabad
Karan Shah, Mumbai



Strontium 16 GB USB
Karamveer Mudgle, Sampla



Victorinox Knife
(Exclusive for online entries)
Tejakumar Dharmaraju, Andhra Pradesh
Vinayak Vinz, Mangalore



Strontium DRAM
Omkar Rajpurkar, Mangaon

Interesting user reviews on the Thinkdigit Forum www.thinkdigit.com/forum

22-02-2010, 04:18 AM

codename_romeo
Romeo + Lucifer = ME

Join Date: Oct 2006
Posts: 780

Sony Vaio CW26FG Review



→ An excellent value for money product contrary to my own belief that Sony Vaio laptops are not value for money products, and that Sony charges a premium for its laptops. But after experiencing this laptop I really don't think that I am going to go back to any other company for laptops (the only exception may be Apple). If you are looking for a laptop in the similar price I would suggest that this one is a real good buy.

CHECK YOUR TECH QUOTIENT CONTEST

1st Week-Akshar Kaul

2nd week- Rohit

3rd week- Inderjit Kaur Uppal

These winners get T-shirts / Pen drives / Victorinox knives. To stay updated on the latest happenings in the world of technology and to enter other such contests sign up for our daily Newsletter at <http://www.thinkdigit.com/newsletter.php>

WINNERS



Facebook Logo design contest winners...



1st Place - Ritwik Rakshit



2nd Place - Keerthi Teja



3rd Place - Tanmay Gawankar

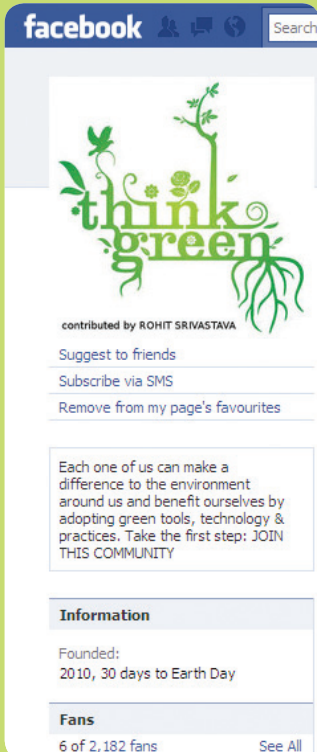
Winners get DVD titles such as IronMan / Startrek / Transformers

Stay tuned for June

The coming month will be a celebration of the Digit Community

Community

Head over to www.facebook.com/ithinkgreen. Remember, joining is the first step. Lets do our bit and help our planet. We have interesting surprizes in the store for all who join.



Abhishek Kumar Dutta GREEN living Tips by WWF-India

Green Living Tips

Welcome to Green Living Tips by WWF-India. In this section, we have compiled some simple and easy steps that you can take to reduce your ecological footprint.

WWF India - Green Living Tips

www.wwfindia.org
content



Kumar Gaurav * Shop every two weeks instead of every week to avoid wasting food. Eat more eggs and beans instead of meat for protein. * A faucet that leaks one drip per minute can waste more than 3,000 gallons of water a year. And run up your water bill.

10 hours ago · Comment · Like · Report



Debarun Banerjee move on to the use of biodegradable materials rather than non-biodegradable, which is very harmful to our environment.

Yesterday at 22:55 · Comment · Like · Report



Bane Singh India would add another 220 million individuals to its urban population by the end of this quarter century. Providing liveable urban space, sound infrastructures & commuting facilities would be a daunting task. It warrants immediate attention & considerate planning right now!

Yesterday at 20:54 · Comment · Like · Report

MAY 2010

digit events



**MAY 15
TIME: 17:00 HRS**

1 Digit Webinar

Gadget buying guide

Want to buy a budget DSLR, or a high end CPU cooler? Let experts at digit advice you on what products to buy. You tell us what your requirements, budget and we'll tell you what you can go in for LIVE! Have all your smallest doubts answered including compatibility issues, upgrade options and future proofing your buys. Come join us for a lively interaction... Who knows, Agent 001 might just make a special guest appearance.



**MAY 21
TIME: 1700 HRS**

2 Career Webinar

Android Development

In this webinar join Siddhartha Singh as he guides you through the basic features of the Android SDK such as the Application framework, Dalvik virtual machine, WebKit engine based browser, 3D graphics based on the OpenGL ES 1.0 specification etc. He will also talk about the rich development environment including the device emulator, tools for debugging, memory and performance profiling, and a plugin for the Eclipse IDE. This open platform presents many opportunities since nearly all Handset manufacturers are setting up dedicated Android development teams. Career opportunities are limitless.

For details on upcoming webinars and to view past webinars, visit thinkdigit.com/webinars

That Memory Card has a name!

There is a wide variety of memory cards and flash storage media in the market, and in common use. We have seen people calling these everything from “memory” to “GB”. Memory cards following the specifications of SanDisk, the specifications of the Secure Digital (SD) group with Panasonic, SanDisk, Toshiba and Kodak and propriety Sony specifications are commonly in the market. Although they might look similar and serve the same purpose, the Sony Micro, is not compatible with the microSD specification. SanDisk is the only company that manufactures memory cards of all these specifications, and is even involved with Sony. The SDHC (Secure Digital High Capacity) variants for the SD cards offer more storage capacity within the same form factors.



A CompactFlash card is typically used in prosumer, superzoom and dSLR cameras

The SD Flash card is commonly used in consumer digital cameras, some camcorders and PMPs



The Short Lived MiniSD specification, was used in PMPs, cameras and some mobile phones



The microSD card is the smallest flash memory available to the general public, and is used in phones, gaming consoles, increasingly in PMPs and small digital cameras



The Memory Stick Micro M2 is not to be confused with the MiniSD card, and is used in mobile phones and some PMPs



The Memory Stick Pro Duo is a newer standard by Sony, used in camcorders, cameras and for gaming consoles

Sony Memory Stick, used on older cameras and camcorders. If you have a device that uses this, it is time to get a replacement



Taking care of your flash memory

- Minimise the number of times you access the card. This means tracking every read and write operation, and carefully reading only the number of times necessary. Copy the files off the card before editing them or uploading them.
- Wipe the card clean, but don't do this excessively.
- Use the “safely remove” or “unmount” option before removing your card from a computer
- Don't “hot-swap”, which is removing or putting in a memory card when the device is turned on, even if your device supports this
- Keep a backup card handy at all times, so that your work does not stop in it's tracks.
- Brace for memory failure, your card is going to go kaput some time or another. Be prepared for it with regular backups.

What to do with an .iso file

You got your hands on one of those .iso files, and have no clue how to use it? An .iso file is an “image” of a CD or a DVD medium. This means that all the data that could have been burned on these media are stored, shared or distributed using a convenient package. Instead of a folder with the media contents, an .iso file is used. There are some benefits however, an .iso file can contain instructions for the processor to boot an operating system within the image file. There are many approaches to use a .iso file.

1 Burn a CD/DVD

If the size of the .iso is less than 700 MB, it can fit on a CD, otherwise you need a DVD. You need a drive that can burn the media for this.

Step 1: Put a blank CD / DVD in the DVD drive

Step 2: Install a disc burning application such as Nero or Burn4Free

Step 3: Open the .iso file using the application. If you drag/drop the .iso file into the window of the burning application, the .iso file will be burnt as is.

2 Extract the contents

You can directly access the contents of the .iso file on your computer. This action is similar to unpacking a .zip or .rar archive. Note that this approach will not work for operating systems and some games.

Step 1: Install an unpacking application that supports .iso files. 7zip or MagicISO will work fine. Step 2: Right click on the .iso file, and select “unpack here” or similar option

Step 3: Choose location for extracting the data, and use it directly from there

3 Mount the image file

There are applications available that confuse the computer into thinking that there is another DVD drive attached, when all the software is doing is reading the .iso file as if it were a CD or DVD drive. This approach also will not work for installing operating systems.

Step 1: Download and install MagicDisc, it is a small virtual drive software

Step 2: Start up MagicDisc, and go to File>Open

Step 3: Navigate to the .iso file, to mount the .iso on a virtual drive



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