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TECHGYAN

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EDITORIAL

Students are the future of our nation. They are the pillars of our country. They have the capacity to turn even impossibility to a possibility whenever, whatever and however the situation might be. Today's students are not those who waste their time doing useless things, they are not those who always prefer to drench in enjoyment. They are those who have a clear idea of what to do and how to do it. When we see them shine in different fields today we know that they have a perfect visualization of their future because analysis + awareness = success. Tremendous growth in the IT sector has been possible only because of increasing interest of students in that work field. 20 years back we didn't have a single multinational company in A.P, but now the scenario has completely changed. Students are opting for different fields after graduation. While some prefer a job immediately after graduation, others prefer to continue their studies doing M.Tech, M.B.A or M.S by writing GATE, CAT and GRE tests. These exams are the deciding factors for those who have a dream of joining the prestigious IITs, IIMs, IISC or go abroad for further studies. A question arises as to why one should take up GATE exam? We are aware of the fact that science post graduate and engineering graduates take up GATE to study M.Tech, M.E and M.Sc. M.Tech degree leads a candidate to specialization and further enhancing their interest in a certain area that may lead to Ph.D. M.Tech is also the best path for those who are aspiring to apply for faculty or research position in education institutions and R&D centers. After qualifying GATE, candidates get to explore a number of education avenues for bright future. In addition to options waiting such as M.Tech and M.E, GATE qualified students are also eligible for the award of junior fellow research scholarship in CSIR laboratories. To get admission into graduate schools in foreign universities one of the major requirements is GRE scores. Most university graduate schools require GRE scores as part of the graduate admission process. Common Admission Test (CAT) is the gateway to the prestigious Institutes of

Management. You must have a strategy set by taking online mock tests to check your preparation. CAT is one of the toughest exams to ace. Work hard and have persistence. Keep on studying regularly, clear your doubts among friends and solve lots of papers online. The one question that would be lingering in most of the students' mind is whether they would be able crack the test!! Anyone who has a fire in him/her will eventually do it. Be systematic, be consistent. Commitment is very necessary and passion is a must. Things are always going to stand in your way, never letting you wade through easily. So, the only way to succeed is to "never give up". Hope you will all succeed in achieving your goals. TechGyan team wishes you all the very best for the exams.

Team TECHGYAN

JOLI CLOUD

By V. Vinay Kumar Reddy, 4/4 CSE

Jolicloud is a great Linux distro that blurs the line between desktop and web applications. As an OS with 'cloud' baked into the name, Jolicloud does quite well as an internet centric system. Unlike xPUD and Chrome OS, it does not enforce a browser choice. We can use the already-installed Firefox, or install Google Chrome or even Opera. Jolicloud is essentially an Ubuntu 9.04-based OS which is redesigned in looks and-features to work better with netbook, net-tops and other internet-centric computers. It aims for a more even mixture of internet and native applications, and has one of the simplest application installation procedures amongst its peers.

The Jolicloud UI is netbook-oriented, and as such, takes up a minimal amount of hard disk space and memory, leaving most for your applications. A thin bar at the top displays your running applications, system tray icons, and the date and time. It focuses on one task at a time, and as such all applications running in the background are collapsed to icons. Here again, space is saved by displaying the application title-bar in the panel at top. A home button at the leftmost area of the panel takes you back to the home interface where you can launch applications. This interface might save space for netbooks, but it also means that this operating system would perhaps not be quite so suitable for tablet computers.

To take benefit of Jolicloud, we need to create a free online account and register our computer. The Jolicloud service connects with Twitter and Face book.

The Jolicloud application directory includes Wine, software which allows running of Windows applications on Linux. A large number of Windows applications will be able to run on Jolicloud if we install this software. What stands out in Jolicloud is its dashboard, which is a central place from which you can manage your Jolicloud account, browse the App directory, install / remove applications, and interact with other Jolicloud users. Jolicloud

comes with a tool for copying it on a pen-drive, so we can share it with our friends if we have a copy installed.

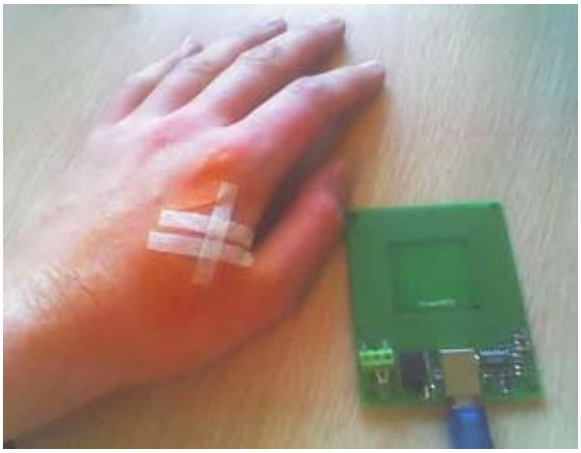
In the end Jolicloud manages to keep a good mixture of native and web applications, and abstracts the differences between them so you can just focus on doing your work. This is one OS to look for when it releases.

SKIN DEEP STORAGE

By R. Ravali, 3/4 CSE

RFID chip implants are the size of a grain of rice.

We have heard that information can be stored by using the devices like a cd or pen drive but nowadays we can store information even in the skin by the use of latest technologies. It seems to be strange but true. This technology makes use of Radio frequency identification (RFID) chips that are the size of a grain of rice and can be loaded up with personal information like passwords or any general information and implanted under the skin. Instead of having to remember a login code, an RFID reader can be set up to automatically detect it and grant you access to a range of things from your computer to your front door. A hand implanted



with an RFID cThe chip reader is made of silicon and is digitally encoded with information. A RFID reader, is installed in a computer .The chip acts passively when it is within 3 inches of the reader. The right incoming radio signal induces energy and produces a response. The reader can then access the information on the chip and pass it on to the computer or device that requires it. The procedure to implant the chip is quite simple and painless. It can be implanted under the skin of hand under a local anesthetic. It is possible to inject the chips using a large enough needle. It's useful to people with exceptionally poor memories. When personal details are stored in head, there is little chance of them being revealed but with this RFID reader, information is safe and secure. The potential of this technology, however, stretches beyond personal use since the chips are not only capable of storing ID numbers but also other read-only information. They have already been suggested as a means of combating identity fraud, to store medical records and in law enforcement for the authorities to track individuals. So, it has got wide variety of uses and secures information storage.

SPYWARE

By Ch. Deepthi & B. Anusha, 4/4 CSE

Spyware is a type of malware that is installed on computers and collects little bits information at a time about users without their knowledge. The presence of spyware is typically hidden from the user, and can be difficult to detect which is secretly installed on the user's personal computer.

About spyware:

Sometimes, however, spywares such as key loggers are installed by the owner of a shared, corporate, or public computer on purpose in order to secretly monitor other users. While the term spyware suggests that software that secretly monitors the user's computing, the functions of spyware extend well beyond simple monitoring. Spyware programs can collect various types of personal information, such as Internet surfing habits and sites that have been visited, but can also interfere with user con-trol of the computer in other ways, such as install-ing additional software and redirecting Web browser activity. Spyware is known to change com-puter settings, resulting in slow connection speeds, different home pages, and/or loss of Internet or functionality of other programs. In response to the emergence of spyware, a small industry has sprung up dealing in anti-spyware software. Running anti-spyware software has become a widely recognized element of computer security practices for com-puters, especially those running Microsoft Windows.

Effects and behavior

Users frequently notice unwanted behavior and degradation of system performance.

A spyware infestation can create significant unwanted CPU activity, disk usage, and network traffic. Stability issues, such as applications freezing, failure to boot, and system-wide crashes, is also common.

Spyware, which interferes with networking software commonly, causes difficulty connecting to the Internet.

The cumulative effect, and the interactions between spyware components, causes the symptoms commonly reported by users: a computer, which slows to a crawl, overwhelmed by the many parasitic processes running on it.

Moreover, some types of spyware disable software firewalls and anti-virus software, and/or reduce browser security settings, thus opening the system to further opportunistic infections, much like an immune deficiency disease.

In some infections, the spyware is not even evident. Users assume in those situations that the issues relate to hardware, Windows installation problems, or another infection. Some owners of badly infected systems resort to contacting technical support experts, or even buying a new computer because the existing system "has become too slow".

Examples of spyware

These common spyware programs illustrate the diversity of behaviors found in these attacks. Programs may be grouped into "families" based not on shared program code, but on common behaviors

1. CoolWebSearch, a group of programs, takes advantage of Internet Explorer vulnerabilities.

2. Internet Optimizer, also known as DyFuCa, redirects Internet Explorer error pages to advertising. When users follow a broken link or enter an erroneous URL, they see a page of advertisements. However, because password-protected Web sites (HTTP Basic authentication) use the same mechanism as HTTP errors, Internet Optimizer makes it impossible for the user to access password-protected sites.

3. HuntBar, aka WinTools or Adware. Websearch, was installed by an ActiveX drive-by download at affiliate Web sites, or by advertisements displayed by other spyware programs—an example of how spyware can install more spyware. These programs add toolbars to IE, track aggregate browsing behavior, redirect affiliate references, and display advertisements.

4. Zango (formerly 180 Solutions) transmits detailed information to advertisers about the Web sites which users visit. It also alters HTTP requests for affiliate advertisements linked from a Web site, so that the advertisements make unearned profit for the 180 Solutions companies. It opens pop-up ads that cover over the Web sites of competing companies.

5. Zlob trojan, or just Zlob, downloads itself to a computer via an ActiveX codec and reports information back to Control Server. Some information can be the search-history; the Websites visited, and even keystrokes. More recently, Zlob has been known to hijack routers set to defaults.

DIGITAL SMELL

By Ch. Abhinav Kumar, 2/4 CSE

The technology has so far targeted mainly our sense of sight and sound. To further enhance the virtual reality experience and another flavor to it, technology is now targeting your nose and tongue. The application area of virtual reality is vast- from normal entertainment to the Internet and e-commerce application. You will be able to smell product before buying them online. California-based Digiscents Inc. has developed the iSmell personal scent synthesizer. This small device connects through your pc via serial port and has its own driver. In this modern age, computers have verified the cause of their existence. They have virtually taken over in every field of today's fast life. Today computers have important place in every household purpose, and mainly internet has taken over whole world. The concept of virtual reality is introduced by the computer programmers to provide more attachments to the user. There are several concepts of the virtual reality that are available such as digital smell, virtual theater, electronics hand gloves,

multipoint surround sound system, 3d goggles. The digital smell is basically a hardware software combination. The hardware part of digital smell will produce the smell, and the software part will evaluate the smell equation and generate specific signals for specific smell and finally that smell will be produced by the device. The hardware device is a device like speaker, like speaker this device is also connected to the computer system. For this device there is also a driver program which will evaluate the digital equation for generating specific gas. Until now, online communication involved only three of our senses -hearing, touch, and sight. New technology is being developed to appeal to our sense of smell. DigiScents, an interactive media company, is creating iSmell Digital Scent Technology, new software which will enable scents to be broadcast from the Web. Coding of aromas would be downloaded to computer similar to graphics images as audible sounds. Ultimately users will be able to create and modify their own fragrances and post them on the internet. The "Savor the World" tagline illustrates the California -based company's aims to tap into the power of scent as a communication tool. "DigiScents combines the power of science with the fact that the sense of smell is as powerful and emotional trigger as any other sense," This new technology will make it possible to send and receive scented e-mails and to add scent elements to Web sites, to name just a few of its applications.

MAGIC TRACK PAD

By M. Rahul Reddy, 3/4 CSE

External track pads aren't exactly new, but Apple has managed to instill no small degree of excitement into their new Magic Track pad by virtue of their multi touch technology. Essentially the track pad from a Mac Book Pro, sliced out and blown up, the wireless peripheral promises to bring gestures Apple's mobile users have been enjoying to their desktop compatriots. .

Aesthetically there's no arguing with the Magic Track pad's heritage, and it's obviously intended to sit alongside Apple's own Bluetooth keyboard. The battery section at the back – which takes a pair of AA cells, which Apple would prefer to be from their own, new charger – elevates the pad to the same angle as the keyboard, and they're as deep as each other. Physical controls are limited to a power button on one end; the other has a twisting cap that shuts the battery compartment. Otherwise the magic is all in the track pad surface, which Apple say is 80-percent larger than what you'll find on a current uni body Mac Book Pro. It's slightly squarer, so the difference is more noticeable in depth than it is width, but thanks

Superstition is our great enemy, but bigotry is worse. .— Swami Vivekananda

to the glass surface the tactile feel is the same: just slippery enough. The whole pad clicks physically – as before it's hinged across the top edge, so it gets easier to click the further down your fingers are – but also responds to taps.

So far, so much a regular track pad, but Apple's

ace is the multi touch gesture support. That's a combination of the hardware together with the software to take advantage of it; gestures have been baked into OS X for several iterations now, but so far desktop users have had to use a Magic Mouse in order to take advantage of them. Pairing the Magic Track pad was a straightforward matter – it uses Bluetooth, which is present on every recent Mac – and the quoted range is up to 33ft. practically speaking, we could comfortably sit on the sofa and control the Mac mini we use as an HTPC from across the room.

The gestures themselves should be familiar to most Mac users. By default, two fingers are used to scroll, with all directions supported, while three fingers swipes back and forth through pages. A chiral-rotate gesture flips image orienta-tion around, while pinch-zooming is also sup-ported. Four fingers, meanwhile, trigger Exposé when swiped up or down, or switch applications when swiped left and right. Thanks to the new settings pane, however, you can selectively shut off certain gestures if you don't use them, adjust tracking, double-click and scrolling speed (including optional inertia), and change the behavior of three-finger use. Rather than flipping pages, you can set it to drag windows around the screen

The Mac Book is seldom accused of having too small a track pad, and so the larger Magic Track pad is even more capacious. As responsive as you'd expect, the gestures soon become second nature; if you're familiar with them from the notebook then there's little in the way of acclimatization time required for the new desktop product. Battery life remains an uncertainty at this stage; Apple reckon that, thanks to the Magic Track pad's clever power management, it'll manage months of use before you have to replace the batteries, so we'll be keeping an eye on that accordingly.

In the end, the Magic Track pad is a pretty tempting proposition. Apple will still be bundling their Magic Mouse with new iMac and Mac Pro desktops (you can use the mouse and the track pad simultaneously, in fact)

We can also see Mac Book owners who may have wanted to use third-party ergonomic keyboards

Do not look back upon what has been done. Go ahead! .— Swami Vivekananda

virtual PalimPost note on the screen, where the recorded information accumulates. The user's speech is transcribed and appears as text on the virtual note, and textual cues are also searched in the images, while the data from any scanned QR codes is added. Naturally, any acquired information is sent to the server.

Sharing PalimPost Notes: The users can share their recorded experiences, either physically or virtually via their social network.

USAGE SCENARIOS

Buying New Shoes: With the flourishing of e-commerce websites in the past decade, online shopping experience has improved tremendously. A customer no longer needs to compare prices among stores on the street. All the brands and prices are neatly arranged in tables on WebPages. However, only at a physical store can a customer touch and feel the actual products. In fact, for any wearable products such as shoes, a customer often risks wasting time buying products that don't end up fitting nicely due to the discrepancy between expectation from online research and findings of the real products in physical stores.

Dinner Preparation: Initially a chef goes online to search for existing dishes using lobster meat, and saves her findings on a PalimPost sticky note marked "Lobster Dish". She also records a short voice message of herself saying, "Lobster could go very nicely with asparagus or garlic."Later, she goes to the market. She finds some asparagus and records a new message about the smell and texture of it. The system links her transcribed voice message with the existing PalimPost sticky note regarding asparagus. When she returns, the chef scans the physical PalimPost note to retrieve all her online exploration and the sensory experience in the market. She now has a better idea of how to cook a lobster with asparagus.

RACETRACK MEMORY

By A. ChandraVyas, CSE- B, B.E 4/4

IBM developed a new technology "racetrack memory" which is an entirely new way to store information: a memory chip with the huge storage capacity of a magnetic hard drive.

Both magnetic disk drives and existing solid-state memory technologies are essentially two-dimensional relying on a single layer of either magnetic bits or transistors. Both

Despondency is not religion, whatever else it may be.—
Swami Vivekananda

but were loath to give up the notebook's track pad choosing the Magic Track pad too. Perhaps more in-terestingly, it points to the role touch and multi touch will play in Apple's future, as it spreads across from their PMP/Smartphone/ tablet and notebook lines and onto the desktop. It's not hard to envisage a further step to home entertainment, with an updated Apple TV using a Magic Track pad for navigation and control.

EYEGAZE COMMUNICATION

By M.A Muqeem, 4/4 CSE

Imagine someone being an intelligent, motivated, and hard working person in the fiercely competitive market of information technology, but just one problem he can't use his hands, Or he can't speak. How can he do his job? How can he stay employed?

HE CAN!

Because of a very good gift from IT Industry: The Eyegaze System,

A communication & control system you can run with your eyes. The Eyegaze System is a direct-select, vision-controlled Communication and control system. It was developed in Fairfax, Virginia, by LC Tech-nologies, Inc.

How does the Eyegaze System work?

As a user sits in front of the Eyegaze monitor, a specialized video camera mounted below the monitor ob-serves one of the user's eyes. Sophisticated image- processing software in the Eyegaze System's computer continually analyzes the video image of the eye and determines where the user is looking on the screen. Nothing is attached to the user's head or body.

How to run the Eyegaze System?

A user operates the Eyegaze System by looking at rectangular keys that are displayed on the control screen. To "press" an Eyegaze key, the user looks at the key for a specified period of time. The gaze duration re-quired to visually activate a key, typically a fraction of a second, is adjustable. An array of menu keys and exit keys allow the user to navigate around the Eyegaze programs independently.

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