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Ishare

Monthly Magazine

Ishare

Editorial

We would like to wholeheartedly thank our honorable Chairman, Secretary, Executive Director and Principal for their continuous encouragement and constant support for bringing out the magazine. We profoundly thank our Head of Department for encouraging and motivating us to lead the magazine a successful one right from the beginning. Ishare serves as a platform for updating and enhancing upcoming technologies in Information and Communication. We are grateful to all the contributors to this magazine so far. The magazine has been sent to almost 60 institutions in and around Tamilnadu. So far we have received feedbacks and appreciations from various institutions.

We would be very pleased to receive your feedbacks. Please send your feed backs to ksrcas.ishare@gmail.com

By,
Editorial Board

CONTENT

Some Excellent Open Source Tools for Web Developers

Deepa.S,

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Web developers have a fond love for open source tools because these tools are generally free of cost and best, but they can be modified in any way the developer sees fit.

While .NET and other paid technologies and tools do have their place on the Web, it really is open source tools and applications that power it. There are thousands of great open source applications and picking the best among them is really hard since so many people have their own personal favorites. The list prepared for you represents best open source tools almost any Web developer can use every day:

KompoZer:

All the fans of Dreamweaver might consider KompoZer the poor man's choice but actually this isn't so. KompoZer, the former Nvu, is a WISYWIG HTML editor that, unlike Dreamweaver, doesn't require an ultra powerful PC just to open a file. KompoZer is a light-weight application but it is a good choice even for advanced programming tasks.

Eclipse :

This software development environment is comprised of the IDE and plug-in system that allows programmers to develop applications in Java, C, C++, COBOL, Python, Perl, PHP, and other languages. Eclipse is another lightweight application running only a small run-time kernel. The actual functionality of the IDE comes from the large number of plug-ins available.

Komodo Edit:

All the fans of Dreamweaver might consider KompoZer the poor man's choice but actually this isn't so. KompoZer, the former Nvu, is a WISYWIG HTML editor that, unlike Dreamweaver, doesn't require an ultra powerful PC just to open a file. KompoZer is a light-weight application but it is a good choice even for advanced programming tasks.

Amaya:

Go green, promote open source. It is a lightweight web authoring tool not only falls under the open source definition and GNU GPL, but because it is lightweight, it uses far less computing resources than its counterparts. Its functionality ain't too shabby either. Acting as both a browser and an editor, Amaya allows the developer to create, edit, view, copy, paste, and upload all from within a single environment.

Apache:

Apache is the Web server that no Web developer can go without. Apache is fast and reliable but mastering it can be a bit hard, especially for a beginner.

Editra:

Built on Widgets, this cross-platform text editor holds quite a bit of functionality in a small package. In addition to including syntax highlighting for over sixty programming languages, it boasts tabbed windows, language keyword helper, line edit commands, transparency support, as well as custom workspace views. Editra boasts a large library of plug-ins as well that help enhance its functionality. For example, the Launch plug-in lets you run scripts from within Editra and allows for custom output parsing and filtering in many of the supported languages.

Xenu:

Xenu checks for broken links in normal text links, images, frames, plug-ins, backgrounds, local image maps, style sheets, scripts and java applets. Once you have run a check against your site, Xenu offers you a multitude of sorting criteria and reporting features.

To help verify if links really are broken, or just down due to network errors, Xenu allows you to recheck broken links. And, Xenu works with SSL as well!

Selenium:

Even we don't Scripting Languages .It can help. Selenium IDE is a Firefox add-on that records clicks, typing, and other actions to make a test, which you can play back in the browser. Remote Control lets you run the tests in different browsers or on different platforms for a comprehensive run of your application in many different environments.

Postgre SQL:

MySQL is a good choice for a relational DB but if you have some reasons not to use it, you could consider an alternative, such as PostgreSQL.

OpenSTA

Once you finish coding your application you are not done yet. You need to test it. While there are tons of tests you can (and should) do, one of the tests you shouldn't skip under any circumstances is load testing. With the help of OpenSTA you can perform the necessary tests to make sure that your application doesn't misbehave under stress.

OpenLazlo

This Bossie (InfoWorld's Best of Open Source Software) winner allows you to create Rich Internet Applications, or RIAs, without the cost of Adobe Flex Builder. It not only provides developers with a great tool for creating dynamic, interactive websites, but it chips away at the theory that FLOSS doesn't work in the business world. Both H & R Block and Wal Mart's web sites are featured in the Open Laszlo showcase.

Drupal:

It is a very powerful open source CMS,just like Word Press and Joomla If you are a beginner it is a best tool because Getting static pages on a Drupal site is easier than in Word Press or Joomla

Another reason is Ubercart, the e-commerce tool for Drupal is excellent, it is a community base and community support is very good.

XAMPP:

If you want to write Web applications, a Web server is only the foundation. You need other tools, such as the relational MySQL database and the PHP language framework. Installing and configuring them one by one is not rocket science but it is much easier when you get XAMPP – a bundle with Apache, PHP, and MySQL. XAMPP is very easy to install.

Inscape:

It is a vector based graphics application and most popular open source option for a graphics tool. It supports the standard Scalable vector graphics file formats as well others. It imports files from many formats like .jpg, .png, .tif and others

File Zilla:

It is a open source FTP, FTPs and SFTP client, Created in January 2001 by Tim Klosse as a class project. It is fifth most popular downloads of all time from Source Forge .net. It is a cross platform runs on Windows, Linux, Mac OSx and more. It resumes and transfers of files larger than 4GB.

APPLICATIONS OF ARTIFICIAL INTELLIGENCE

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BSC COMPUTER SCIENCE

Game playing

You can buy machines that can play master level chess for a few hundred dollars. There is some AI in them, but they play well against people mainly through brute force computation--looking at hundreds of thousands of positions. To beat a world champion by brute force and known reliable heuristics requires being able to look at 200 million positions per second.

Speech Recognition

In the 1990s, computer speech recognition reached a practical level for limited purposes. Thus United Airlines has replaced its keyboard tree for flight information by a system using speech recognition of flight numbers and city names. It is quite convenient. On the the other hand, while it is possible to instruct some computers using speech, most users have gone back to the keyboard and the mouse as still more convenient.

Understanding natural language

Just getting a sequence of words into a computer is not enough. Parsing sentences is not enough either. The computer has to be provided with an understanding of the domain the text is about, and this is presently possible only for very limited domains.

Computer vision

The world is composed of three-dimensional objects, but the inputs to the human eye and computers' TV cameras are two dimensional. Some useful programs can work solely in two dimensions, but full computer vision requires partial three-dimensional information that is not just a set of two-dimensional views. At present there are only limited ways of representing three-dimensional information directly, and they are not as good as what humans evidently use.

Expert systems

A ``knowledge engineer'' interviews experts in a certain domain and tries to embody their knowledge in a computer program for carrying out some task. How well this works depends on whether the intellectual mechanisms required for the task are within the present state of AI. When this turned out

not to be so, there were many disappointing results. One of the first expert systems was MYCIN in 1974, which diagnosed bacterial infections of the blood and suggested treatments. It did better than medical students or practicing doctors, provided its limitations were observed. Namely, its ontology included bacteria, symptoms, and treatments and did not include patients, doctors, hospitals, death, recovery, and events occurring in time. Its interactions depended on a single patient being considered. Since the experts consulted by the knowledge engineers knew about patients, doctors, death, recovery, etc., it is clear that the knowledge engineers forced what the experts told them into a predetermined framework. In the present state of AI, this has to be true. The usefulness of current expert systems depends on their users having common sense.

Heuristic classification

One of the most feasible kinds of expert system given the present knowledge of AI is to put some information in one of a fixed set of categories using several sources of information. An example is advising whether to accept a proposed credit card purchase. Information is available about the owner of the credit card, his record of payment and also about the item he is buying and about the establishment from which he is buying it (e.g., about whether there have been previous credit card frauds at this establishment).

Sandboxie - Run Your Programs in an Isolated Space

NAGAVISHNU.S.J

I B.Sc Computer Science

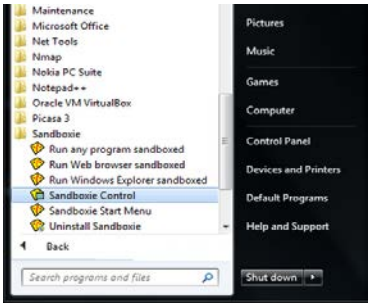
Sandboxie runs your programs in an isolated space which prevents them from making permanent changes to other programs and data in your computer.

What is Sandboxie?

Sandboxie is very useful to check whether or not a program is infected, you can also use it to test out your botnet. Sandboxie runs your programs in an isolated space which prevents them from making permanent changes to other programs and data in your computer.

Benefits of the Sandboxie

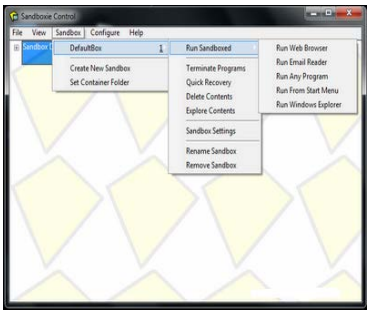
- Secure Web Browsing: Running your Web browser under the protection of Sandboxie means that all malicious software downloaded by the browser is trapped in the sandbox and can be discarded trivially.
- Enhanced Privacy: Browsing history, cookies, and cached temporary files collected while Web browsing stay in the sandbox and don't leak into Windows.
- Secure E-mail: Viruses and other malicious software that might be hiding in your email can't break out of the sandbox and can't infect your real system.
- Windows Stays Lean: Prevent wear-and-tear in Windows by installing software into an isolated sandbox.

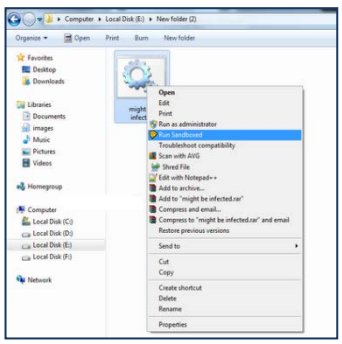


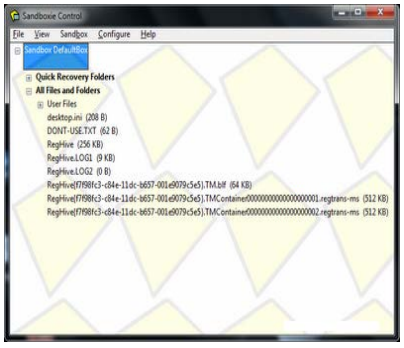
Download Sandboxie from Its Official Website:
http://adf.ly/BtcxD [Trial Version]
Download Sandboxie Patch From: http://adf.ly/BtolU
[Converts Trial to Full Version]

How to Use Sandboxie:

- Install The Sandboxie And Patch It.
- Open Sandboxie: Start > All Programs > Sandboxie > Sandboxie Control
- Sandboxie Control > Sandbox menu
- Run File: Right-Click Suspected File > Run Sandboxed
- Observe Folders: Sandbox Default Box > All files and Folders



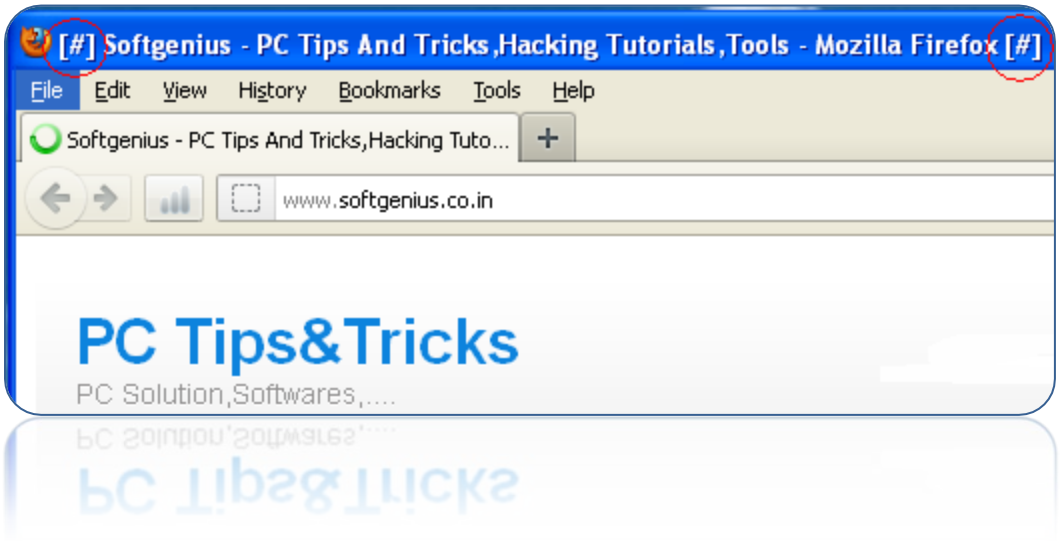




You can disable the program from accessing the internet, navigate to Sandbox settings for the option.

Note: Keep in mind that if you receive any error, and your program is unable to run in Sandboxie, it is most likely that it's a virus and has implemented Anti-Sandboxie. DO NOT RUN IT OUTSIDE SANDBOXIE!

You can tell that a program is sandboxed because its window title bar contains additional Sandboxie [#] indicators



Once you are done with Sandboxie, Right-Click on the Sandbox and chose Terminate Programs. Also remember to empty your Sandbox after every use by Right click > Delete Contents.

So use Sandboxie to run programs in a “safe” environment

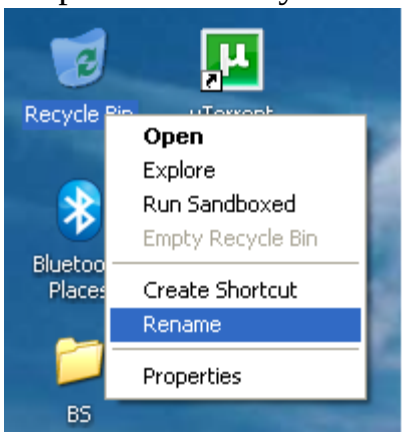
Get Rename Option To Recycle Bin In Windows XP

S.Naveen Kumar

II B.Sc.CS

My Topic for this issue is How to Get Rename Option to Recycle Bin in Windows XP. You Can See this Option is Windows Vista and Windows 7 as Default but in Windows XP You Need to Do Some Changes in Registry.

- Open Registry Editor By Run command
- Click Start→Run Then Type "regedit" and press Enter Key.
- Open the HKEY_CLASSES_ROOT folder
- Open the CLSID folder
- Open the {645FF040-5081-101B-9F08-00AA002F954E} folder
- Open the ShellFolder
- Change the Attributes data value from **40 01 00 20** to **50 01 00 20**. Once completed change the CallForAttributes dword value to 0x00000000 (double-click and change value data to 0). You must change both of these values to get the rename to appear.
- After performing the above steps you will be able to rename the icon like any other icon. Right-click the Recycle Bin icon on the desktop and click Rename and rename it to whatever you wish.



12 Ways to (Not) Screw Up Your Website

J.Joshua Sam Paul

II-BCA-B

Mistake No. 1: Forgetting who your audience is. Your senior management team is not the audience for your website. Your customers are. But all too often companies forget this, creating content they like instead of content their customers will like--and click on. "Customers need to feel that you relate to them," says Charlie Claxton, principal and vice president of Creative Strategy at Produxs, a customer experience and design firm. Therefore companies need to "know as much as possible about [their] customers and clients... and deliver a website that accurately and appropriately speaks to [their] audience." Remember, while you may think your website is about you--your products and/or services--it's really about your customers.

Mistake No. 2: Not going mobile. "Approximately 20 percent of all Web traffic is via a mobile device," says Darren Hill, co-founder and CEO of ecommerce provider WebLinc. "If your site forces your customer to fumble through a nonmobile interface, then your customer is likely to leave the site." The solution: make sure you site is optimized to be viewed on mobile devices. If the platform you use does not include this option, there are plenty of inexpensive tools and services that can help you create a mobile version of your website.

Mistake No. 3: Changing your URLs and not redirecting them. When asked about some of the biggest website mistakes they had encountered, respondents cited this mistake the most often. "During a site rebranding or redesign, companies forget to 301 redirect all of their old pages to the correct new page. This leads to a terrible user experience and it is very bad for search engine optimization (SEO) since the value of those links is not passed to the new URL structure," says Michael Freeman, senior manager of Search at ShoreTel Sky, which specializes in cloud-based phone systems.

The solution: "Work with IT before the switch to ensure that all URLs redirect properly to the new site. This is done easily using a tool like Xenu's Link Sleuth.

Take a copy of the old XML sitemap and crawl all of those links. Take note of any that do not return a 301."

Mistake No. 4: Using jargon, empty marketing terms or clichés that don't tell visitors what it is you actually do or sell. "Tell your audience what you do... in simple language," advises Kelly Garrett, the president/creative director of Ekcetera Marketing and Design. And "don't assume everyone knows who you are and what you do."

Mistake No. 5: Stale or static content. "In today's search society, organizations want and need to be found," explains Michael W. Byrnes, Jr., president of Byrnes Consulting, LLC. "The search engines are going to use content as the biggest factor when they rank websites." So you need to frequently add new, relevant, descriptive (i.e., search-engine-optimized) content to your site.

Mistake No. 6: Not integrating with social media sites. To be successful in today's social media-driven world, companies need to provide links to their social media channels (e.g., Facebook, Pinterest, Twitter) on their websites, on the Home page as well as on product landing pages (if appropriate). "Whether that is as simple as a Twitter feed, integration with Facebook or a full-blown branded community with functions embedded in the content pages, if a company wants its website paid attention to, it must have social elements," argues Peter Friedman, chairman and CEO of LiveWorld, a user content management company.

Mistake No. 7: Using Flash. "It's hard to believe companies are still using Flash on their websites," says David Millili, CEO of web developer Pegasus Solutions. "Flash can and will negatively affect your chances for sales on a retail site. For one, it won't work on mobile devices, including any Apple mobile products," he points out. "Secondly, content featured in Flash can't be crawled by search engines, meaning you cannot easily search engine optimize Flash sites in the same way you would a Java-created site."

Mistake No. 8: Not including an email marketing signup form on your homepage. "Think of all the lost prospects who aren't ready to press 'buy' but liked what you were saying and would eagerly sign up for your sales funnel (i.e., your email marketing newsletter)," but you don't have a sign-up button or form, says Liz Lockard, the owner of Liz Lockard Marketing Consulting. "Email marketing is one of the best marketing channels for ROI--the Direct Marketing Association puts email marketing's ROI for 2011 at $40.56 for every $1 invested." And if you don't have an opt-in/email marketing signup on your homepage (or on relevant landing

pages), you are losing prospective customers and sales. (For companies looking for an email marketing service provider, Lockard recommends Aweber or MailChimp.)

Mistake No. 9: Not doing UX (or usability/customer experience) testing. "Avoiding UX testing is generally a huge mistake," says Michael Beck, senior marketing specialist at OpticsPlanet. "Most companies are concerned with cost, but simply asking a co-worker to conduct a few tasks in the new layout can highlight otherwise inconspicuous [and costly] issues."

Mistake No. 10: Not testing the site in multiple browsers and form factors (i.e., mobile devices) before going live. One of "the biggest mistake we've seen, and a mistake we made early on, was to not test our website in all browsers and on different screen sizes," explains Sandip Singh, the CEO and founder of crowdfunding website Go Get Funding. "Sometimes things simply don't work in some browsers or the layout might break." That's why Singh recommends that all companies view their website on multiple browsers (IE9, Firefox, Chrome, Safari) and on various mobile devices (iPad, iPhone, Android) before going live.

Mistake No. 11: Taking cybersecurity for granted. "Antivirus software will only get you so far," states Alex Berry, vice president and general manager of Enterprise Services at Neustar which advises companies about cybersecurity. "Distributed denial-of-service (DDoS) attacks -- targeted, malicious spikes in Web traffic designed to take out a website -- are not only on the rise, they can cripple your sales, lead generation and customer service," he says. Indeed, "according to our recent survey of IT professionals, 67 percent of retailers who had experienced a DDoS attack said the cost of website outages were more than $100,000 per hour -- about $2 million a day."

The solution: make sure your operating and antivirus software is kept up to date, constantly monitor your site and have a backup/disaster recovery plan in place.

Mistake No. 12: Not monitoring/tracking visitor behavior. The best way to find out what works and what doesn't on your website -- i.e., what your customers like and don't like -- is to measure it, using an analytics program. "Measuring and monitoring analytics is the best way to understand user behavior," argues Tim Gray, a content strategist at Blue Fountain Media. "Yet so many business neglect to set up even basic monitoring tools, [even though] Google has an excellent and powerful analytics tool that is free and easy to use and install."

WHO INVENTED THE INTERNET?

S.V.Vetrivel,

II B.Sc (CS)-C

A single person did not create the Internet that we know and use today. Below is a listing of several different people who've helped contribute and develop the Internet.

IDEA:

The initial idea is credited as being Leonard Kleinrock's after he published his first paper entitled "Information Flow in Large Communication Nets" on May 31, 1961.

In 1962 J.C.R. Licklider becomes the first Director of IPTO and gave his vision of a galactic network. In addition to the ideas from Licklider and Kleinrock, Robert Taylor helped create the idea of the network, which later became ARPANET.

Initial creation:

The Internet as we know it today first started being developed in the late 1960's. In the summer of 1968 the Network Working Group (NWG) held its first meeting chaired by Elmer Shapiro with the Stanford Research Institute (SRI) with attendees: Steve Carr, Steve Crocker, Jeff Rulifson, and Ron Stoughton. In the meeting the group discussed solving issues related to getting hosts to communicate with each other. In December 1968 Elmer Shapiro with SRI released a report "A Study of Computer Network Design Parameters." Based on this work and earlier work done by Paul Baran, Thomas Marill and others; Lawrence Roberts and Barry Wessler helped to create the final version of the Interface Message Processor (IMP) specifications. Bolt Beranek and Newman, Inc. (BBN) was later awarded the contract to design and build the IMP sub network.

Introduction of the Internet to the general public

UCLA puts out a press release introducing the public to the Internet on July 3, 1969.

First network equipment

August 29, 1969 the first network switch and the first piece of network equipment called "IMP", which is short for (Interface Message Processor) is sent to UCLA and on September 2, 1969 the first data moves from UCLA host to the switch.

The first distributed message

On Friday October 29, 1969 the first Internet message was sent from computer science Professor Leonard KleinRock's laboratory at UCLA, after the second piece of network equipment was installed at SLI. This connection not only enabled the first transmission to be made but is also considered to be the first Internet backbone.

The first message to be distributed was "LO", which was an attempt at "LOGIN" by Charley S. Kline to log into the SLI computer from UCLA. However, the message was unable to be completed because the SLI system crashed. Shortly after the crash the issue was resolved and he was able to log into the computer.

E-mail is developed

Ray Tomlinson introduces network e-mail in 1972, the first messaging system to send messages across a network to other users.

TCP is developed

Vinton Cerf and Robert Kahn design TCP during 1973 and later publish it with the help of Yogen Dalal and Carl Sunshine in December of 1974 in RFC 675.

Ethernet is conceived

Bob Metcalfe develops Ethernet idea in 1973.

TCP/IP is created

In 1978 TCP splits into TCP/IP driven by Danny Cohen, David Reed, and John Shoch to support real-time traffic. This allows the creation of UDP. TCP/IP is later standardized into ARPANET in 1983 and is still the primary protocol used for the Internet.

DNS is introduced

Paul Mockapetris and Jon Postel introduce DNS in 1984.

HTML

In 1990 Tim Berners-Lee develops HTML, which makes a huge contribution to how we navigate and view the Internet today.

WWW

Tim Berners-Lee introduces WWW to the public on August 6, 1991.

APPROCHES TO GREENCOMPUTING

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Algorithmic efficiency:

The efficiency of algorithms has an impact on the amount of computer resources required for any given computing function and there are many efficiency trade-offs in writing programs. As computers have become more numerous and the cost of hardware has declined relative to the cost of energy, the energy efficiency and environmental impact of computing systems and programs has received increased attention.

- The 'energy cost' of a single Google search
- The Green500 list, rating supercomputers by energy efficiency.

virtualization:

Computer virtualization refers to the abstraction of computer resources, such as the process of running two or more logical computer systems on one set of physical hardware. The concept originated with the IBM mainframe operating systems of the 1960s, but was commercialized for x86-compatible computers only in the 1990s. With virtualization, a system administrator could combine several physical systems into virtual machines on one single, powerful system, thereby unplugging the original hardware and reducing power and cooling consumption. Several commercial companies and open-source projects now offer software packages to enable a transition to virtual computing. Intel Corporation and AMD have also built proprietary virtualization enhancements to the x86 instruction set into each of their CPU product lines, in order to facilitate virtualized computing.

Terminal Servers:

Terminal servers have also been used in green computing methods. When using terminal servers, users connect to a central server; all of the computing is done at the server level but the end user experiences the operating system. These can be combined with thin clients, which use up to 1/8 the amount of energy of a normal

workstation, resulting in a decrease of energy costs and consumption. There has been an increase in using terminal services with thin clients to create virtual labs. Examples of terminal server software include Terminal Services for Windows, the Aqua Connect Terminal Server for Mac, and the Linux Terminal Server Project (LTSP) for the Linux operating system.

Power Management:

The Advanced Configuration and Power Interface (ACPI), an open industry standard, allows an operating system to directly control the power saving aspects of its underlying hardware. This allows a system to automatically turn off components such as monitors and hard drives after set periods of inactivity. In addition, a system may hibernate, where most components (including the CPU and the system RAM) are turned off. ACPI is a successor to an earlier Intel-Microsoft standard called Advanced Power Management, which allows a computer's BIOS to control power management functions.

Some programs allow the user to manually adjust the voltages supplied to the CPU, which reduces both the amount of heat produced and electricity consumed. This process is called undervolting. Some CPUs can automatically under volt the processor depending on the workload; this technology is called "Speed Step" on Intel processors, "PowerNow!"/"Cool'n'Quiet" on AMD chips, Long Haul on VIA CPUs, and Long Run with Transmeta processors.

Power supply:

Desktop computer power supplies (PSUs) are generally 70–75% efficient dissipating the remaining energy as heat. An industry initiative called 80 PLUS certifies PSUs that are at least 80% efficient; typically these models are drop-in replacements for older, less efficient PSUs of the same form factor. As of July 20, 2007, all new Energy Star 4.0-certified desktop PSUs must be at least 80% efficient.

Storage:

Smaller form factor (e.g. 2.5 inch) hard disk drives often consume less power per gigabyte than physically larger drives.

Unlike hard disk drives, solid-state drives store data in flash memory or DRAM. With no moving parts, power consumption may be reduced somewhat for low

capacity flash based devices. Even at modest sizes, DRAM-based SSDs may use more power than hard disks, (e.g., 4GB i-RAM uses more power and space than laptop drives). Flash based drives are generally slower for writing than hard disks.

Video Card:

A fast GPU may be the largest power consumer in a computer.

Energy efficient display options include:

- No video card - use a shared terminal, shared thin client, or desktop sharing software if display required.
- Use motherboard video output - typically low 3D performance and low power.
- Select a GPU based on average wattage or performance per watt

Display:

LCD monitors typically use a cold-cathode fluorescent bulb to provide light for the display. Some newer displays use an array of light-emitting diodes (LEDs) in place of the fluorescent bulb, which reduces the amount of electricity used by the display.

Operating System Issues:

Microsoft has been heavily criticized for producing operating systems that, out of the box, are not energy efficient. Due to Microsoft's dominance of the huge desktop operating system market this may have resulted in more energy waste than any other initiative by other vendors. Microsoft claim to have improved this in Vista, though the claim is disputed. This problem has been compounded because Windows versions before Vista did not allow power management features to be configured centrally by a system administrator. This has meant that most organizations have been unable to improve this situation.

Material Recycling:

Computer systems that have outlived their particular function can be repurposed, or donated to various charities and non-profit organizations. However, many charities have recently imposed minimum system requirements for donated equipment. Additionally, parts from outdated systems may be salvaged and recycled through certain retail outlets and municipal or private recycling centers.

Recycling computing equipment can keep harmful materials such as lead, mercury, and hexavalent chromium out of landfills, but often computers gathered through recycling drives are shipped to developing countries where environmental standards are less strict than in North America and Europe. The Silicon Valley Toxics Coalition estimates that 80% of the post-consumer e-waste collected for recycling is shipped abroad to countries such as China, India, and Pakistan.

Telecommuting:

Teleconferencing and telepresence technologies are often implemented in green computing initiatives. The advantages are many; increased worker satisfaction, reduction of greenhouse gas emissions related to travel, and increased profit margins as a result of lower overhead costs for office space, heat, lighting, etc. The savings are significant; the average annual energy consumption for U.S. office buildings is over 23 kilowatt hours per square foot, with heat, air conditioning and lighting accounting for 70% of all energy consumed. Other related initiatives, such as hotelling, reduce the square footage per employee as workers reserve space only when they need it. Many types of jobs -- sales, consulting, and field service -- integrate well with this technique.

Voice over IP (VoIP) reduces the telephony wiring infrastructure by sharing the existing Ethernet copper. VoIP and phone extension mobility also made Hot desking and more practical.

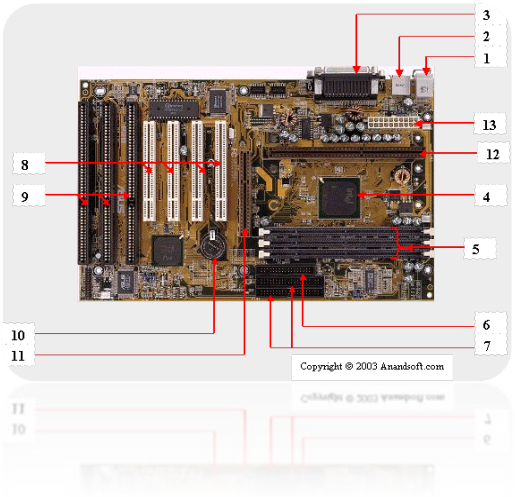
Computer Motherboard and its constituent components

S.Prema,

Lecturer in Dept of CS,

KSRCAS

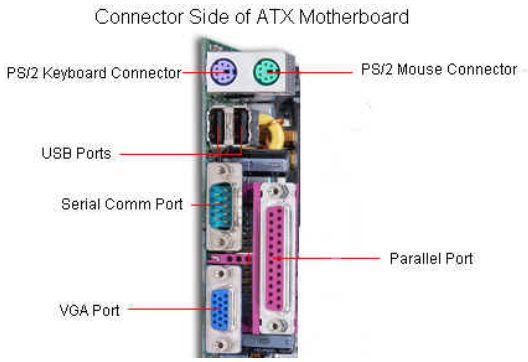
There are primarily two types of motherboards, AT motherboard, and ATX motherboard. AT motherboards are older, and not commonly used now a days. The AT and ATX motherboards differ in the form factor. Full AT is 12" wide x 13.8" deep, and Baby AT is 8.57" wide x 13.04" deep. Full-ATX is 12" wide x 9.6" deep and Mini-ATX is 11.2" wide x 8.2" deep. Other major differences include power supply connector, and keyboard connector. AT has 5-pin large keyboard connector, where as ATX has 6-pin mini connector. Similarly, AT has single row two connectors +/-5V, and +/-12V, whereas ATX motherboard has double row single connector providing +/-5V, +/-12V, and +3.3V.



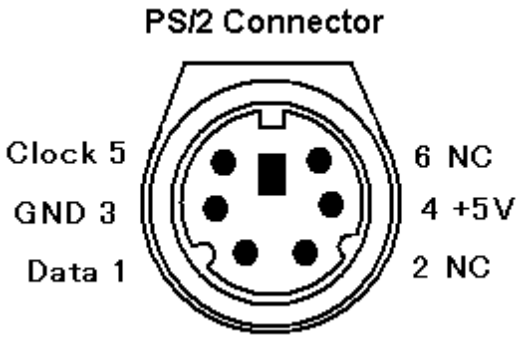
A typical ATX PC motherboard with constituent components is given below:

The important constituent components of an ATX Motherboard are given below:

1. **Mouse & keyboard**
2. **USB**
3. **Parallel port**
4. **CPU Chip**
5. **RAM slots**
6. **Floppy controller**
7. **IDE controller**
8. **PCI slot**
9. **ISA slot**
10. **CMOS Battery**
11. **AGP slot**
12. **CPU slot**
13. **Power supply plug in**



1. Mouse & keyboard: Keyboard Connectors are two types basically. All PCs have a Key board port connected directly to the motherboard. The oldest, but still quite common type, is a special DIN, and most PCs until recently retained this style connector. The AT-style keyboard connector is quickly disappearing, being replaced by the smaller mini DIN PS/2-style keyboard connector.



You can use an AT-style keyboard with a PS/2-style socket (or the other way around) by using a converter. Although the AT connector is unique in PCs, the PS/2-style mini-DIN is also used in more modern PCs for the mouse. Fortunately , most PCs that use the mini-DIN for both the keyboard and mouse clearly mark each mini-DIN socket as to its correct use. Some keyboards have a USB connection, but these are fairly rare compared to the PS/2 connection keyboards.

2. USB (Universal serial bus):
USB is the General-purpose connection for PC. You can find USB versions of many different devices, such as mice, keyboards, scanners, cameras, and even printers. a USB connector's distinctive rectangular shape makes it easily recognizable.

USB has a number of features that makes it particularly popular on PCs. First, USB devices are hot swappable. You can insert or remove them without restarting your system.

3. Parallel port: Most printers use a special connector called a parallel port. Parallel port carry data on more than one wire, as opposed to the serial port, which uses only one wire. Parallel ports use a 25-pin female DB connector. Parallel ports are directly supported by the motherboard through a direct connection or through a dangle.

4. CPU Chip : The *central processing unit*, also called the *microprocessor* performs all the calculations that take place inside a pc. CPUs come in Variety of shapes and sizes.

Modern CPUs generate a lot of heat and thus require a cooling fan or heat sink. The cooling device (such as a cooling fan) is removable, although some CPU manufactures sell the CPU with a fan permanently attached.

5. RAM slots: Random-Access Memory (RAM) stores programs and data currently being used by the CPU. RAM is measured in units called bytes. RAM has been packaged in many different ways. The most current package is called a 168-pin DIMM (Dual Inline Memory module).

6. Floppy controller: The floppy drive connects to the computer via a 34-pin *ribbon cable*, which in turn connects to the motherboard. A *floppy controller* is one that is used to control the floppy drive.

7. IDE controller: Industry standards define two common types of hard drives: EIDE and SCSI. Majority of the PCs use EIDE drives. SCSI drives show up in high end PCs such as network servers or graphical workstations. The EIDE drive connects to the hard drive via a 2-inch-wide, 40-pin ribbon cable, which in turn connects to the motherboard. *IDE controller* is responsible for controlling the hard drive.

8. PCI slot: Intel introduced the *Peripheral component interconnect* bus protocol. The PCI bus is used to connect I/O devices (such as NIC or RAID controllers) to the main logic of the computer. PCI bus has replaced the ISA bus.

9. ISA slot: (Industry Standard Architecture) It is the standard architecture of the Expansion bus. Motherboard may contain some slots to connect ISA compatible cards.

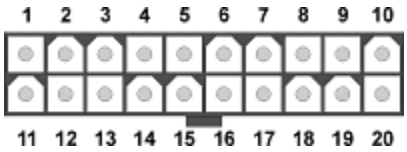
10. CMOS Battery: To provide CMOS with the power when the computer is turned off all motherboards comes with a battery. These batteries mount on the motherboard in one of three ways: the obsolete external battery, the most common onboard battery, and built-in battery.

11. AGP slot: If you have a modern motherboard, you will almost certainly notice a single connector that looks like a PCI slot, but is slightly shorter and usually brown. You also probably have a video card inserted into this slot. This is an *Advanced Graphics Port (AGP)* slot

12. CPU slot: To install the CPU, just slide it straight down into the slot. Special notches in the slot make it impossible to install them incorrectly. So remember if

it does not go easily, it is probably not correct. Be sure to plug in the CPU fan's power.

13. Power supply plug in:



The Power supply, as its name implies, provides the necessary electrical power to make the pc operate. the power supply takes standard 110-V AC power and converts into +/-12-Volt, +/-5-Volt, and 3.3-Volt DC power.

The power supply connector has 20-pins, and the connector can go in only one direction.

Memory

PC memory stores data and programs currently being executed by the computer. It is important that the information is fetched by the CPU quickly to further processing. There are several memory types available. Important among there include the following:

- Dynamic RAM (DRAM)
- Synchronous RAM (SRAM)
- Synchronous DRAM (SDRAM)
- Rambus DRAM (RDRAM)
- Video RAM (VRAM)
- Windows RAM (WRAM)
- EDO RAM

RAM stands for Ramdom Access Memory.

Dynamic RAM (DRAM): In dynamic RAM, the RAM gets refreshed continually by the controller. DRAM has been introduced in the earlier stages, and RAM versions available today are much bigger and faster than the earlier simple DRAMs.

DRAMs store data in the form of capacitive charges. Since any capacitor tends to be leaky, a DRAM needs to be refreshed on a continual basis.

Synchronous RAM (SRAM): SRAM contains a clock built onto the memory module, enabling the SRAM to be in synchronization with the motherboard cloak.

SDRAM doesn't require frequent recharge like DRAM. L-2 memory caches are usually made of SRAM and exhibit very fast read and write operations.

Synchronous DRAM (SDRAM): SDRAM works in sync with the motherboard, and hence works quite fast. SDRAMs have speeds of the order of 133MHz, 800MHz, etc.

Rambus DRAM (RDRAM): RDRAM technology was developed originally by Rambus, Inc. Rambus memory is integrated onto Rambus Inline Memory Modules (RIMMs). RDRAM chips are synchronized to the processor's memory bus.

Comparison Chart:

Memory Type	Synchronization
DRAM	CPU synchronized to the motherboard. DRAM is neither synchronized to the motherboard nor CPU.
SRAM	CPU and memory module are synchronized to the motherboard.
RDRAM	Synchronizes to the memory bus clock. Memory bus clock is much faster than the motherboard clock. Hence faster data transfer between the CPU and the memory module occurs.

Video RAM (VRAM): VRAM is primarily used on video cards. It is dual ported, in the sense that while one device write to VRAM, another device can simultaneously do read operation. This is quite useful in animation and other speed sensitive video applications. VRAMs are more expensive than DRAMs, but provide better graphic display. Windows RAM (WRAM) is another type of memory used for graphics, and is similar to VRAM in functionality. However, with the faster memory access schemes like DDR, VRAM and WRAM are slowly becoming obsolete.

a) *Double Data Rate SDRAM (DDR SDRAM):*

DDR SDRAM is similar to SDRAM, but for the difference that DDR reads data on both the rising and falling edges of the clock. SDRAM reads only on the rising edge of a signal. This technique allows the DDR module to achieve speeds twice that of SDRAM. For example, instead of a data rate of 133MHz, DDR memory transfers data at 266MHz.

2) *Memory Modules:*

Memory modules are printed circuit cards made up of memory chips, and a few other passive components. Normally, memory modules are the those that get installed on the motherboard, and you don't handle individual memory chips. The following are the prominently used memory modules (also called memory cards):

- Dual In-line Package (DIP)
- Single In-line Memory Modules (SIMM)
- Dual In-line Memory Modules (DIMM)
- Rambus In-line Memory Modules (RIMM)
- DDR
- DDR II

Dual In-line Package (DIP): Initially, PC XT, and AT systems came with DIP sockets. Individual memory chips were inserted into the sockets.

DIP chip	DIP socket
	

A typical DIP socket, and chip are shown in the figure above. As can be seen, there is only one chip per DIP package. This arrangement resulted in several DIP sockets being present on the motherboard. If you need to enhance the memory, buy additional chips and insert into any existing DIP sockets. There are several disadvantages because of this method:

1. Due to size, these chips used to take lot of space,
2. The chips used to dislodge from respective sockets, and give raise to errors
3. It is cumbersome to insert individual chips
4. Used to take more power

Because of the above problems, memory chips were integrated into SIMM (Single In-line Memory Modules) that overcome several of the said problems.

3) *Single In-line Memory Modules (SIMM):*

SIMM modules have several memory chips soldered in-line on its own circuit board. A typical SIMM is shown in the figure below. There are two types of SIMM

modules: 30-pin SIMM modules, and 72-pin SIMM modules. Typically, a 72-pin SIMM has 32-bit wide memory bus, whereas a DIMM has 64-bit wide memory bus. On a SIMM, the edge connector pins on either side of a SIMM are shorted, representing only one signal pin.

	Typical SIMM package: Memory Size:64MB Memory Speed: 60nS Pins: 72

4) *Dual In-Line Memory Modules (DIMM):*

DIMMs are very similar to SIMMs. The major difference is that a DIMM has two different signal pins on each side of the module as shown in the figure. One big advantage of DIMM is that only one module can be inserted into the motherboard, whereas you need two SIMMs (paired) when working with 64-bit microprocessors like Pentium II and above. Since SIMM provides only 32-bit bus, you need to use 2-SIMMs paired together with any modern 64-bit processor.

	Typical DIMM package (using DDRAM): Memory size: 256MB Pins:168 pin

SIMMs typically have 72 pins, whereas DIMM have 168 pins.

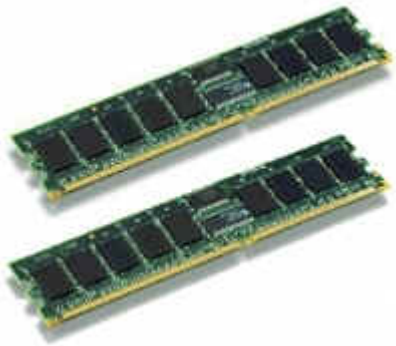
5) *Rambus In-Line Memory Module (RIMM):*

Rambus inline memory modules (RIMMs) use Rambus Dyamic RAM (RDRAM) chips.

	A RIMM package using RDRAM

a) *Double Data Rate:*

DDR modules are also called DIMMs (Dual-In-Line-Memory Module). A typical DDR module (DIMM) is shown above. The DIMM package using DDR is twice as fast as the one using SDRAM.

	Memory Size: 2X512MB Memory Speed: 400MHzPC3200 Memory Type: Dual Channel DDR Pins: 184

LAPTOPS-TIPS AND TRICKS

C.Gnanasekaran
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Make Your Own Power Plan

Windows laptops include a few preset power plans for maximizing battery life, but you can also customize your operating system's power-management features (in Windows XP, under Power Options in the Control Panel; in Vista, under Mobile PC in the Control Panel). Setting aggressive targets for when the display turns off

and when the machine goes into sleep or hibernate mode will help your battery last longer.

Limit Your Connection

When you aren't actively using your notebook's Wi-Fi, Bluetooth, WWAN, or other wireless connections, turn the radios off (via the hard switch, if your PC has one, or using the appropriate utility), so they don't run down the battery while they keep searching for a signal. Also, use USB-attached devices sparingly while you're mobile.

Track it down

Thousands of laptops are reported stolen every year. Our advice? Prepare for the worst by investing in tracking software like Absolute Software's Lojack for Laptops, CyberAngel Security, or the free TheLaptopLock. These utilities can pinpoint a registered notebook's location once it connects to the Web, increasing your chances of recovering your system.

Dim the display

A laptop's biggest battery-life-sucking component is its LCD display. To eke out more juice when you're off the plug, turn down your panel's brightness to the lowest level your eyes can stand. Most notebooks have a Function key combo—or even a dedicated hot key—for a quick crank-down. (You can also adjust brightness in Display Settings under Control Panel.)

Keep It Cool

Thanks to their small, cramped cases and tiny vents, laptops are prone to overheating. Unfortunately, using your notebook on your lap—or on top of a blanket that protects your lap from your scalding-hot notebook—can seriously stifle ventilation and make matters worse. To help keep temperatures in check, opt for a lap desk or a laptop cooling pad that won't conduct heat or block your laptop's vents.

Back Up Everything

Constant movement puts computer components at risk, and because of their portability, laptops suffer a lot more wear and tear than desktops. All of that on-the-go use increases the risk of hard drive failure, so make sure you back up the

data on your laptop to an external hard drive, thumb drive, or home server on a regular basis. Portable hard drives like the Western Digital Passport Elite make it easy to back up your data on the road.

Cover Your Keyboard

Keep liquids away from laptops at all times. That rule often gets broken, of course, and accidents happen. Should that accident end up on your laptop's keyboard, however, you could end up with more than just a mess: Liquids that seep through your notebook's keys can fry its components. Protect your notebook from spills with a custom-built, plastic keyboard cover from ProtecT Laptop Covers.

Buy a Bag

If you plan to carry your notebook with you, the most useful accessory you can buy is a laptop bag. They're available in a number of styles and prices; for maximum protection, we recommend investing in a model with a built-in padded sleeve. If you want something less conspicuous (thieves have been known to target obvious-looking laptop bags), cover your laptop in stand-alone sleeve and stow it in your backpack or briefcase.

Let It Accumulate

When you move your laptop from a cold to a warm environment, and vice versa, don't boot up until your system reaches room temperature. Sudden temperature changes can cause condensation to build up inside the notebook case; turn it on too quickly, and the moisture could damage your system's inner components.

Hackers and Browser Hijacking is one area of the Net that affects everyone at some stage.

In addition to having third party utilities such as SpyBot, Anti Virus scanners and firewalls installed there are some changes that can be made to Windows 2000/XP. Below are some details to make your system safer from hackers and hijackers.

Some of these tips require editing of the Registry so it is wise to either backup the registry add/or create a Restore Point.

1. Clearing the Page File at Shutdown

Windows 2000/XP paging file (Sometimes called the Swap File) can contain sensitive information such as plaintext passwords. Someone capable of accessing your system could scan that file and find its information. You can force windows to clear out this file.

In the registry navigate to HKEY_LOCAL_MACHINESYSTEMCurrentControlSetControlSession ManagerMemory Management and add or edit the DWORD ClearPageFileAtShutdown. Set it to 1.

Note that when you do this, the system will take much longer to shut down: a system with a really big Page File (! Gig or more) may take a minute or two longer.

2. Disable the POSIX and OS/2 Subsystem.

Windows 2000 and XP come with little-documented subsystems it at allow compatibility with UNIX and OS/2 systems These rues systems are enabled by default but so rarely used that they are best off bring disabled completely to prevent possible service hijackings.

To disable these subsystems, open the registry and navigate to HKEY LOCAL MACHINESYSTEMCurrentControlSetControlSession ManagerSubSystems. Delete the subkeys Os2 and Posix. then reboot.

3. Never leave default passwords blank.

On installation, Windows 2000 sets up an Administrator account with total system access and prompts for a password. Guess what: by default, it allows that password to be blank. If a user doesn't want to type a password, he can simply click Next and the system will be an open door for anyone who wants to log on. Always opt for a password of some kind when setting up the default account on a machine.

4. Disable the Guest account

Windows XP comes with a Guest account that's used for limited access, but it's still possible to do some damage with it. Disable it completely if you are not using it. Under Control Panel, select User Accounts, click on Guest Account and then select Turn Off the Guest Account.

5. Install Windows In a different directory.

Windows usually installs itself in the WINDOWS directory. Windows NT 4 0 and 2000 Will opt for WINNT. Many worms and other rogue programs assume this to be the case and attempt to exploit those folders files. To defeat this install Windows to another directory when you're setting it up - you can specify the name

of the directory during setup. WINDIR is okay; so some people use WNDWS - A few (not that many) programs may not install properly if you install Windows to another folder but t hey are very few and they are far between

6. Fake out hackers with a dummy Administrator account

Since the default account in Windows 2000 is always named Administrator, an enterprising hacker can try to break into your system by attempting to guess the password on that account. It you never bothered to put a password on that account, say your prayers.

Rather than be a sucker to a hacker, put a password on the Administrator account it you haven't done so already. Then change the name of the Administrator account. You'll still be able to use the account under its new name, since Windows identifies user accounts by a back-end ID number rather than the name. Finally, create a new account named Administrator and disable it. This should frustrate any would -be break-ins.

You can add new accounts and change the names of existing accounts in Windows 2000 through the Local Users and Groups snap in. Right-click on My Computer, select Manager, open the Local Users and Groups subtree, look in the Users folder and right-click on any name to rename it. To add a new user, right-click on the containing folder and select New User. Finally, to disable an account, double-click it, check the Account is disabled box and click OK.

Don't ever delete the original Administrator account. Some programs refuse to install without it and you might have to log in under that account at some point to setup such software. The original Administrator account is configured with a security ID that must continue to be present in the system.

7. Set the Hosts file to read-only to prevent name hijacking.

This one's from (and to a degree, for) the experts. The HOSTS file is a text file that all flavors of Windows use to hold certain network addresses that never change. When a network name and address is placed in HOSTS, the computer uses the address listed there for that network name rather than performing a lookup (which can take time). Experts edit this file to place their most commonly-visited sites into it, speeding things up considerably.

Unfortunately hijackers and hackers also love to put their own information into it - redirecting people from their favorite sites to places they don't want to go. One of

the most common entries in HOSTS is local host which is set 1770.0.1. This refers to the local machine and if this entry is damaged the computer can behave very unpredictably.

To prevent HOSTS from being hijacked, set it to read-only. Go to the folder %Systemroot%system32driversetc, right-click on HOSTS, select Properties check the Read-Only box and click OK. If you want to add your own entries to HOSTS, you can unprotect it before doing so, but always remember to set it to read-only after you're done.

8. **Turn off unneeded Services**
Windows 2000 and XP both come with many background services that don't need to he running most of the time: Alerter, Messenger, Server (If you're running a standalone machine with no file or printer shares), NetMeeting Remote Desktop Sharing, Remote Desktop Help Session Manager (the last two if you're not using Remote Desktop or NetMeeting), Remote Registry, Routing and Remote Access (if you're not using Remote Access), SSDP Discovery Service, Telnet, and Universal Plug and Play Device Host.
A good resource and instruction on which of these services can be disabled go to /http://www.blkviper.com/WinXP/.

9. Disallow changes to IE settings through IE
This is another anti hijacker tip. IE can be set so that any changes to its settings must be performed through the Internet icon in the Control Panel, rather than through IE's own interface. Some particularly unscrupulous programs or sites try to tamper with setting by accessing the Tools, Options menu in IE. You can disable this and still make changes to IE's settings through the Control Panel.

Open the Registry and browse to HKEY_CURRENT_USER SoftwarePoliciesMicrosoftInternet ExplorerRestrictions. Create or edit a new DWORD value named NoBrowserUptions and set it to 1 (this is a per-user setting). Some third-party programs such as Spybot Search And Destroy allow you to toggle this setting.

You can also keep IE from having other programs rename its default startup page, another particularly annoying form of hijacking. Browse to HKEY.CURRENT USERSoftwarePolicies MicrosoftInternet ExploreControl Panel and add or edit a DWORD, Homepage and set it to 1.

10. Disable simple File Shares.

In Windows XP Professional, the Simple File Sharing mode is easily exploited, since it担 a little too easy to share out a file across your LAN (or the NET at large). To turn it off, go m My Computer, click Tools, Folder Option and the View tab, and uncheck Use Simple file sharing (Recommended). Click OK. When you do this you can access the Security tab in the Properties window for all folders; set permissions for folders; and take ownership of objects (but not in XP Home).

TOP 10 COMPUTER MOUSE TIPS EVERYONE SHOULD KNOW

G.Hari kumaran,

I-B.sc(cs)-"A"

Most computer users don't take full advantage of the computer Mouse. Below are computer mouse tips and secrets that help you get the full potential of your computer mouse and increase your overall productivity while on the computer.

Shift key and mouse click

Many text editors and programs allow you to highlight all or portions of text using the Shift key and the mouse. For example, place the cursor at the beginning of a paragraph in a text editor, hold down the Shift key and click at the end of the paragraph to highlight the full paragraph.

Bonus tip: Holding down the Alt key while dragging and highlighting text in a text editor will allow you to selectively highlight text. This can be useful if your paragraph or other text is in a column.

Take full advantage of the scroll wheel

Today, everyone is familiar with a mouse wheels ability to scroll up and down on a page. However, this wheel can also do so much more, below are just a few examples.

- The mouse wheel is not just a wheel, it can also be used as a button. Pressing down on the wheel will act like a third mouse button. This can be used to open a web page in a tab by clicking the wheel on any link and can also be used to close a tab by clicking the wheel on any open tab.
- Holding down the shift key while scrolling up or down in a Internet browser will quickly go back and forward between web pages.
- Zoom in and Out on a web page, word document, excel spreadsheet, etc. by holding down the Ctrl key and scrolling up to zoom in and down to zoom out.
- Move forward and backwards while browsing the Internet by holding down the Shift key and scrolling up and down. Scrolling down goes back and scrolling up goes forward.
- Some mouse wheels can be pushed left or right to also move back and forward on a web page.

Select with double and triple click

Any word can be selected by double-clicking the word. If you want to highlight the whole paragraph, click the mouse button three times on any text in the paragraph.

Use the right-click

Take full advantage of the right-click any time you highlight text or wish to view the properties of an object. For example, if you highlight a file or text, you can right-click that highlighted item copy it and then right-click anywhere else to paste it.

Tip: If you right-click on any file or text and drag it while continuing to hold the right button, when you let go you will be given the option to move or copy that file or text. This saves you the extra step of having to right-click where you want to paste the item.

Tip: While in a browser pressing and holding Ctrl while clicking on any link will open that link in a new tab.

Ctrl key and mouse click or highlight

While holding down the Ctrl key you can left-click to select multiple objects or highlight multiple sections of text. For example, in Microsoft Windows you could hold down the Ctrl key and click to select multiple files at once. If you wanted to highlight different parts of a paragraph or web page, you could also hold down the Ctrl key and select each section you wanted to copy.

Tip: Mozilla Firefox users can also hold down the Ctrl key and individually click on each cell in a table they wish to copy or drag their mouse down a row to select just that row or text without selecting any of the other text in that table.

Use the mouse side buttons

Many new computer mice have buttons on the side of the mouse. These buttons can be programmed to do anything, however, by default the left-thumb button can be used to go back on a web page. This makes browsing the Internet more enjoyable since you do not need to move the mouse cursor to the browser back arrow button in order to go back a page.

Use the Windows Snap To feature

Take full advantage of the Windows mouse **Snap To** feature, which will automatically move your mouse to buttons that appear in a dialog box. For example, if you delete a file or close a window you may get a prompt asking you if you are sure you want to perform the task. With the Snap To feature enabled, the mouse cursor automatically moves to the Ok button, so all you will have to do is click the mouse button if you agree. This saves you the time of having to move the mouse cursor over to the Ok button and then click Ok. To enable this feature open the Mouse properties under the Windows Control Panel and check the Snap To check box under the Pointer Options tab.

Tip: While changing this feature we also suggest looking at other available options in the Mouse settings. For example, increasing the Motion speed can also help increase your productivity while using the mouse.

Manage the open window with the mouse

Double-click the top title bar of any window to maximize a window or if it is already maximized resize it to a window. You can also double-click the icon for the window in the top-left corner of the window to close that window.

Move the mouse with your keyboard

Instead of using the mouse that came with your computer you can also enable Windows to use the number pad as a mouse.

Customize your mouse

Finally, if you have a mouse with more than two buttons, installing the included mouse software will allow you to customize the mouse even more. For example, if you don't use the side buttons to move back and forth in a web page change it to something you do more often, such as switching between open windows or opening the calculator.

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- **Mr. R.Ravichandran, Direcr & Secretary, Dept of CS, KGISL Institute of Technology, Coimbatore-35.**
- **Dr. N.Sairam, Prof, Dept of CS, Sastra University, Tanjore – 01.**
- **Mr. T.Senthikumar , Asst Prof, Amrita Institute of Technology,Coimbatore - 12**
- **Mr.S.T Rajan, Sr. Lectr, Dept of CS, St. Josephs College, Trichy-02.**
- **Dr. R.Amal Raj,Prof, Dept Of CS,Sri Vasavi College, Erode – 16**
- **Mr. B.Rajesh Kannan, Prof, Dept of ElecEngineering, Annamalai University ,Chidambaram- 02.**

Guess the company of the slogan

- "How Are You?"
- "The Network Is The Computer"
- "Imagine"
- "Sense and Simplicity"
- "Digital DNA"
- "A Virtual World of Live Pictures"
- "We Make IT Happen"
- "Inspire the Next"
- "Built for the Road Ahead"
- "Get More out of Now"
- "Know How"
- "Your World. Delivered"
- "…and You're Done"
- "How Communication Happens"

Wait for the answers in the next issue!!!!!

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The answer of the previous issue questions are

1)sail(Indian steel)

2)Yell AD works

3)Capegemini

4)Genpact

VA Shiva Ayyadurai
born 2 December 1963 in Mumbai,
Developed a full-scale emulation of the Interoffice
mail system, which called "e-MAIL"
and copyrighted in 1982.