



**CSAU**  
**CURSOR**  
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## Vision 2020

### From the presidents desk.....

Nostradamus must be glad he wasnt born in this century. The unparalleled pace of technological innovation would have impacted the accuracy of his visions and made his job even tougher. The fact is that, today predicting how technology will evolve and impact out life in our near future is a task reserved for the truely blessed. If we paint a picture of future would look like, the reality would be advanced than anything we fathom today.

I would like to quote the famous 80:20 rule of Pareto's law here. Today an average indian spends 80 percent of his/her time making decisions, doing things or dealing with situations that have only impact 20 percent of his/her life. The result - he spends the rest of his time (meagre 20 percent) envisioning a life full of things he actually wants to do. Technology, I believe has the power to change this...

As i contemplate the ways in which technology will change our life in and out, some regular thoughts pop up in my mind: life will be easier, more efficient and more structured. But thats not my point,

I believe people will be happier and life will be more meaningful. It will free up mind and time for other things in addition to enriching every experience mainfold. By proving people with the means to strike a perfect balance between what they want to do and what they must, technology will help improve the overall quality of life....

One of the most important thing is that technology will be more humanised. This will be possible with the emergence of impressive technology like spatially spaced sound, three dimentional displays, haptic technology capable of sensing your feelings by your touch, texture and temprature. As technology is expected to evolve at a more human level the rate of change experienced will be much greater.

One of the most important areas which is expected to take a big leap is education. While information technology and digital media have been progressing at breakneck speeds, little has been changed in the delivery and design of curriculum. Inclusion of immensive technologies will define a new relationship between technolgy and pedagogy, widening the spectrum of education. Teachers and students will be thousands of miles apart but will will appear and sound like they are in the same room.

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*This issue features  
 keyboard humour.*

*Well, here is one for the  
 starters*

## Keyboard Humour.....

*I have a friend who just bought a computer and was instructed to load a program by typing "A:" and then the name of the program.*

*My friend told me it would not work because his keyboard was no good. He said he couldn't type the "dot over dot thingie" and that every time he tried to type the "dot over dot thingie" he kept getting the "dot over comma thingie" no matter how careful he was to press only on the very top of the key.*

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**VISION 2020  
CONTINUED.....**

Facilitated by unobstructive picture display and sound devices, the infrastructure will give them a sense of presence...students will be able to touch and feel the objects in a faraway museum and feel the forces in a virtual lab. The term interactivity is going to get new definition by lifesize representations of teachers and virtual classmates sitting next to each other and talking. The process of learning and teaching will undergo changes at different levels and so called "lifelong learning" will take an entirely new meaning.

Internet as we know today will be transformed from a low-fidelity medium used for browsing information to a high-fidelity medium which deliver richer and impressive content. Broadband will flow into our houses as easily and ubiquitously as electricity does today. Virtual office will become the norm and workers will know the true meaning of a 'remote workplace'. The 80s saw the focus of companies being shifted towards the reduction of defects by implementation of Total Quality Management. In 90s it shifted to streamlining processes through ERP or Enterprise Resource Management. As we move to a

knowledge era, organisations will make radical changes in their workplaces. Organisations will be powered by ultra-powerful processors, high-performance networks and electronic performance support systems for creating virtual organisations. The offices will be transformed from a stationary based workstations to powerful knowledge hub that enables geographically diverse teams to collaborate in realtime in immense multisensory environment.

Finally in our 'Home sweet home' technology will be woven to every part of our lives, from the time we wake up to the time we go back to sleep. A future drawing hall will be supported by video walls, smart lights, digital mirrors etc. Digital mirrors will include tiny cameras which will allow us to view a wide range of images, including those based on how we want to look, rather than how we actually do. We can have a different hairstyle everyday and look much younger. The result-more happier us! And the smart lights which adjusts itself based on your moods and surroundings. The video walls..will provide us with wholesome entertainment while we are relaxing. And when we move from one room to another the visuals will also travel with us and automatically orient itself to the side

we are looking at. We could if we desire be relaxing at the sea shore of a different beach everyday! And as you hold the remote, our pulse and blood pressure will be recorded. Ofcourse all these data will be updated to our medical records, with diet prescriptions changing on the fly, our kitchen appliances will be directed to cook only particular things for the day.

Technology and internet, in particular have been touted as greater equalisers, having levelled the playing fields by breaking down physical barriers. The pace at which technology is evolving and creating new paradigms for work and existence leads me to believe that unlike the past, india will step with its peers to realise the potential of true global innovations. As our President's Vision 2020, technology will make indian students get a world class education at a fraction of the cost and effort. With Technology to backup, The Pan India development projects can be planned efficiently, which is usually marred with inefficiencies and delays. The opportunities has no boundaries - in 2020 india could be the flagbearer of flagship technology innovations, and a resultant world leader.

**S.Lenin,  
President,  
CSAV.**

**Top Ten Signs That You Are An Internet Geek**

- 10 *When filling out your driver's license application you give your IP address.*
  - 9 *You no longer ask prospective dates what their sign is, instead your line is "Hi, what's your URL?"*
  - 8 *Instead of calling you to dinner, your spouse sends email.*
  - 7 *You're amazed to find out spam is a food.*
  - 6 *You "ping" people to see if they're awake, "finger" them to find out how they are, and "AYT" them to make sure they're listening to you.*
  - 5 *You search the Net endlessly hoping to win every silly free T-shirt contest.*
  - 4 *You introduce your wife as "my lady@home.wife" and refer to your children as "client applications".*
  - 3 *At social functions you introduce your husband as "my domain server".*
  - 2 *After winning the office super bowl pool you blurt out, "I feel so "colon-right parentheses!"*
- ..And the number one sign you are an Internet Geek:**
- 1 *Two Words: "Pizza's Here!"*

## BROADBAND

The term Broadband is generally accepted to mean Fast digital access to the Internet. In the strictest sense of the term broadband is the ability to receive many channels through the same connection, as opposed to baseband receiving a single channel. In terms of the Internet broadband connection this is defined as a connection able to send and receive data at rates in excess of 256k

With broadband your Internet access is always on, like electricity or tap water. You don't have the trouble of dialing-up and logging-on each time you want to do something online.

The various types of broadband connections available are

- ADSL broadband
- SDSL broadband
- Cable broadband
- Satellite broad band
- WiFi Hotspots and Wireless broadband

### ADSL Broadband

Digital Subscriber Line (DSL) is the generic name for a technology that allows large amounts of digital information to be sent over an ordinary copper telephone line. DSL increases the bandwidth possible over the line, enabling broadband services to be offered and received in the home or at work.

ADSL - Asymmetric DSL - is so called because it allows information to be downloaded to the home or office more quickly than information is uploaded. This makes it particularly suitable for Internet surfing and for downloading files, music, movie and sports clips. In other words, ADSL is ideal for home and business use.

### Symmetric Broadband (SDSL)

Symmetric DSL services are so called because they allow information to be both sent and received from the home or office at the same broadband speeds. This makes them particularly suitable for businesses that regularly need to transfer and receive large files or volumes of information between offices and with people working from home. Symmetric DSL services are based on Single pair High bit rate DSL (SHDSL) broadband technology.

#### *How does broadband work and what is its relation with phone line?*

ADSL uses your current telephone line, which must be a BT line. This means that you do not need to have a special line installed for the broadband connection, you can still use the phone line for whatever you did before, including voice, fax, or modem, you just get the additional service of ADSL delivered on the same wire.

ADSL technology combines voice and digital signals on the same phone line using the same wires. The way it achieves this is to send the digital data at frequencies that are not used in normal voice transmissions. To achieve this there needs to be special splitters installed at both the telephone exchange and your computer to isolate the Voice (analog) and Digital signals. Hence with a broadband connection you don't need a second line to make and take phone calls as with a dial-up connection. This is because the splitters isolate the voice signals of your telephone from the digital signals.

At the exchange a DSLAM (Digital Subscriber Line Access Multiplexor) needs to be installed. This is similar to a network hub where a number of incoming lines are combined into a single line, which is then connected into the main BT network infrastructure, and ultimately the Internet. There is also a Mini DSLAM being trialed these have a smaller number of ports (lines) allowing exchanges in rural areas to be converted cost effectively.

At your premises you need to split the signal into voice and data this is done using a special filter, which splits the digital information from the voice information. This is referred to as a Micro Filter. You then need an ADSL modem and then you are all ready to go.

#### *How cable broadband works?*

The implementation of cable broadband is the inverse of the ADSL implementation. For ADSL the delivery method is over an analogue line whereas for cable the delivery is over a digital line. Therefore when cable companies offer telephone services they have to convert from digital to analogue.

Cable Internet works by using TV channel space for data transmission, with certain channels used for downstream transmission, and other channels for upstream transmission. Typically, there is more capacity allowed for downstream transmission than for upstream transmission, which is why many cable Internet providers prohibit types of use that make heavy use of upstream capacity like web servers. Cable broadband is not very popular in India currently. But it is the means connecting to the Internet for about 45 per cent of the UK people.

Source: [www.bwww.co.uk](http://www.bwww.co.uk)

## ..... And you can also make calls with a mobile phone

Sounds weird, huh? You assumed mobiles are used for making and receiving calls. Think again. A cell phone is fiddled on more than spoken into. Though it is obvious, the apparent fact is deep in our unfathomable psyche.

The bonuses of mobiles started off with SMS aka the Short Messaging Service where u can share pretty small and usually unimportant messages. Though it is still the most widely used aspect of a mobile, the technology involved is child's play when compared to the cutting edge features mobiles available in the contemporary market.

3G promises amazing features and zippy data speeds. What is 3G? Simply put, 3G cellular technology will bring wireless broadband data services to your mobile phone. Boasting of speeds from 144Kbps to 2.4Mbps, 3G networks let you hustle through Web pages, enjoy streaming music videos, watch on-demand video programming, download and play 3D games, and videoconference with your fellow chatters. While the interface is undoubtedly different on a cell phone, the experience of surfing, downloading, and streaming stands

to be very close to that of a broadband connection on a computer. If they materialize as planned, the swift data speeds will bring a whole new level in functionality to the mobile world. You'll pay for the services, of course but full rollout of 3G won't be easy.

Bluetooth Technology, an elective option for many engineering courses and also the widely talked about economical and unpretentious data transfer technique. It provides a way for different devices to communicate with each other by sending data via a secure, low-cost short-range radio frequency. Using this technology, cell phones can talk to headsets, PCs can talk to printers or keyboards, and handhelds can talk to each other without any wires. Up to seven connections can be made at a time, at a speed of 1Mbps. The biggest plus in Bluetooth is that it is independent of the hassles of a service provider. So transferring any data between mobiles is not a matter of concern anymore.

Camera mobiles, yeah the exalted contrivance, that is out of reach of a CEGian unless he decides to shatter the rules. Initially

Camphones were used to click and share pics & short movies using MMS (pervert minds..... forget DPS). But 1.3 and 2 Megapixel camphones have become a reality. Now u can very well chuck your digital camera for a Samsung D500, Sony Ericsson K750, Nokia 6680 or 3230. The resolution is good enough to take prints or do whatever u do with your digicam.

And don't expect me to take u thru all the features a latest mobile. A dazzling and vibrant 262k display, rocking and rapping MP3 players & FM radios, whopping hundreds of Megabytes of storage in addition to external memory cards, Organizers, memos and schedulers for the Business-Minded; 3D network games; EDGE to bestow hi speed data transfer for Men on the Move; GPS aka Global Positioning System. You name it you get it. None can afford to stop in this fast-paced world and there is no better place to put all your digital embellishments than your mobile phone. *And you can also make calls with your mobile phone.* Now it makes sense.

**Anandh Arjuman**  
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### Keyboard Humour.....

*I received a call from one of the top managers in our company.*

- ☛ **Him:** "When I start up my computer and have to type in my program, I can use the numbers on the right side of the keyboard. So that is great. But sometimes, if I hit numlock, they don't work anymore, and I have to use the ones above the letters. They work again if I hit numlock and a light goes on. Is this right?"
- ☛ **Me:** "Yes. Numlock is the number lock key. It lets you switch between—"
- ☛ **Him:** "So it's not broken?"
- ☛ **Me:** "No."
- ☛ **Him:** "Well I think you should tell others about this feature. I think they could use it."
- ☛ **Me:** "That's a great idea."
- ☛ **Him:** "Great then. Bye."
- ☛ **Me:** "Bye."

*I turned to my co-workers and said, "You won't believe the call I just got..."*

## FLASH MEMORY

Flash memory refers to a particular type of EEPROM, or Electronically Erasable Programmable Read Only Memory. It is a memory chip that maintains stored information without requiring a power source.

Flash memory differs from EEPROM in that EEPROM erases its content one byte at a time. This makes it slow to update. Flash memory can erase its data in entire blocks, making it a preferable technology for applications that require frequent updating of large amounts of data as in the case of a memory stick.

Inside the flash chip, information is stored in *cells*. A *floating gate* protects the data written in each cell. Highly penetrating electrons (Tunneling Electrons) pass through a low conductive material to change the electronic charge of the gate in "a flash," clearing the cell of its contents so that it can be rewritten. This is how flash memory gets its name.

Flash memory is very useful in a variety of applications including:

- Your computer BIOS
- Memory sticks

- PCMCIA memory cards
- MP3 players
- Modems
- Video game cards
- Digital cellular phones
- Digital cameras

Flash memory used as a *hard drive* has many advantages over a traditional hard drive. It's nonvolatile or solid state, meaning there are no moving parts. It's also silent, much smaller than a traditional hard drive, and highly portable with a much faster access time. However, the advantages of a traditional hard drive are price and capacity. Hard drives are many times larger for a price that is many times smaller, comparatively speaking, megabyte for megabyte.

That said, the price of flash memory continues to drop as capacity continues to rise, making it a prize candidate for an ever-broadening set of applications.

Flash memory is not the same thing as flash RAM (Random Access Memory). Flash RAM, like any type of RAM in your computer, requires a continual power source to maintain its contents.

Source: [www.wisegeek.com](http://www.wisegeek.com)

## Top 9 signs your son is a hacker

- 1 Your phone bill lists 1,987 household lines.
- 2 Your son tells you that his private interview with the Secret Service agent was for a social studies class essay.
- 3 You receive mail addressed to Phil E. Pbreak.
- 4 The kid cheers Lex Luthor whenever a Superman movie runs on TV.
- 5 The CEO of a regional Bell operating company appears on your doorstep, sobbing uncontrollably and begging for forgiveness.
- 6 The kid asks for a Novell Access Server for his birthday.
- 7 The little silver-colored wheel on your electric meter spins so fast it flies off, slices your neighbor's elm tree neatly in two and flattens a tire on a Chevy Monte Carlo three blocks away.
- 8 Your son's English teacher calls, sounding really curious, to ask why the kid selected the Oklahoma City phone directory for his monthly book report.
- 9 He names Robert Morris Jr. as his "Most Admired American."

## Keyboard Humour.....

A few months ago, a co-worker came into work and told me that his daughter brought home a school assignment. She was supposed to convert Roman numerals into Arabic and vice versa. He wasn't able to help her since he wasn't exactly a model student when he was in school.

I went home and downloaded a conversion program to a floppy disk for him. He's not very computer literate so I tried my best to make things as simple as possible. It was an executable file, all he had to do was click on it and enter whatever number he wanted, and it would convert automatically.

After a few days, I asked him if he ever loaded the program I gave him. He said, "No, I didn't do it. My keyboard doesn't have Roman numerals."

## Keyboard Humour.....

**Tech Support:** "Now press the spacebar."

**Customer:** "Return bar?"

**Tech Support:** "No, space bar. Space."

**Customer:** "I have an enter bar, return bar, and a shift key?"

**Tech Support:** "No, space. Space bar. The long horizontal key."

**Customer:** [confused sounds]

**Tech Support:** "Ok, see your c, v, b, n, and m keys?"

**Customer:** "Yes...."

**Tech Support:** "Right under them."

**Customer:** "Oh."

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## Threat Modeling Systems

With the increasing popularity of web applications to perform network related data transactions and other tasks, the need for security based design of applications has also increased. The various threats that an application faces while communicating with the server, clients and other web applications need to be identified to make the design more secure and less prone to vulnerabilities. Thus identification and resolution of such threats in web application is as important as the basic logic involved in it. Threat modeling is actually an engineering technique of developing highly secure web applications functioning in threat prone areas. Threat modeling approach aims at identifying security objectives and prominent threats. This modeling technique is carried out as an iterative procedure involving identification of serious threats, the point of occurrence of threats, how it disrupts the flow of logic, the way the logic is deviated from the path of achievement of security objectives, the state where the application tends to become inconsistent, etc.,

To identify the exact location where the threat is more prominent, decomposition of the application is necessary. This

can also aid in the debugging required for modeling. This procedure should be applied in an iterative manner to successively generate better models and to identify the best model that resolves the threat completely.

Threat modeling is needed to reduce risks and to identify where the threats occur, kind of threats, their effects, and to know exactly the stability of web applications. Incremental threat modeling technique is required to develop secure applications with riskfree design such a design would require less maintenance.

The application should use cases and roles to identify serious threats and vulnerabilities because different application types, application usage, and roles can yield different threats and vulnerabilities. Relevancy is provided by Context-precision. Context precision means being specific about the context, application type, and application scenario to increase information relevancy. To ensure that the whole task of threat modeling gets completed in a finite amount of time there is a necessity to provide criteria for entry and exit to watch when the application is completely perfect(good). In addition this approach can be used as a

communication and collaboration tool in different phases of application development ( design, coding, deployment, testing, marketing ) and more importantly in documentation to provide more information to the clients about the various threats in the personalized domain of the application. Categorized threat modeling is also a useful strategy to promote reuse of information and effective communication. Pattern based search techniques can be used to identify similar threats and categorize the solutions. This has indirectly led to the classification of threats which can be used in modeling the application more effectively.

Threat modeling can be either manually applied during or after application development. Alternatively an automata ( modeling application) can be designed to model these web applications to achieve precise security objectives. This kind of modeling application can identify the occurrence of threats, their kind and suggest measures (best) to model the application or it can handle the application as a whole and resolve the threats. Hope the future sees web with threat free applications.

By  
C.Charanya  
B.E, 3<sup>rd</sup> year,  
cse

## Keyboard Humour.....

**Tech Support:** "Use the right arrow key to move to the next field on the screen."

**Customer:** "You mean the 'Backspace' key?"

**Tech Support:** "No, ma'am, the right arrow key."

**Customer:** "You mean the 'Enter' key?"

**Tech Support:** "No, ma'am, the right arrow key."

**Customer:** "I don't have a right arrow key."

**Tech Support:** (head in hands) "Point to the space bar on the keyboard."

**Customer:** "Ok."

**Tech Support:** "Now, move you finger to the right."

**Customer:** "Ok."

**Tech Support:** "Did you find the left arrow key?"

**Customer:** "Yes."

**Tech Support:** "The right arrow key is two more keys to the right."

**Customer:** "Oh, ok."

## Active Networks

The traditional network merely serves as a black box for end users to transfer data from one end to another. Network nodes that make up the network have been data forwarding engines whose primary job is to transfer network packets towards its destination. Such nodes have very little intelligence and processing power that has led to a networking infrastructure in which network protocols cannot be easily modified or customized to suit applications. This situation had brought a need for an active network architecture in which intermediate nodes, called active nodes, can perform customized computations on every packet.

Programmability in active networks is achieved by code packets that are executed at an active node or having the packets carry references to programs that are injected into the active nodes offline. As each packet arrives at an active node, the node first executes the program associated with the packet. It then routes the packet to the next node. In this network, each active node uses two kinds of resources on network packets: CPU and network bandwidth. The ability to perform packet specific computations leads to an extensible network infrastructure that can be extended, modified, upgraded and customized to suit application requirements. Network services that were deployed at the end points can now be implemented in interior nodes dynamically, offering richer network functionality to the application.

Flexibility in protocol design is especially useful in a distributed system where there are massive interactions among collaborating parties. Distributed applications such as online stock quote, online auction, web caching and fusion applications can exploit the services offered by the network to improve its performance as well. While active networks offer flexibility in tailoring network services to applications, one of the pitfalls in using active networks is the potential degradation in overall application performance when multiple applications use the active node services simultaneously. Since active packets from multiple sources contend for both CPU and networking resources at an active node, the node is specially susceptible to ill-behaved sources can completely dominate other active packets by consuming too much of CPU, thereby denying them both CPU and networking resources.

While there has been significant research in developing active node architectures, programming models for active software and developing efficient security architectures, the problem of efficient resource allocation in active nodes has not been sufficiently addressed. Support for efficient resource allocation models in active nodes is a fundamental step toward large scale deployment of active networks. Active Networks is an emerging technology and has a lot of scope for research.

by  
Malar,  
M.E.(Final year)

## Keyboard Humour.....

- **Tech Support:** "Use the right arrow key to move to the next field on the screen."
- **Customer:** "You mean the 'Back-space' key?"
- **Tech Support:** "No, ma'am, the right arrow key."
- **Customer:** "You mean the 'Enter' key?"
- **Tech Support:** "No, ma'am, the right arrow key."
- **Customer:** "I don't have a right arrow key."
- **Tech Support:** (*head in hands*) "Point to the space bar on the keyboard."
- **Customer:** "Ok."
- **Tech Support:** "Now, move you finger to the right."
- **Customer:** "Ok."
- **Tech Support:** "Did you find the left arrow key?"
- **Customer:** "Yes."
- **Tech Support:** "The right arrow key is two more keys to the right."
- **Customer:** "Oh, ok."



*"The committee met to approve your idea. But first we had to approve the approval, providing everyone agreed to disagree to approve the agreement which approved the approval agreement. After that, things got complicated."*

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## File sharing - What has it got for us now?

We all know about file-sharing. In fact, it has been in practice right from the days storage devices hit the market. Everyone wanted to share files just as everyone shared useful information, breaking news and more desirably - gossips. The trend of sharing knowledge had been in place right since human beings started communicating with each other, and researches confirm this tendency also exists with other species too. This trend slowly began to creep into all inventions of humanity.

For instance, when tape recorders were invented, audio cassettes were shared. When VCRs and VCD Players were invented, video cassettes and CDs were shared. And now with the invention of CD and DVD writers - any kind of valid data can be shared. Everything works fine as long as what we copy and share, abide by the laws (which most often does not). File-sharing cannot be abolished completely. In many cases, file-sharing has been playing a key role in improving and maximizing the productivity of great industries. Just imagine if we had to key in a 100 pages of our assignment and had no means to transfer it to our workplace! It is definitely not feasible if we use a desktop computer - we cannot carry it over from place to place with those bulky equipments and complicated circuit of wiring. Hence magnetic disks were used in such cases. However, the required information being available "anytime, anywhere" posed great challenges to the developers.

All this being the case, the ultimate invention of "internet" could no longer hold back itself from this technology being "integrated" into it. In other words, "file-sharing"

has become a word by itself, referring to files being shared over the internet. The wikipedia definition goes something like this...

"File sharing is the activity of making files available to other users for download over the Internet, and also over smaller networks..." The advent of innovative secure and anonymous protocols such as UDP - User Datagram Protocol, I2P - An anonymous networking protocol along with our usual TCP - Transmission Control Protocol and P2P - Peer to Peer Protocol, provides totally enhanced and improved ways of sharing files over the internet. Sharing files over the internet, considering the amount of files being shared and the no. of users using this technology - being vast is not easy to be traced. Unless continuous monitoring is done on a particular IP address, it cannot be proved that computer holding that particular IP has shared a file. Nevertheless, this cannot be the case if the IP uses protocols like I2P and Free Haven which are totally stealth protocols.

Leaving apart these so-so complicated jargons, there is one single technology that could integrate itself with all these protocols - the Bit Torrent.

### *BitTorrent - Get the files bit by bit!*

One of my great interests is File Sharing Technologies. Recent open-source projects have got more benefits into this area. One of such a benefit being faced by the consumer (end-user) and small to medium business firms is the emergence of BitTorrent - The most effective open-source file sharing technology in use today (brought to us by programmer, Bram Cohen).

A Torrent in Internet Terminology is just a file that contains the following details:

1. The name of file that is shared and its attributes such as size, type, etc.
2. A tracker address (refers to the server that holds and tracks the torrent file)

The tracker(server) would possess information about the torrent file and computer IP addresses associated with whoever possesses the file that is to be shared. Now, the computers holding the shared file can be classified into two categories - Seeders and Leechers. The former is one which holds the entire copy of the file and the latter refers to computers possessing a partial copy of the shared file i.e. leechers will turn into seeders when they attain the complete copy of the file. The BitTorrent technology works with the help of a BitTorrent clients. These are applications having the ability of establishing connections between various peers (seeders and leechers) and they play a vital role in delivering the shared file to your computer. Popular BitTorrent clients are Azureus, BitComet and ABC.

The main advantage of the BitTorrent Network compared to other file-sharing programs such as Kaaza/P2P is that the load on the server is greatly reduced in BT. Each seeder shares the file with leechers and each leecher shares the file with other leechers simultaneously as they are downloading. Hence the server (tracker) just acts as a logging machine and helps in co-ordination between seeder-leecher and leecher-leecher connections. Though this seem to help while sharing huge files (like an ISO of a CD-ROM or even a movie), it is not so in the case of small files.

The BitTorrent way of sharing files would take more time for establishing connection between various computers than it would take for downloading a small file that is shared. If you have the mind to apply Einstein's theory of relativity into this scenario, you will notice that the time taken for establishing connections inside the torrent network is much less compared to the time taken for downloading a huge file and eventually BitTorrent is more efficient and productive means for sharing large files.

Sharing large files?? That means we could share movies online?? Yes, Exactly. And that's the catch. People have started using this technology widely for sharing copyrighted contents such as movies, applications and even TV Shows over the internet. The MPAA (Motion Picture Association of America) has already caught a sight of this and has taken very effective measures to stop this - but all of it turned to be in vain.

So, how did the MPAA try to stop this? If we take a deeper look into the BitTorrent technology it can be recognized that the BT network can go down in two cases: 1. If there is no seeder available to share the complete version of the file (this is more of an attitude problem rather than a technical one) and 2. If the tracker of the torrent file goes down. The latter is really a technical one - if the tracker site goes down, the BitTorrent client doesn't get an idea on where to look for the file and keeps failing it its attempts to leech the file. The MPAA attacked on this concept and was successful in capturing some major torrent trackers such as SuprNova.Org and LokiTorrent.Com. This led the sharing community to wander searching for torrents over the

internet. Even if people were able to find torrents, their trackers were unfortunately found to be dead. However, this did not break the growth of BitTorrent and instead - it fueled to its development.

Imagine you bought a stationery item and found it to be defective. What you would do? Either you will go in for a replacement or buy a new one or postpone your work relating to that. Postponement is something most people will not wish to do. Replacement is something which would take time since you've got to prove the defect to the manufacturer. Buying a new one works especially when you don't have to invest any amount on it. This is what exactly happened when a defect was found in the torrent hosting sites. Lokitorrent though attacked legally by MPAA tried to stay running by collecting money from users in form of donations. But the legal sums involved were so expensive and the site-administrator couldn't afford that much and the site went down. This led to the emergence of more and more torrent sites as well as torrent searching sites. MiniNova, ISOhunt, TorrentBox, TorrentReactor... the list is endless. The MPAA has now realised that actions taken on individual sites are not effective and this issue can be only be solved a wholesome legal battle.

Adding spice to the above issues, developers of BitTorrent clients thought what the future of the BT Technology would be incase if all the trackers were virtually shut down! The solution to this big problem was made simple. The idea of this was brought to light by developers of eXeem (an innovative file-sharing system based on BT technology supported by SuprNova.org). However, eXeem is reported to contain a spyware called Cydoor which is also

recognized as a degradable factor in the earlier versions of Kaaza. Canceling out the bugs and issues found in eXeem, the latest version of Azureus already integrates a de-centralized tracker which means all computers taking part in effective transfer of the shared file will themselves act as trackers. Hence, even if the main tracker server goes down, the de-centralized tracker system will take care of consequent problems and treat it in an efficient and effective way to tackle it.

Thus we can see, apart from the legal thresholds faced by the BitTorrent Technology, it has a real great future ahead!

Links to information relating to BitTorrent:

- 1.How Stuff Works - <http://computer.howstuffworks.com/bittorrent.htm>
2. Wikipedia - <http://en.wikipedia.org/wiki/BitTorrent>
- 3.Official Website - <http://www.bittorrent.com>
- 4.Azureus - <http://azureus.sourceforge.net>
5. BitComet - <http://www.bitcomet.com>

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## Keyboard Humour.....

*My father was just getting into using a computer. He loved Solitaire and would play with it for hours, so I thought I'd set him up with a different game. I set up Nascar Racing, and off he was, having a great time, until the race ended. I heard him pressing keys and getting a bit frustrated. Finally he asked me for help. He said that the game was broken. It turned out that the game was instructing him to "Press ESC," and he was hitting the 'E', 'S', and 'C' keys in succession.*

# Biometrics – a technological revolution in the Security Industry

Biometrics are used to identify people based on their biological traits. This growing technological field has deep implications because proving identity is becoming an integral part of our daily lives. Biometrics is a technology that is used in the security industry and is integrated with other authentication applications and technologies, like domain access, single sign-on, smart cards, encryption, remote access, and digital signatures. Biometrics authenticates you based on your unique physical body demographics or your behavioral characteristics. In other words, you can consider yourself as your password. Biometrics gives you an alternative and higher security compared to passwords or pin identification due to the fact that passwords and pin numbers can easily be compromised.

The various methods of recognition that are being currently developed under Biometrics Technology are listed below.

- DNA Recognition
- Ear Recognition
- Face Recognition
- Finger Geometry
- Fingerprint Recognition
- Gait Recognition
- Hand Geometry
- Iris Recognition
- Odour Recognition
- Retina Recognition
- Signature Recognition
- Typing Recognition
- Voice Recognition

It is evident that our identity is frequently required. For the time being we use a wide assortment of methods to verify our identity: usernames, passwords, signatures, keys, cards etc. Biometrics allow us to authenticate ourselves with

things that we carry with us wherever we may go, such as our hands, eyes, voices, faces, fingerprints etc. In addition to the convenience, biometrics can be much more effective; a key or card, for example, can fall into someone else's hands. The promise of ease and increased security are perhaps biometrics' most appealing features.

The downside of all of the benefits of biometrics is personal privacy. If we are going to be identified at various points during the day, will large companies, the government or other institutions track our behaviors and use this data in unanticipated or invasive ways? These questions must be addressed before biometrics have the chance of pervading our daily lives.

Source : [www.wisegeek.com](http://www.wisegeek.com)

## Microsoft Joke

*One day God was looking over creation and He decided that He wasn't really happy with the way things turned out. So He called the 3 most powerfull men on earth, Bill Clinton, Boris Yeltsin and Bill Gates, to come and see Him. He told them that this expirement with life on earth was a failure, and that in 3 days He was going to end it. So basically they had 3 days to prepair their people.*

*So Boris Yeltsin convenes an emergency meeting of the Russian Parliment and says: "I have bad news, and really bad news. First of all, there is a God. Secondly everything we have worked for since the revolution will be totally destroyed in 3 days."*

*Bill Clinton makes a State of the Union address to the American people on TV and says:*

*"I have good news and bad news. First of all, there is a God. Secondly, everything we have worked for since the revolution will be destroyed in 3 days."*

*Bill Gates convenes a meeting of the board of directors and says:*

*"I have good news, and really good news. First of all, there is a God, and He spoke to me personally. Secondly, in 3 days, IBM will be destroyed."*



***"Install a patch for the update of the new version. If that doesn't work, install the new version of the update for the patch. If all else fail, install a patch for the new version of the update."***

got some questions, you need answers to?.....

ASK us at [www.csau.org](http://www.csau.org)

## EDITORIAL- THE CSAU SAGA

Ladies, gentlemen, true believers, java geniuses, html freaks, .net addicts, Game junkies, windows haters, I-Mac lovers, Linux activists, mainframe machis, digital demons, gizmo guzzlers, sms sultans, bittorrent badshahs, p2p pistas and all others who's eyes have been drawn to this page.....

I heard most editorials are supposed to be short and sweet, but as you probably already realize, this one's no ordinary editorial. Welcome to the new year....new hopes, new aspirations, new goals, new ages, new rages and a new CURSOR..!

I guess its time to tell you guys and gals something about the Computer Society of Anna University or 'CompSoc' as it is fondly referred to.

### Beginnings:

The CSAU was started in the year with the aim of increasing computer awareness among students of our college. Apparently in those days people weren't belting out RAM and processor specifications like the CEG'ians of today; Something like the outlook to nanotechnology today. So, the computer club was formed to save the day and teach people a thing or two about computers. The computer club which was formed in 1978 was re christened the Computer Society two years after its inception in 1980. Presently, the CSAU boasts of a student membership of about 1700 (which makes it the largest student body in the Anna university) and growing. The 1.7k comprises students from all branches of engineering...from leather tech to printing tech...from textile to ECE....

The CSAU main class can be divided into the following sub classes (well it's called the 'computer' society...so I gotta use some computer lingo..!!)

### Courses:

As the name suggests the CSAU organizes courses in currently hot and happening subjects. The courses planned for this year include

- Programming in C++
- Programming in C
- Java Programming
- Advanced UNIX programming
- An introduction to C# and .Net

And if that wasn't too much to handle.....

- Linux Kernel programming
- Internet programming and web design
- Digital Electronics
- Microcontroller Programming

The added benefits of these courses include the fact that they're handled by our seniors. They're open to all and a valid certificate will be issued to all participants. Course material will also be provided to all takers. The dudes handling the courses will slip you some cool project ideas to impress folks and test the skills you've acquired through the course....oh and I almost forgot...they're FREEEEE...!!!!

### Cursor:

Cursor is a bi monthly magazine that has a circulation of 1800 copies. Its primary aim is to enhance the computer knowledge among the students and staff of Anna University. Technical articles related to computers and information technology are

contributed by the students of Anna University irrespective of their discipline. Well , you're holding it your hand...so see for yourself how informative and fun Cursor can be...oh I almost forgot again.. Cursor is free too ...J

### Events:

The CSAU organizes and holds a number of technical and cultural events. Some of them are:

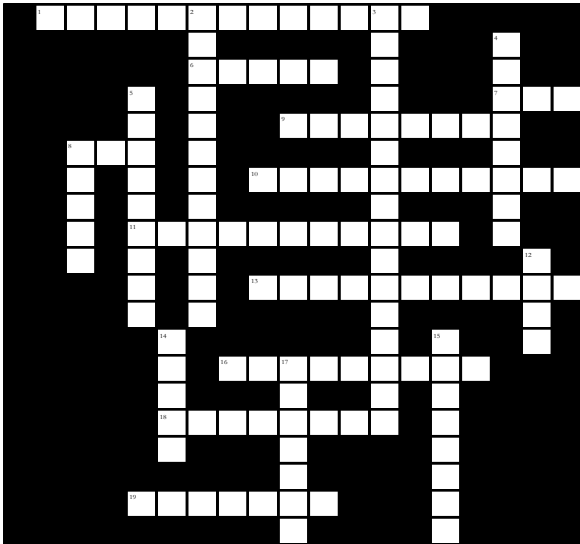
**EUREKA** is the techno-cultural event organized exclusively for the first year undergraduate students of Anna University. EUREKA serves as an eye-opener to the freshers about the university. The event includes a number of competitions like Quiz, Dumb Charades, Collage, Poster design, Binary search etc. EUREKA is our way of saying...Welcome Aboard..!!

**Sparks** is an event conducted by the Computer Society for school students in Chennai. When the schools were accosted they raised brows at the idea of an inter-school event being conducted by college students as it came as a surprise to them. But ever since 1991 when it was started, Sparks has seen nothing but success. In each of the last two years the number of participants has crossed 200. Sparks is conducted entirely by the first year volunteers of the CSAU.

**Techshow** is one of the most important technical events of the Computer Society. It is a day dedicated to exposing the untapped and unexplored talents of the students hailing from all faculties of the university. Also it is a day when the students share their knowledge with all the others thus bringing everyone to the elevation that very few things are technically impossible. All geeks and nerds have a field day at techshow and take my word for it.....this event is not for the non techies...!!!!

# CROSSWORD

*Hey all..!! Looking to make a quick buck..Here's your chance to get famous and win attractive prizes..Here's what you gotta do..answer this simple ( well, not so simple) techie crossword and send it to cursor@csau.org pronto...and you never know.You could be on your way to win some really cool stuff..... so put those tech suits on and get to work*



**Across**

- 1 This sandy hollow between the hills is the destination for ITself.
- 6 This clue doesn't pops, it pips.
- 7 Shared information, used to fish in local waters.
- 8 This pn junction illuminates.
- 9 Colonel and troops laid down the rules.
- 10 You see lamb's wool forms the basis for the charge behaviour.
- 11 This whorled couple communicates a lot.
- 13 Centre of attraction even as there is a reduction in intensity.
- 16 When this gets narrow, traffic becomes a problem.
- 18 The entire palette revealed by circumspect rumbles.
- 19 The dragon killer has many levels.

**Down**

- 2 Light and thin substitute for jute, perhaps
- 3 The charge and the pole that thrill the likes of Faraday.
- 4 All ulcer as a result of mobile telephony.
- 5 Changing the carrier according to baseband.
- 8 The tarantula serves up as an intense beam.
- 9 Beg to use multilayered cable.
- 14 A nose of no use if it has an eye in-between.
- 15 Enter the web or something similar.
- 17 Star trek conquered by inter connection.

**Undefined** which made its debut five years back is viewed as an event with a difference. It was the result of an urge to do something different and creative. Undefined usually is a three-day event.

**Question Mark** made its debut this academic year. Question Mark is a perfect mixture of puzzles, general knowledge, aptitude, reasoning, basic sciences and math.

*The CSAU portal:*

This is perhaps the jewel in the society's crown. www.csau.org is the cyber hang out for all things CSAU. The site features a really cool collection of features. You can check out the online version of Cursor, or if you missed a course you can check out the online versions of the course materials. There's a cool ASK section where you can pose your questions to our team of experts. They'll be answered ASAP...!

The website also includes some online contests like quizzes and crosswords. The website will also play host to discussion topics.

*The RCC:*

We are very much indebted to the Ramanujan Computing Centre (RCC), the state-of-the-art computing centre of our University. The excellent facilities and support provided by the RCC has enabled us to handle the task of running the Society with a degree of ease that would have otherwise been impossible. The courses also include lab sessions at the RCC. This is one place every computer freak's gotta check out..!!

*Well, that's it for this issue of cursor. Don't forget to be there at Techshow which is just around the corner. Please send in your hollers about cursor (what you'd like to see, what you don't like, what you like, what you'd like to like better, and what you'd want us to better to like) to curor@csau.org. Please send in articles and contributions to the same. So until next time...from one jedi to another.....may the force be with you...!!!*

**S. Raghav Prashant**  
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