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[www.csau.in](http://www.csau.in)

## Welcome to the CSAU Srikanteaswaran TK, Chairman

Well, I take this opportunity to welcome everyone to the Computer Society Of Anna University better known as CSAU or "Compsoc". This welcome is not only to the existing members but also to the newly entered students of this year.

This erstwhile university is steeped in tradition. But it also teaches you how to have fun along with your pursuit of academics. We at CSAU try to help in removing the cobwebs that you might have obtained inside the classrooms. We aim at enlightening you in not just the course you have endeavored to choose but in all other aspects as well.

We conduct regular tutorials for C,C++ especially for first years every odd semester. We also provide the respective course material to further help you. The other courses that we conduct during the odd semester are the KNOW YOUR COMPUTERS course and the Robotics course.

We conduct a large number of events every year. Eureka was a small cultural event aimed at helping the students to orient themselves in the college and to assimilate better with their peers as well as gain a better appreciation and understanding of the college. BrainScan is for students interested in stretching their brain muscles and showing off their searching skills (especially on the net). Then comes the big one as far as CSAU volunteers are concerned, "SPARKS", it is an event managed, conceived and conducted totally by the first years. Through this event we strive to bring out the leadership skills and the ability of students to work under pressure. The even semesters have the heavyweight technical events SOFTALK, for the budding programmers and TECHSHOW, for those among you who are interested in projects and paper presentations.

### WELCOME to the CSAU!!

## CSAU goes the FOSS Way

The World of Free and Open Source Software (FOSS) is a huge "Gold Mine". Open Source provides alternatives for any and every piece of software you may ever buy... for free. Just visit [sourceforge.net](http://sourceforge.net) or just do a live boot of any Desktop Linux Distro. You'll see clearly why Linux is gaining in popularity. The artwork and effects on some of today's

Linux simply superb. Why not CSAU adopt FOSS? Indeed why not everyone?

**Linux for me!!**

Cursor is taking the initiative to open up the world of Open Source Software to you. Welcome.

-The Editor

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### Regular columns

- ◆ Tomorrow's Technology  
A peek into the technology of tomorrow.
- ◆ Open Source Columns  
Discussions on Open source and Linux
- ◆ Gadgets Review  
Coolest, neatest, latest, sharpest technologies from around the world find their place here
- ◆ Software Review  
Reviewed here are among the best and the finest softwares.

# From the President's Desk

V.Balaji, President

**Detective Del Spooner:** I think you murdered him because he was teaching you to simulate emotions and things got out of control.

**Sonny:** I did not murder him.

**Detective Del Spooner:** But emotions don't seem like a very useful simulation for a robot.

**Sonny:** [getting angry] I did not murder him.

**Detective Del Spooner:** Hell, I don't want my toaster or my vacuum cleaner appearing emotional...

**Sonny:** [Hitting table with his fists] I did not murder him!

**Detective Del Spooner:** [as Sonny observes the inflicted damage to the interrogation table] That one's called ANGER. Ever simulate anger before?

You must have guessed it by now....yeah., robots! (That is an extract from "I, Robot.", an interesting imagination about the future relationship of humans and robots).

The general conception of a robot is - a machine, resembling a human, walking with legs and conversing with an electronic voice! And of course, lots of gadgets sticking around their body, especially a 'know-it-all' brain!! This is what is shown in the movies and entertainment media in order to make it really fascinating and more interesting. But believe me, we have nothing on earth that is close to those 'dream' robots.

The primitive robots are those which we don't recognize as robots. We consider them as just machines! For example, an auto-

matic floor cleaning gadget which scans the floor, checks for room boundaries and is even capable of charging itself when it starts to run out of power. This 'machine' is already in the market and is supposed to be a robot.

What makes the distinction is that the 'smartness' that is imbibed into it. The above mentioned "bot" is equipped with multi directional sensors to scan the location and also a memory to remember it. This processing capability is what is called as smartness and this makes the difference!

The prominent ones, are those which are made for demonstrations and for robotics' competitions. There are many more categories of robots employed in different places for a variety of purposes. Each of them has some special feature that is fascinating about them, like the functionality or the design methodology. The classification may be based on whether the purpose of the bot is unique or for a common purpose. The first one shows the individualistic idea, whereas the latter one brings out the design talents for a common problem statement. Both put together is what that makes a successful designer!

There are many giants in the world who have large number of teams working in this field, with huge funding, to develop those 'dream' robots. SONY, HONDA and many more are in this race. The lat-

est one out of these research labs is the RUNBOT. It is capable of walking on different terrains just like humans. A very basic task indeed!

The basic inspiration for the robot design is nature! The hexapeds, the crawlers, the bipeds, the rollers, the copters and on and on. In fact, the best motivation is the human body. Thousands of researchers are spending years of their life and millions of money just to simulate the bending of fingers. As of now there is no equivalent to a bone or a cartilage. The mystery of nature is indeed deep!!

There is a lot of scope for research in this field of robotics or rather more specifically called biometrics. This field deals with interfacing a natural body system with an artificially developed one. For example, Retinal prosthesis is the branch, where vision is restored to blind patients by embedding electrodes in the visual pathway and artificially stimulating the nerves. These fields are really challenging and everyday a small step is taken. The interest is never fading as new challenges are faced everyday. The ultimate purpose of all this persistent work is the betterment of mankind!

'A robot may not injure humanity, or, through inaction, allow humanity to come to harm'. As long as this holds good, the work will progress towards the 'dream' robot and if it fails, then against it!

# Swarm Intelligence

Deepak.P, II year CSE

Ants are pretty stupid, right? I mean, they are too small to have a brain or something, or is this just the egotistical raving of a stuck up Homo sapien? The other day, I accidentally dropped a few crystals of sugar on the crystal floor. A moment later, I saw a whole colony of ants swarming towards their elixir, as if answering some invisible signal. So what's the science behind this? And how do they get back home?

What they do is this, they leave traces of pheromones (smelly stuff) in their environment, for example when crawling from a source of food back to the nest. Other ants that come across react to this when they smell the sub-stance. One reaction is to follow the trace... So they find the food too (or their nest if they should go the wrong way). They take the food, and return to their nest leaving traces of smell in their turn. Now one of the smart things about the system is that it takes less time to walk to a food source that is closer to the nest. A shorter walk means that ants will arrive there

faster, but also that they will be back faster. If they are back faster, then the smell-traces to the food source that is closer to the nest will be reinforced quicker... So the chance that ants just leaving the nest will go to the food source nearer to the nest is bigger (and so on, because they will be back earlier, so even more smell... so even more ants...)... And that's how ants gather food in a smart way.

Ok, we have got the science out of the way. You may ask me why I am talking about some eusocial hymenopteroid. Have you ever seen a bunch of humans work with such coordination and discipline? These ants sometimes carry objects that are several times their own size. And there are several other amazing things these little critters do, that will put any full grown human to shame. My mom advises me that I should have an open mind, ready to learn from any source. So I googled up a few search strings on the net, and chanced upon the term "Swarm Intelligence".

So what exactly is swarm intelligence? Swarm intelligence (SI) is an artificial intelligence technique based around the study of collective behavior in decentralized, self-organized systems. The expression "swarm intelligence" was introduced by Beni & Wang in 1989, in the context of cellular robotic systems (definition courtesy Wikipedia). An SI system is comprised of many entities which are in constant contact with each other and work collectively to achieve a goal, each entity contributing towards successfully accomplishing fragments of the main goal.

You guys must have read Michael Crichton's "Prey", where he talks about intelligent entities working in swarms, equipped with cameras and other stuff. They were meant to be used for visceral-imaging techniques in the field of medicine, but in a typical science fiction cliché-twist, they turn on the humans and wreak havoc. The swarm concept is also mentioned in Isaac Asimov's "Allucination".



## NEWTON'S THREE LAWS OF GRADUATION

Though famous for his seminal work in Mechanics, Isaac Newton's theories on the prediction of doctoral graduation formulated while still a grad student at Cam-

bridge remain his most important contribution to academia.

### FIRST LAW

*"A grad student in procrastination tends to stay in procrastination unless an external force is applied to it"*

This postulate is known as the "law of Inertia " and was originally discovered experimentally by

Galileo four years before Newton was born when he threatened to cut his grad's student's funding. This resulted in quickening of the student's research progress.

Before Galileo's time, it was wrongfully thought that grad students would rest only as long as no work was required of them and that in the absence of external forces, they would graduate by themselves.

### MoGo Wireless Bluetooth Mouse

The MoGo Wireless Mouse is a business-card sized, Bluetooth-enabled mouse that stores and recharges neatly inside (yes, inside...) your laptop's PC card slot. To recharge your MoGo Mouse, just slide it into the empty PC card slot in your laptop. It will fully recharge in less than an hour and provide you with enough power for about 8 or 9 hours of use. As you can imagine, the MoGo Mouse is specifically designed for people who spend a lot of time traveling like students, reporters and sales reps. Other mice, even those meant for travelers, usually don't cut it. Mini-mice get lost in your hand and are difficult to maneuver, and the idea of carrying a full-sized mouse defeats the entire purpose of mobility on the go.

The MoGo Mouse is a natural fit for road warriors. Storing it inside you PC Card (PCMCIA) slot is pure genius and the fact that it charges there is just the icing on the cake. The only thing I'd like to see in future models is a scroll wheel. I know that the size of it makes it hard to have a wheel but maybe a touch wheel, like one some laptops, could have been possible. "An excellent tool for the road warrior or... minimalist."

If you spend a lot of time on the road with your laptop, then the MoGo Wireless Mouse will just make your life easier.

### 360 Degree Camera

The Olympus Corporation of Japan has developed a new camera lens, and a very special one at that. Besides a 360 degree view, it also offers 45 degrees of vertical visibility. This way, you get an almost complete coverage of the surrounding area. They've achieved that by creating a free-curved design that is also axially symmetrical. This way, the incoming light is reflected and refracted into a perfect panorama of the surroundings. This way, a single lens and image source can be used to project an image or animation on more than half of a room's surface..

Good news is that it's not a one-way process. A beam of light can also be sent through the bottom, thus projecting that panorama in the surrounding space. Olympus already have created a design that can be mounted as a normal lens to cameras or projectors. Besides the obvi-

ous practicality of this lens when used with a security camera, This system opens up a whole new dimension of virtual sightseeing: imagine a perfect high-resolution picture of a landscape or museum room, projected in your own room through one of these lenses. It should be a wonderful and impressive thing indeed. 360-degree cameras are nothing new, but a 360-degree camera using an axial symmetrical free curved surface lens that also gives a 45-degree vertical view is. Also it can be used as a 360-degree projector; things get a lot more interesting. Don't get too excited about using the projector to live out your fantasy, the camera and projector are still in the early stages of development. Expect to see them roll out in entertainment venues in the next 3 to 5 years.



Computer Society of  
Anna University

Be the first to solve the  
*crossword* on page 12 and win  
*attractive prizes!!*  
Send in your entries and  
articles to  
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#### The Editorial Team:

Shardha Sankararaman, IV ECE  
Srikanteaswaran TK, III CSE  
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The massive amount of processing power generated by computer manufacturers has not yet been able to quench our need for speed. The computers that we use today, though different in complexity and design, basically operate on the principles of classical physics. A quantum computer is any device for computation that makes direct use of distinct quantum mechanical phenomena, such as superposition and entanglement, to perform operations on data. The basic principle of quantum computation is that the quantum properties of particles can be used to represent and structure data and that quantum mechanisms can be built to perform operations with this data. In a classical computer, the amount of data is measured by bits; in a quantum computer, the data is measured by qubits (quantum bits). Paul Benioff is credited with first applying quantum theory to computers in 1981. A classical computer has a memory made up of bits, where each bit holds either a one or a zero. A quantum computer maintains a sequence of qubits. Qubits represent atoms, ions, photons or electrons and their respective control devices that are working together to act as computer memory and a processor.

A single qubit can hold a one, a zero, or, critically, a superposition of these, allowing for an infinite number of states.. Since a quantum computer can contain these multiple states simultaneously, it has the potential to be a million times more powerful than today's most efficient

supercomputers.

A classical computer operates on a three bit register which has an absolute value (say 111). At any given time, the bits in the register are in a definite state. In a quantum computer, however, the qubits can be in a superposition of all the classically allowed states, which in turn leads to a wave function describing the probability of occupation of the various states. Thus, to describe the state of a n-qubit register,  $2^n$  complex numbers are required (describing 000,001,010 and so on). The number of classical bits required even to estimate the complex numbers of some quantum state grows exponentially with the number of qubits . For a 300-qubit register, about 1090 classical registers are required, more than there are atoms in the observable universe.

As mentioned above, quantum computers make use of quantum mechanical phenomena like superposition and entanglement. The superposition of qubits is what gives quantum computers their inherent parallelism, which allows a quantum computer to work on a million computations at once, whereas a desktop PC works on only one. A 30-qubit quantum computer would equal the processing power of a conventional computer that could run at 10 teraflops (trillions of floating-point operations per second). Today's typical desktop computers run at speeds measured in gigaflops (billions of floating-point operations per second). Quantum computers also util-

ise another aspect of quantum mechanics known as entanglement, which allows us to measure quantum mechanical systems. In quantum physics, if you apply an outside force to two atoms, it can cause them to become entangled, and the second atom can take on the properties of the first atom. So if left alone, an atom will spin in all directions. The instant it is disturbed it chooses one spin, or one value; and at the same time, the second entangled atom will choose an opposite spin, or value. Thus, the value of the qubits can be determined without actually measuring them.

Integer factorization is believed to be computationally infeasible with an ordinary computer for large integers that are the product of only a few prime numbers (e.g., products of two 300-digit primes). A billion computers performing a billion operations per second would take years to break it. Most of our encryption techniques including the famed RSA method for public key encryption utilises the difficulty of factorising large prime numbers. A quantum computer could solve this problem more efficiently than a classical computer using Shor's algorithm to find its factors. If a quantum computer were to be built today, no information on the Internet would be safe. But, this obstacle can be overcome by simply increasing the prime number (or) by using more secure methods like quantum cryptography, which utilises Heisenberg's uncertainty principle.

...Continued on Page 11

An article on the internet begins thus:

**“Some solution providers are wondering if it is O.K. to shout ‘Linux’ in a Microsoft**

This would have meant body damage, maybe sometime ago. Not anymore. Players like Ubuntu and Suse are all set to revolutionise the playing field. Perhaps the takeover has already begun....

A few years ago, Linux was just technical jargon as far as the general populace was concerned. Even to the knowledgeable individual, it was just an OS rigged with compatibility issues, with little or no support for propriety codecs. But for the enthusiastic geek, Linux and Open Source represented a dream-land of opportunities. Perhaps it is time now for the non geeks to be allowed a peek into this world too. What has Linux brought to the world that seems to have enticed so many? Now where do I begin??

Mark Shuttleworth, I should say is the man to be blamed for stirring up most of this commotion. Maybe the South African should have just stopped with Verisign , his webpage certification agency,( You might see it often, a big maroon circle with a black check mark over it). Or at least, after becoming the second space tourist he should have called it quits. After his space stunt, he returned to South Africa and founded Canonical International. This is the

organisation that develops Ubuntu Linux. Ubuntu became the first open source linux to offer 3 years support. As a bonus, they even offered to ship you a copy of the OS right to your doorstep, for free. (I thought that was just a joke. I certainly wasn't pleased to know that a package had arrived for me from the Netherlands..., from Canonical International). This strategy helped the whole open source community by introducing the concept of open source to even the mildly intrigued. Desktop Linux was thus conceived. Again, what's so great about it???

Linux is virtually immune to any of the viruses or parasites that is so often a headache in case of Windows. So sayonara to autorun.inf and its lot. \*\*If you just tasted the Vista, and you think that the appearance is not so great after all, and definitely not worth the hardware upgrade, you should try Fedora. Those guys have a highly talented team handling the art-work.

\*\*And if you think programming tools are a scarcity in Linux, you should think again. Most Linux distributions are bundled with the standard GCC compiler and other open source languages such as Python and Perl. Everything bounding up to OpenGL is supported. So let that not be a reason for you to stay away from Linux.

\*\*If some of us have been uneasy using pirated software (which I think is highly unlikely), you'll nirvana in Linux. There will be not be any EULA

statements to go through, nor any restrictions be imposed on you. In fact you can get the complete code for the software if you want, and change it any way you want. This is the most enticing aspect of Open Source. (And why not?? If you were allowed to alter Windows Vista, change its name to your girlfriend's and then sell it, wouldn't you convert to Vista yourself??) But this is how Linux grows. Totally community driven. This said, it wouldn't fair on my part if I didn't inform you of the downsides:

\*\*Whether you'd still be able to program for the windows environment, I don't know. I don't know for sure.

\*\*If you are connecting to the internet through a 56 kbps modem, I'm sorry; you'll be facing some trouble. (This I know for sure.) ADSL doesn't seem to pose problems to many. But there have been cases that are otherwise as well.

\*\*Mobile phones have not yet started providing drivers for the Linux platform. That could take a while. But you can get some help from the support centres.

\*\*Most Linux distros don't bundle propriety codecs such as mp3, avi, DivX and even Flash. But they can be easily downloaded from the internet. Microsoft does not wish to provide any support for Linux. So you can't read or write any data into the Linux partition, but it works fine the other way round.

Just give Linux a try. You'll like it..,

**For Sure!!!!**

Ubuntu is a Linux based operating system that is perfect for a Desktop PC. It contains all applications that you need – a web browser, office applications and anything that windows could offer you. The only difference is that it is 'free of cost'. Moreover Ubuntu is also live bootable, that is you can boot the operating system without installing it on your hard disk.

### What does Ubuntu mean?

Ubuntu means 'humanity towards others'. It is a word of South African origin.



### How do I get Ubuntu?

You can download Ubuntu from <http://www.ubuntu.com>. If that sounds difficult, all you have to do is place an order at

<http://www.shipit.ubuntu.com>

and a free CD will arrive at your door step.

### Latest version of Ubuntu is?

The latest version of Ubuntu is Ubuntu 7.04. Version 7.10 is due to release on October 18,2007. There will be a new version every 6 months.

### What is the minimum system requirement for Ubuntu?

You would require a minimum of 300 MHz x86 processor, 64 MB RAM, 2 GB of disk space and a VGA graphics card capable of 640x480 resolution.

### Is installing Ubuntu difficult?

Installing Ubuntu requires partitioning your hard disk. This becomes a piece of cake with the interactive installer that Ubuntu offers.

### Does Ubuntu have a GUI?

Ubuntu has a GUI that is eye candy. It uses a desktop environment called GNOME. GNOME is an international effort to build a user friendly desktop for Linux users. It is simple to use and lacks the complexities of a windows desktop.

### Who develops Ubuntu?

Ubuntu is developed by a world-wide community of volunteers and is sponsored by Canonical Ltd, a

South African enterprise. Any user can become a potential developer of Ubuntu.

### Can I have both Windows and Ubuntu together?

You can have both the OS together provided you have the necessary disk space. But make sure you install Windows first.

### Is there an alternative in Ubuntu for every Windows application?

There is an alternative for the commonly used applications in Windows. Most of them are free and you can download them from

<http://www.linuxrsp.ru/win-lin-soft/table-eng.html>.

### Why should I switch to Ubuntu?

Because it is fast, efficient, secure, has better eye candy and gives you access to hundreds of open source softwares that you can use and develop.



## NEWTON'S THREE LAWS OF GRADUATION

First published in 1679, Isaac Newton's "Procrastinare Unnaturalis Principia Mathematica" is often considered one of the most important single works in the history of science. Its Second Law is the most powerful of the three, allowing mathematical calculation of the duration of a doctoral degree.

### SECOND LAW

*The age, a, of a doctoral process is directly proportional to the flexibility, f, given by the advisor and inversely proportional to the student's motivation, m*

Mathematically, this postulate translates to:

$$age_{PhD} = \frac{flexibility}{motivation}$$

$$a = F / m$$

$$\therefore F = m a$$

This Law is a quantitative description of the effect of the forces experienced by a grad student. A highly motivated student may still remain in grad school given enough flexibility. As motivation goes to zero, the duration of the PhD goes to infinity.

## All in an hour's work

Computers sold the world over	9,612/hr.
Carbon dioxide (co2) emissions (metric tons)	2.5 mil/hr.
Lightning strikes to earth	360,000/hr.
Desert land formed due to mismanagement (acres)	1692/hr.

# Software Review “Blender”

Arun .N, II year CSE

Blender is an open source 3D modeling, rendering, animation and real-time 3D game/simulation development system. Blender is continuously upgraded with new features and is supported by an active and helpful community at



<http://www.blenderartists.org>

◆Operating Systems Supported:

Windows, Linux, Mac OS, Solaris, FreeBSD, Irix.

◆Programming Languages for scripting include C/C++, Python

If you are a budding game developer on a limited budget, then look no further than Blender, it is everything you need. Most folks who do 3D are aware of Blender's 3D modeling and animation abilities, but many folks don't realize that Blender also has a world class game engine and an easy WYSIWYG game editor, the Blender Game Engine.

The BGE is one of the best open source engines. It actually has a GUI unlike some game engines where you have to learn a coding language to use it at all. The selection of OSs is also great for your games so no one gets excluded from the games you make, it isn't one of those engines where you have to go through a terrible compiling process to use, huge amounts of support, documentation and tutorials for reference.

There are 3 free software products you'll need to get started into 3D development: Blender, Python (the easiest programming language) and Yafaray!

These 3 software downloads will enable you to:- model everything you can imagine-animate your models-UV map and texture them-apply shader effects- render them- bring them to life in your games made with Blender!

Most of game engines have no Built-in editors, also you require additional libraries for physics and audio, but in Blender you get all in a pack. You can roll out a Bowling game with Blender in 30 minutes!!! , and you don't need to #include those heavy physics libraries.

IF you should accidentally strain your brain by for once learning by READING something instead of waiting for it to magically appear in your brain you would understand that this interface is simply the smartest way to make an interface. Yes it's near impossible to figure out if you try to figure it out on your own. BUT...After TEN MINUTES of digging in the tutorials it is OH SO CLEAR.

For full starter book, download Blender Basics 2.42a from [cdschools.org](http://cdschools.org), as Blender-Basics2.42a.pdf.

There are hundreds of books and videos on the net for Blender than for

any other Game Engine. You must definitely try out this next-Gen 3D Game Creation suite

<http://www.blender.org>

***It's a full five stars for this software for the ultimate value for price and for the loads of features it bundles. Do check it out. Avoid Piracy.***



## NEWTON'S THREE LAWS OF GRADUATION

Having postulated the first two Laws of Graduation, Isaac Newton the grad student was still perplexed by this paradox: If indeed the first two Laws accounted for the forces which delayed graduation, why doesn't explicit awareness of these forces allow a grad student to graduate?

It is believed that Newton practically abandoned his graduate research in Celestial Mechanics to pursue this paradox and develop his Third Law.

### THIRD LAW

*"For every action towards graduation there is an equal and opposite distraction"*

This Law states that, regardless of the nature of the interaction with the advisor, every force for productivity acting on a grad student is accompanied by an equal and opposing useless activity such that the net advancement in thesis progress is zero.

Newton's Laws of Graduation were ultimately shown to be an approximation of the more complete description of Graduation Mechanics given by Einstein's Special Theory of Research Inactivity.

Einstein's theory, developed during his graduate work in Zurich, explains the general phenomena that, relative to the grad student, time slows down to nearly a standstill.

# From the Desk of SAECC, CEG

SAE (Society of Automotive Engineers) is a part of an international society which provides a platform for the students to develop their automotive knowledge. It is the only society in CEG which has an international connection.

SAE international provides standards and directions for automotive components worldwide. Further it is an association aimed at propagating knowledge to students and providing solutions to corporate. It is similar to IEEE, for the auto-world. SAE CEG is a collegiate chapter of SAEINDIA. It is a part of SAEIN-

DIA's initiatives to reach the student community.

SAE is for those who have a kick for automobiles. Not for those who just want to burn their car's rubber and customizing maniacs, but for those who need to explore what is there under the car's hood and what's really happening now in the mobility world.

Many of the events conducted have a good combination of technical know-how and fun viz. IVs, karting, automobile workshops, design workshops, Guest lectures etc.

SAE INDIA in affiliation with its international counterpart conducts design events, projects and international conferences. One of the major projects currently going on in CEG is BAJA SAEINDIA. It deals with the design and fabrication of a single seated off road vehicle.

SAE journals and magazines also enrich our knowledge base. If you have the quest for knowing the technologies that drive the world, SAE maybe your first leap. For further information visit

<http://saeceg,50webs.com/>

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## Trivia Corner

### Fear Of Number 13

The fear of number 13 is called triskaidekaphobia and it was derived from Treiskaideka, the Greek word for thirteen and phobia.

There were 13 people at Christ's Last Supper before his captivity, it is recorded that Christ was crucified on Friday. Routine mission to the moon goes drastically wrong on Apollo 13. Some hotels skip number 13 when numbering rooms. In Formula 1, there is no car with the number 13.

### Building Spins 360 Degrees?

A Company in Brazil (Suite Vollard) constructed a building in which each floor can rotate 360 degrees. Each building has 11 apartments and each apartment can spin individually in

any direction. One rotation takes a full hour, but apartment owner can set rotation speed through apartment control panel. Facades are made of three different types of glass which give wonderful effects when building spins during the sunset. Cost of each apartment is

\$US 300,000.00.

### Numbers And Words

Thousand is the first number which has an 'a' in it.

### Two Million Years Road Trip

Closest galaxy to our Milk Way galaxy is Andromeda and even traveling at the speed of light it would take 2 million years to reach it. There are 100 billion galaxies that we can ob-

serve. Prediction is that there is much more, but the Hubble Space Telescope couldn't detect them.

### Memory :: Brain Weights

The average adult human brain weighs 1.3kg (2.8lb). That's twice the weight of a giraffe's brain and three times the weight of a cow's brain. A newborn human baby has a brain that weighs about 350 grams (.8lb), which happens to be the same size as an orangutan's brain. The size of the brain has very little to do with how smart the animal is. For example, an elephant has a 6kg (13lb) brain, but everyone knows that an elephant is not 5 times smarter than a human. It depends more on the brain to body weight ratio.

# Wanna buy a PC??

Senthil K.K, II year ECE

## HDD

Seagate Barracuda 7200.7 SATA  
250 GB

+ Great overall performer, Silent,  
Good pricing  
+ 5 yr warranty

The difference between SATA and IDE is Avg. Sustained Transfer Rate in Mbytes/sec is >58 in SATA and >44 in IDE. 250 GB is more than enough for an extreme user

## MOTHERBOARD

ASUS M2A-VM is the best supporting motherboard for AMD and Intel Motherboards are the best base for the Intel Processors. Go for the 965G or above.

## RAM DDR2 667

+ Incredible performance, compatibility with up to 5.3GB/s memory bandwidth for enhanced work and gaming power!

+Almost 30% reduced power consumption in DDR2.

Brand - Kingston ,Corsair, Transcend, Zion.

Advice – Buy that which offers 3 yr warranty and *get the bill*.

## MONITOR

Brand : ViewSonic 17"

Cheap, Value for money

Maximum Horizontal & Vertical Viewing Angle.

Least response time (That's good)

## KEYBOARD & MOUSE

Models: Logitech Internet Pro Desktop, Microsoft Curve Keyboard & Mouse

Advice : stick to the budget. You won't be using the extra buttons in the keyboard often.

There are quite a few brands you can choose from—TVS, i-Ball and Samsung—apart from big names like Microsoft and Logitech. Rest pad is necessary if you work for a long time

## Funny Answers

### 1. Why did you apply for this job?

I have applied for many jobs along with this one and it's just that you called me first.

### 2. Why do you want to work for this company?

I have to work for some company, whoever gives me a job, I don't have any specific company in mind.

### 3. Why should I hire you?

You have to hire some one; you may give me a try.

### 4. What would you do if this happened?

Well, it depends on my mindset and mood in that situation...

### 5. What is your biggest strength?

I dare to join any company who pays me well, without thinking about the

fate of company.

### 6. What is your biggest weakness?

Girls

### 7. What was your worst mistake and how did you learn from it?

Joining my earlier company and I learnt that I need to switch my job to get more money, so I am here today.

### 8. What accomplishments in your last position are you most proud of?

Had I accomplished any in my last position, why do I need to change my job? I could demand more and stay there.

### 9. Describe a challenge that you faced and how did you overcome it?

Biggest challenge is answering the question "why are you looking for a change" and I started blabbering irrelevantly to overcome that.

### 10. Why did you leave/ are you leaving your last job?

For the same reason why you left your previous job.

### 11. What do you want from this job?

No work and good hikes.

### 12. What are your career goals and how do you plan to achieve them?

Making more money and for that I keep switching jobs every two years.

### 13. What do you know about our company?

I knew you will ask me this question. So, I've gone through your website.

### 14. What salary are you expecting?

Well, no one will change his job for the same salary, hence, give me 20% extra than what I am getting right now. I know you will bargain on whatever I ask. So I have already hiked my current salary by 30%.

## PROCESSOR

AMD is cheap but Intel is fast.

Guidelines:

Cache memory must be high

Operating Frequency must be high

AMD get heated soon.

Intel is costlier

Choose either Core 2 Duo E6550 or

AMD 64 X2 5600+

## SPEAKERS

Models: Creative SBS 370 & Altec

Lansing 121i

2.1 speakers is the ideal one.

## UPS

iball provides backup for about 19 minutes which is highest noticed so far. A 600 VA UPS is enough for a normal PC. *Earth your UPS properly.*

Usage Tips :

+ Do not overload the UPS by unnecessarily connecting external devices such as printers, which draw heavy power.

+ Make a regular check on your UPS by turning off the mains.

+ To increase the life of your batteries, discharge them completely once a month.

## DVD WRITER

Brand : LG

Comparatively writes fast

Cheap. Good overall performance

## CABINET

Brand : Zebronic (has lot of models to choose)

Model : Newyork

Features : USB & Audio, 2 side fans with Card reader & USB Hub

# Quantum Computing

continued...

The tremendous advantage that these computers offer is that they can be used to run simulations of quantum mechanics, a feature not available in classical computers.

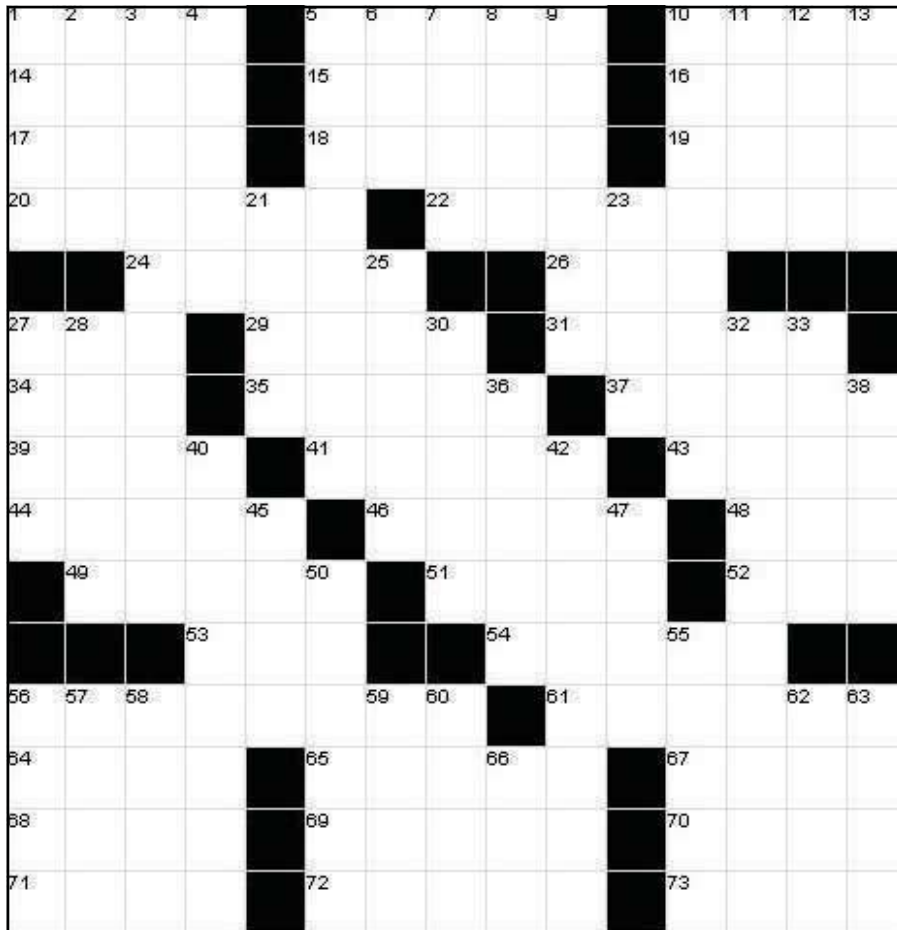
In spite of the tremendous scope quantum computing offers, it is still in the primordial stages of development and many computer scientists believe the technology needed to create a practical quantum computer

is years away. Quantum computers must have at least several dozen qubits to be of any practical use. The most advanced quantum computer that has been built so far performs operations by manipulating 16 qubits. This was built by D-Wave and is capable of solving pattern matching puzzles and sudoku grids. Quantum computers could one day replace silicon chips, but the technol-

ogy required to develop quantum mechanical computers which are of feasible operational value is still out of our reach. However, computer engineers believe that quantum computers could be built in the near future which will render our existing systems obsolete and usher in a new era of faster and more efficient computing.



# The-Beat-This!!! Crossword



## Across

- 1: Con job
- 5: Grates upon
- 10: Emulates Eminem
- 14: Run gracefully
- 15: 'Play It \_\_\_\_, Sam'
- 16: Firm head
- 17: Band boxes?
- 18: Viola's bigger cousin
- 19: Not guilty, e.g.
- 20: One way to get out of jail
- 22: Silver-tongued
- 24: Represent onstage
- 26: Place for a rubber duckie
- 27: Put up preserves
- 29: 'Total Recall' planet
- 31: Delta deposits
- 34: Aardvark's tidbit
- 35: Supports, with 'up'
- 37: Cuts back on calories
- 39: Blue funk
- 41: Summer ermine
- 43: Extended family
- 44: First word in magic
- 46: 'Kama \_\_\_\_' (Hindu love manual)
- 48: Teamwork deterrent
- 49: Rumormonger
- 51: Adolescent
- 52: Kitten's cry
- 53: Place for a feeling
- 54: Bristles
- 56: Gorbachev's policy
- 61: Sang lightly
- 64: Galoot
- 65: Unfettered
- 67: Beseech
- 68: Shrek, e.g.
- 69: Colophons
- 70: Rube
- 71: Eerie sound
- 72: Collar inserts
- 73: Feel Compassion

## Down

- 1: Masher's comeuppance, maybe
- 2: State of unconsciousness
- 3: Trainee
- 4: Subatomic particle
- 5: They do laps
- 6: Historical period
- 7: Cause of a Macy's riot?
- 8: Major pain, slangily
- 9: They think they're superior
- 10: United States, e.g.
- 11: Drive train element
- 12: Part of a hammer head
- 13: 'Flee, feline!'
- 21: Genie's place, in lore
- 23: \_\_\_\_ pro quo
- 25: Competes in a sulky race
- 27: Johnny with a guitar
- 28: Get one's goat
- 30: Pontificate
- 32: Like remote data transmissions
- 33: 'All the world's a \_\_\_\_' (Shakespeare)
- 36: Stuffs to the gills
- 38: Frosty's composition
- 40: Atomic number 74
- 42: Like a tundra
- 45: Amaze
- 47: Knock preceder
- 50: Ring-shaped coral islands
- 55: Series beginning
- 56: \_\_\_\_ onto (grab)
- 57: Merrill Lynch's bull, e.g.
- 58: Mystique
- 59: Chimney sweep's target
- 60: Roman wrap
- 62: Every one individually
- 63: Levee
- 66: Szechuan sauce source