

DIGIT-ALL

Dept. of Computer Science and Engineering
Gandhi Institute For Technology Bhubaneswar

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DIGIT-ALL

THE E-MAGAZINE, EXPLORES THE TECHNICAL SKILLS OF STUDENTS & FACULTIES. THE MAGAZINE HAS ARTICLES ON LATEST TECHNOLOGIES, CARTOONS, QUIZZES AND MANY MORE FUN FACTS.

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Prof. Smruti Smaraki Sarangi (Faculty)

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Vision of the Department:

To produce the professionals of highest grade, bearing the ability to face the challenges posed by latest computing paradigms, founded by intuitive quality of education and driven by culture of critical thinking and creativity, towards the betterment of humankind.

Mission of the Department:

To Advance knowledge of computing and educate students in major paradigms of computer science and to create a distinctive culture of research and innovation among the budding engineers with collaboration of faculties, technocrats, funding agencies and experts from other premier institutes for generating a pool of professionals and eco-preneurs with the ability to address the Industry and social Problems.

PEOs of the Department

PEO 1: To gain adequate mathematical, computing and engineering principles in order to advance in professional career or obtain better response in higher studies platforms.

PEO 2: To foster the ability to analyze real life problems, perform required research and design computing systems, in accordance to its solutions that are technically sound, economically viable and socially admired and adaptable.

PEO 3: Will have ability to exhibit professionalism, technical skills, communication skills, team work and humanitarian skills in their profession and adapt to current changes by inculcating habit of lifelong learning.

From Editor's desk:



Dear Readers,

Greetings from department of computer science and engineering!

We the members of the department of computer science and engineering have always labored for the betterment of the students and the students have repaid back with rich dividends in academics as well as other curricular fields. DIGIT all is one of the many initiatives taken forward with the help of the students for their self betterment and experience in different fields to prosper in life.

DIGIT ALL has so far helped students take long strides in the field of their interest and in coming years will continue to do so.

I am extremely elated and obliged to present before you the fourth volume of DIGIT ALL.

As an editor, I am overjoyed and thankful to one and all who were involved in this effort and am obliged for the support everyone has rendered to help me finish yet another success story.

Thanks & Regards,

Prof. Smruti Smaraki Sarangi

Gandhi Institute For Technology, Bhubaneswar.

FROM THE *Student Editor's Desk*



Dear Friends

I am in an exuberant state of mind for being given this opportunity to express my thoughts in this column. I wish to express my profound thank to our E-magazine editorial team for making this magazine a reality.

This magazine is concerning news and activities of our in the college. It serves as a medium to distribute knowledge among all. It is an open platform where students come up with their thoughts, ideas and innovations and that is what I got from my friends. I got ample support from my teachers, friends and juniors in all the steps taken for this splendid effort. I would like to express my sincere thanks to my friends and admired juniors for their co-operation and help to make this magazine a perfect connoisseur.

The DIGIT-ALL has resulted in great amalgamation of information which begins to assume increasing significance and helped to mould a composite knowledge for students. If you want to share your own insights with DIGIT-ALL please visit - 'www.gift.edu.in' or 'www.facebook.com/gift.edu.in'. I promise to look into them and try improving our endeavor.

Thanks and Regards

Reena Mandal

Student, Dept. of CSE (7th Semester)

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✦ *How Quantum Computers Work?*

By: Prasanta Kumar Behera
Asst. Prof., Dept. of CSE

As the technology advances day by day the massive amount of processing power generated by computer manufacturers has not been able to satisfy our thirst for speed and computing capacity. Howard Aiken an American computer engineer in 1947 said that just six electronic digital computers would be sufficient enough to satisfy the computing needs of the United States. Others have made similar wayward predictions about the amount of computing power that would support our growing technological needs. Of course, Aiken didn't count on the large amounts of data generated by scientific research, the production of personal computers or the emergence of the Internet, which have only fueled our need for more, more and more computing power creating an undesirable thirst. Will we ever have the amount of computing power we need or want? Moore's Law states, the number of transistors on a microprocessor or continues to double every 18 months, the year 2020 or 2030 will find the circuits on a microprocessor measured on an atomic scale. And the logical next step will be to create quantum computers, which will harness the power of atoms and molecules to perform memory and processing tasks. Quantum computers have the potential to perform certain calculations significantly faster than any silicon-based computer. Scientists have already built basic quantum computers that can perform certain calculations; but an introduction to practical quantum computer is still years away. Computers have been around for the majority of the 20th century, quantum computing was first put forward in less than 30 years ago, by a physicist at the Argonne National Laboratory. In 1981 Paul Benioff is credited with the first man applying quantum theory to computers.

Benioff theorized about creating a quantum Turing machine. Most digital computers, like the one you are using to read this article, are based on the Turing Theory.

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- ✚ Prof. (DR) Sujata Dash published and presented a paper titled “Hill-climber Based Fuzzy-Rough Feature Extraction with an Application to Cancer Classification” at 13th International Conference on Hybrid Intelligent Systems in December 2013 and published in IEEE Xplore.

 *WJY CODON?*

By: Sujit Kumar Panda
Asst. Prof., Dept. of CSE

It's hard to use the Internet anymore without being watched. Tracking cookies follow your every move, so advertisers can figure out what to sell you. Social networks keep you constantly signed in, in part so they can see what other websites you visit. Phone and tablet apps may be gathering information about you, including your contacts list or your camera roll. If you want to participate in today's Internet, and all the apps and services that go with it, you have two choices: Accept that your information is out there and try not to worry about it, or arm yourself with some privacy protection tools. Should you choose the latter path, check out these apps and services to help you stay anonymous online and keep your information out of the wrong hands:

Privacy Score

Privacy Score rates websites and Facebook applications based on what they do with users' personal data and how they track users. For instance, you can find out whether a site or app shares your data with other companies, and what happens to that data if you terminate your account. In addition to Privacy Score's website and Facebook app tools, the group offers a Chrome extension that displays a score for every site you visit, when possible.

Disconnect

Disconnect is a suite of free browser extensions that prevent third parties from following you around the web. You can download the Disconnect extension for Chrome, Firefox or Safari, or select from anti-tracking tools specifically for Facebook, Twitter or Google. Disconnect also offers an informational tool called Collusion for Chrome and Firefox, revealing who's tracking you online.

Safe Shepherd

If you're worried about showing up on people search websites such as Intelius and Radaris, Safe Shepherd can wipe those databases clean. The free service removes records from services that don't require a fax or snail mail request. A premium service, which performs more thorough records removal and includes a personal customer service representative, costs \$14 per month.

Cocoon

When you want more security than your browser's private sessions will allow, Cocoon goes even further. The Firefox browser add-on routes traffic through proxy servers, thereby protecting the user from tracking cookies, spam and viruses. Cocoon also offers a standalone iPhone and iPad browser. The free version includes advertisements, but you can make them go away for \$5 per month.

Anchor Free Hotspot Shield

Hotspot Shield is a virtual private network, which provides anonymous browsing, malware protection and secure connections to websites. As the name suggests, it's ideal for connecting to unsecured Wi-Fi hotspots, especially if you need to send financial information or make an online payment. The desktop software has a free, ad-supported version, while the iOS version (Android coming soon) costs \$1 per month after a 7-day trial. (Here's a tip: If you want to completely remove Hotspot Shield or any VPN service from the iPhone, you must go to Settings, then General, then Profile, and remove the VPN profile listed there.

Computer Inventory Software: What, Where, When?

*By: Satya Ranjan Mohapatra
Asst. Prof., Dept. of CSE*

With increase in workloads and hence increase in professionals, organization faces with the necessity of creating computer inventory reports on hardware and software installed. Professional program for this purpose allows the system administrator make this process automatic, easier and time saving. Among many of its characteristics, the computer inventory tool must be able to answer three main questions: what, where, and when? In other words, the system administrator needs to know the configuration of every PC on the network, every computer's location and their history.

1. "What": In simple sense the program must automatically identify each and every system in the network and must maintain and identify every software installed via its serial number and license.
2. "Where": the computer inventory software has to give the system administrator the opportunity to divide the computer's list into groups, depending on their location, for example. This function is invariably most important and useful for larger companies which constitute of complex networks as well as of offices and branches.
3. "When": the computer inventory software has to be able to record the history of every computer's part or program into log. It does not matter, whether one RAM has been replaced with another one, or two monitors have been rearranged, or the antivirus has been updated in time - all changes should be fixed in inventory program's log. Hardware is frequently replaced, that is why this function is greatly important for companies of any size. Beside there are a few more functions that would be useful for any company.

Firstly, it is an opportunity to form quick reports of any format (.doc, html, xls, pdf, csv, xml, txt...). Report is the main instrument for an IT manager. If there is no possibility to sort the collected data independently and form quick and convenient reports, it can destroy all other program's advantages. Secondly, the interface plays a crucial role. You should understand that it is you, who is going to use this program. That is why the software has to be understandable and ease-to-use for you.

It has to provide you with quick and easy access to necessary information on devices' parameters. Thirdly, the system administrator's duty is not only to be aware of what software is installed on remote users' computers, but audit the software licenses on every computer in the company. That allows killing two birds with one stone: to update the purchased licenses in time and prevent users from using cracked or unlicensed software, which is against the Copyright Law.

It is worth to mention, that every point in the software list has to be confirmed by appropriate documents, which verify that you have rights on using these programs. It is extremely important to choose the computer inventory software carefully and advisedly comparing all its pros and cons. Only in this case you will get the program that can solve all your problems.

Some of the Common Channels of Data Leakage

By: Reena Mandal
Student, Dept. of CSE

The problem of data being stolen or leaked is increasing unabated. There are different mediums from which data gets leaked most commonly through hackers' attacks. When you talk about the data breach, the first thing that will pop up in the mind of a layman would be hackers' attacks. Statistics reveal that almost 38 percent of the data is leaked due to the attacks on the database by the cyber criminals. Added to this is the problem of the financial losses caused by these problems. Another big player or maybe factor of losing data is through the portable data storing devices such as USB flash drive. The USB flash drive sizes not more than a couple of inches but still, it has a great capability of storing huge amount of data. This small size factor makes it an extremely difficult task to keep safe, as it is prone to getting lost or stolen. Surveys have proven that a quite high percentage of lost or stolen USB flashdrives contain unsecured confidential data. Most of these devices do not have much of a built in security measures that can make the data secure, so, the data saved in them can easily be fetched out.

Nowadays, you see almost everybody holding a smartphone. This smartphone has become an accessory as well as a bit of necessity as it can perform quite bit functions of a computer. Every year, hundreds and thousands of iPhones gets lost or stolen. As people also use this smartphone as a portable data storing device from which they can operate their data too, so there is a fair possibility of leaking data if someone loses his/her iPhone. It has also become a big source of losing data.

IT experts have started to rate the insider employees of a company as a big source of data breach. The employees of the companies intentionally or unintentionally leak data. They may send an unencrypted email to some wrong email address with sensitive data attached to it or may lose their USB flash drive. However, employees can also dig out desired data from the computer and can carry it out of the company in his/her USB flash drive. Data can be sold to the rival companies or other competitors who will pay a handsome amount to get this data. Confidential data of a company can benefit the rival a lot. You have only seen about 270 days of this year, and it is a short span of time, more than 212 incidents of data breach have been reported. If we make a rough estimate, there is an incident of data breach almost each day of the year. The use of Data Security Software has become absolutely necessary; otherwise, companies have to suffer heavy losses due to these data breach incidents. The company can suffer financial loss due to the heavy penalties imposed by the legislative bodies. The companies who suffer data loss are most likely to lose the confidence of their clients and may lose their goodwill in the market. All in all, data breach can be disastrous for a company.

[up'date](#)

- ✚ GIFTIANS Organized a national Conference on "Recent Advances on Business Intelligence and Data Mining" RABIDM 2013.
- ✚ Vikrant Rathaur and Rohandeep won 2nd prize in C-Quiz in "FESTONIX 2013".

Interesting Facts

By: Ms. Aparna Mishra
Student, Dept. of CSE

- ❖ Bill Gates, the founder of Microsoft was a college drop out.
- ❖ On one of the world's most popular shopping websites, eBay, there are transactions of approx. \$680 per second.
- ❖ There are approx. 6,000 new computer viruses released every month.
- ❖ Of all the pictures available over the Internet, 80 percent of these pictures are of naked women.
- ❖ 'Crash Course' is another name for Microsoft Windows tutorials.
- ❖ The 'Email' is older than the World Wide Web.
- ❖ There are about five porn pages for every 'normal' webpage.
- ❖ Doug Engelbart, invented the first computer mouse in the year 1964, which was made of wood!
- ❖ One of the world's leading computer and computer peripheral manufacturer, Hewlett Packard, was first started in a garage at Palo Alto, in the year 1939.
- ❖ If you open up the case of the original Macintosh, you will find 47 signatures, which is of each member of Apple's Macintosh division of 1982.

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- ✚ Prof.(Dr) Sujata Dash had a book chapter on "Feature Selection Algorithms for Classification and Clustering" is published in an Edited Book titled "Global Trends in Intelligent Computing Research and development" , published by IGI Publication House in December 2013.
- ✚ Prof.(Dr) Sujata Dash Attended "Train The Trainer" Workshop on "BIG DATA – an Industry Perspective", conducted by Infosys Limited, Bhubaneswar, from 18th to 20th July 2013.

Cartoons

By: Mr. Dibash Behera
Student, Dept. of CSE



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- ✚ An Entrepreneurship Development Programme for general category students by MSME Institute, Ministry of MSME, Govt. of India was organized by GIFTIANS from 25th October to 5th November 2013
- ✚ A Field Training Centre on Coir Scheme for Women Entrepreneurs of Gramadiha was jointly held by GIFT ED Cell and DIC , Bhubaneswer on 26th August, 2013.
- ✚ Subhrajyoti Sahoo presented a technical paper titled "Model of an emotionally co-operative system" in "RABIDM 2013".

Technical Quiz

BY: Ms. Soudamini Sahoo
Student, Dept. of CSE

❖ *Which of the following computer language is used for artificial intelligence?*

- A. FORTRAN
- B. PROLOG
- C. C
- D. COBOL
- E. None of the above

❖ *The tracks on a disk which can be accessed without repositioning the R/W heads is*

- A. Surface
- B. Cylinder
- C. Cluster
- D. All of the above
- E. None of the above

❖ *With respect to a network interface card, the term 10/100 refers to*

- A. protocol speed
- B. a fiber speed
- C. megabits per second
- D. minimum and maximum server speed
- E. None of the above

❖ *Which Motherboard form factor uses one 20 pin connector?*

- A. ATX
- B. AT
- C. BABY AT
- D. All of the above
- E. None of the above

❖ *Process is*

- A. program in High level language kept on disk
- B. contents of main memory
- C. a program in execution
- D. a job in secondary memory
- E. None of the above

❖ *Which of the following condition is used to transmit two packets over a medium at the same time?*

- A. Contention
- B. Collision
- C. Synchronous
- D. Asynchronous
- E. None of the above

❖ *Addressing structure*

- A. defines the fundamental method of determining effective operand addresses
- B. are variations in the use of fundamental addressing structures, or some associated actions which are related to addressing.
- C. performs indicated operations on two fast registers of the machine and leave the result in one of the registers.
- D. all of the above

❖ *You have a class A network address 10.0.0.0 with 40 subnets, but are required to add 60 new subnets very soon. You would like to still allow for the largest possible number of host IDs per subnet. Which subnet mask should you assign?*

- A. 255.240.0.0
- B. 255.248.0.0
- C. 255.252.0.0
- D. 255.254.0.0

❖ *Each of data files has a _____ that describe the way the data is stored in the file.*

- A. File structure
- B. Records
- C. Fields
- D. Database

❖ *After you _____ a record, many data management the environments require you to issue a command to save the changes you made.*

- A. Delete
- B. Update
- C. Sort key
- D. Index

❖ *What hardware architectures are not supported by Red Hat?*

- A. SPARC
- B. IBM-compatible
- C. Alpha
- D. Macintosh

❖ *The physical layer of a network*

- A. constructs packets of data and sends them across the network
- B. controls error detection and correction
- C. defines the electrical characteristics of signals passed between the computer and communication devices
- D. All of the above

Answers
1. B
2. B
3. C
4. A
5. C
6. B
7. A
8. D
9. A
10. B
11. D
12. C

POETRY

BY: Mr. Arnav Paul
Student, Dept. of CSE

RAIN

*The smell of wet sand,
It's going to rain.
The rustling of crisp leaves,
It's going to rain.
The mystic croaking of frogs,
It's going to rain.
The sky is black filled with sounds of thunder,
It's going to rain.
There's a smile on the farmer's face,
Oh it's going to rain.
I think the Gods are happy,
And now am sure it's going to rain.*

5 APPENJINGS

- ❖ Cometh the 16th of june, a weeklong workshop on Computer Programming workshop shall be organized till the 21st june 2014.
- ❖ GIFTIANS are going to organize a two week ISTE workshop on Computer networking under the National Mission on Education through ICT (MHRD, Govt. of India). The said workshop shall be held from 30th june to 5th july 2014.
- ❖ A two week long workshop will be held from 10th july to 20th july 2014 on Cyber Security under the National Mission on Education through ICT (MHRD, Govt. of India).

The End