

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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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 HOD's desk:



Dear Readers,

Greetings from Department of Computer Science & Engineering!

As a Department of Computer Science & Engineering, We have always strived to provide a well rounded curriculum and training to our students and prepare them in order to face the challenges in their professional life after they graduate from here. Apart from conducting regular academic curriculum, various student driven initiatives, ensures personality development of students at GIFT. One of such initiatives is DIGIT-ALL.

DIGIT-ALL has helped bringing out the hidden treasures within the students as well as the faculty members by a way helping them improve their skill, knowledge and understanding.

I on behalf of the whole fraternity of the Department of C.S.E, take this opportunity to thank and congratulate you for making this a success story and as well expect that all of us will put an effort to keep the wheel running.






Thanks & Regards,

Dr. Sujit Kumar Panda

H.O.D, CSE

Gandhi Institute For Technology, Bhubaneswar

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Articles

CYBERBULLYING

Mr. Debasis Pradhan (CSE-1901298114)

Mr. Rajeev Ranjan (ECE-2001298262)

Cyberbullying is a form of online bullying or harassment that occurs over digital devices and platforms. With the widespread use of technology and the anonymity that comes with it, cyberbullying has become more frequent and prevalent. Hidden behind their computer or mobile screens, people don't hesitate in harassing others. This can be clearly seen in the increase in suicide cases due to online bullying. From time to time we even see celebrities facing online trolls and bullies. A recent study by CRY (Child Rights and You), a non-governmental organisation, shows that around 9.2 per cent of 630 adolescents surveyed in the Delhi-National Capital Region had experienced cyberbullying and half of them had not reported it to teachers, guardians or the social media companies concerned. Nationwide, according to research conducted by Symantec, nearly 8 out of 10 individuals are subject to the different types of cyberbullying in India. Out of these, around 63 per cent faced online abuses and insults while 59 per cent were subject to false rumours and gossip which became responsible for degrading their image. The same study ranks India as the country facing the highest cyberbullying in the Asian Pacific region.

Cyberbullying can occur in several forms such as sending, posting, or sharing negative, harmful, false or mean content about someone else. It can include sharing personal or private information causing embarrassment or humiliation. Although it may be difficult to understand how some text on a screen can affect a person drastically, cyberbullying can lead to trauma and various mental health issues. It becomes important to understand that unlike face-to-face bullying one cannot escape such an incessant, insistent and brutal form of torture. It can continue at any time, throughout all hours of the night. Cyberbullying leaves little opportunity for victims to defend themselves. There are no teachers or parents to see, intervene to put a stop to it. Cyberbullying can also be anonymous, leaving the victim little recourse to even report the bully to an authority figure. The

anonymity of social media emboldens people and their hurtful words are left forever on the internet for everyone to watch and read. Blocking or reporting them is not a solution when a new account can simply be created. Even if what is said or posted is false, people tend to believe anything they see online. Thus, cyberbullying can be more detrimental, distressing and damaging to a person. One of the major weapons to fight against cyberbullying is to create tough and strong laws against it. It becomes even more important to create awareness among youngsters about this issue and such laws so that they can take appropriate measures in times of need. In India, although there is no specific legislation that has provisions against cyberbullying, certain sections in the Indian Penal Code (IPC) deal with cyberbullying in a way. Section 67 of the Information Technology (IT) Act prescribes punishment for publishing or transmitting obscene material in electronic form. Section 507 of the IPC states the punishment for criminal intimidation through anonymous communication while Section 66 E of the IT Act prescribes punishment for violation of privacy.

There are hardly a couple of things which attracted as much attention as the coronavirus and Cryptocurrency was surely one of them. With the first Cryptocurrency being introduced in 2009, the very famous Bitcoin, very few people knew or as much as cared about them. Then one day suddenly, the world was after these decentralised digital currencies and we could literally look at 800% surge in even satiric and 'joke' coins (read DOGE). A person who had invested in these as a part of some truth or dare game was now a millionaire and every newspaper had the same headline. A new trend was here and it was not some dance or meme, but a Laxmi chit fund-sure shot in a whip way of becoming rich, only difference being, this was actually legit. Does this not seem too good to be true? Why don't people buy 20\$ worth of these coins, get rich and end poverty? Because these supposedly new age replacement for real, normal, everyday money were not really so. In Jan 2021, all these crypto currencies crashed leading to \$134B losses. How did this happen? The distrust of governments and unstable market were the main culprits to blame. However, this opened investor's eyes and the bitter truth of investment was realised yet again, that loss and gain are the two sides of the same coin.

Data Privacy

Mr.Swoyam Prakash sahoo (CSE-1901298309)

Mr.Sambit Kumar Das (ECE-2001298266)

Data privacy, sometimes also referred to as information privacy, is an area of data protection that concerns the proper handling of sensitive data such as certain financial data and intellectual property data, to meet regulatory requirements as well as protecting the confidentiality and immutability of the data. Roughly speaking, data protection spans three broad categories, namely, traditional data protection (such as backup and restore copies), data security, and data privacy . Ensuring the privacy of sensitive and personal data can be considered an outcome of best practice in data protection and security with the overall goal of achieving the continual availability and immutability of critical business data. What are some of the most important technologies for data privacy? Encryption is a way to conceal information by scrambling it so that it appears to be random data. Only parties with the encryption key can unscramble the information.

With the increase in dependency on electronic devices, it becomes important to teach people the proper 'netiquettes'. Parents have an important role to play in monitoring their child's behaviour and activity on the internet. It is also important for Access control ensures that only authorized parties access systems and data. Access control can be combined with data loss prevention (DLP) to stop sensitive data from leaving the network. Two-factor authentication is one of the most important technologies for regular users, as it makes it far harder for attackers to gain unauthorized access to personal accounts. These are just some of the technologies available today that can protect user privacy and keep data more secure. However, technology alone is not sufficient to protect data privacy. What are the laws that govern data privacy? As technological advances have improved data collection and surveillance capabilities, governments around the world have started passing laws regulating what kind of data can be collected about users, how that data can be used, and how data should be stored and protected. Some of the most important regulatory privacy frameworks to know include: General Data Protection Regulation (GDPR): Regulates how the personal data of European Union (EU) data subjects, meaning individuals, can be collected, stored, and processed, and gives

data subjects rights to control their personal data (including a right to be forgotten). National data protection laws: Many countries, such as Canada, Japan, Australia, Singapore, and others, have comprehensive data protection laws in some form. Some, like Brazil's General Law for the Protection of Personal Data and the UK's Data Protection Act, are quite similar to the GDPR.

California Consumer Privacy Act (CCPA): Requires that consumers be made aware of what personal data is collected and gives consumers control over their personal data, including a right to tell organizations not to sell their personal data. There are also industry-specific privacy guidelines in some countries: for instance, in the United States, the Health Insurance Portability and Accountability Act (HIPAA) governs how personal healthcare data should be handled. However, many privacy advocates argue that individuals still do not have sufficient control over what happens to their personal data. Governments around the world may pass additional data privacy laws in the future. What are some of the challenges users face when protecting their online privacy? Online tracking: User behavior is regularly tracked online. Cookies often record a user's activities, and while most countries require websites to alert users of cookie usage, users may not be aware of to what degree cookies are recording their activities. Losing control of data: With so many online services in common use, individuals may not be aware of how their data is being shared beyond the websites with which they interact online, and they may not have a say over what happens to their data. Lack of transparency: To use web applications, users often have to provide personal data like their name, email, phone number, or location; meanwhile, the privacy policies associated with those applications may be dense and difficult to understand.

Data Visualization

Ms.Aditya Kumar Singh(CSE-1701298311)

Mr.Souvik Sen (CSE-1801298122)

Every day a huge amount of data is generated. This data can even vary in nature and structure. A business, for example, can have data on sales revenue, marketing performance, customer interactions, inventory levels, production metrics, staffing levels, costs, etc. But with so much data to sift through, it can be difficult for people to see the story it tells. Data visualization helps you turn all that granular data into easily understood, visually compelling—and useful—business information. Data visualization is the graphical representation of information and data. By using visual elements like charts, graphs, and maps, data visualization tools provide an accessible way to see and understand trends, outliers, and patterns in data. In the world of Big Data, data visualization tools and technologies are essential to analyse massive amounts of information and make data-driven decisions. Hidden within your data lie important insights that can help drive the business forward. But the challenge is that you can't always connect the dots by looking at raw numbers alone. When you look at your data presented in a visual format, patterns, connections, and other insights emerge that would otherwise remain out of sight.

Our eyes are drawn to colours and patterns. We can quickly identify red from blue, and a square from a circle. Our culture is visual, including everything from art and advertisements to TV and movies. Data visualization is another form of visual art that grabs our interest and keeps our eyes on the message. When we see a chart, we quickly see trends and outliers. If we can see something, we internalize it quickly. It's storytelling with a purpose. If you've ever stared at a massive spreadsheet of data and couldn't see a trend, you know how much more effective a visualization can be. It's hard to think of a professional industry that doesn't benefit from making data more understandable. Every STEM field benefits from understanding data—and so do fields in government, finance, marketing, history, consumer goods, service industries, education, sports, and so on. While we always increasing talk about data visualization there are practical, real-life applications that are undeniable. And, since visualization is so prolific, it's also one of the most useful professional skills to develop. The better you can convey your points visually, whether in a dashboard or a slide deck, the better you

can leverage that information. Skill sets are changing to accommodate a data-driven world. It is increasingly valuable for professionals to be able to use data to make decisions and use visuals to tell stories of when data informs the who, what, when, where, and how. While traditional education typically draws a distinct line between creative storytelling and technical analysis, the modern professional world also values those who can cross between the two. Today, data visualization tools run the gamut from free versions you can access with a browser to feature-rich platforms that integrate with a wide variety of mainstream business applications. One such tool is Power BI, an interactive data visualization software product developed by Microsoft with a primary focus on business intelligence (BI). Power BI offers cloud-based services for interactive visualizations with a simple interface for end-users to create their own reports and dashboards.

Power BI was first conceptualized by Ruler and Dhers Netz of the SQL server coverage services team at Microsoft. It was further designed by West Chadic George in the year 2010 and named Project Crescent. In 2011, It was bundled with SQL Server Codenamed Mount McKinley. Microsoft unveiled the first preview to Power BI in September 2014. And finally, the first version of Power BI was released on 24 July 2015. It was based on Excel Based Add-ins like Power Query, Pivot, view, and Map. Today Power BI comes across as one of the most powerful and efficient data visualization and analytical tool. Some of the many advantages it offers include pre-built dashboards, real-time updates, secure and reliable connection to your data sources in the cloud or on-premises, integration with both Python and R coding, etc. Moreover, it is backed by artificial intelligence and machine learning. This tool, however, currently has some disadvantages in terms of sharing the reports made and certain types not being compatible with it. These are likely to be overcome in the future as Power BI is further developed

E- GOVERNANCE: BETTER GOVERNANCE OR BITTER

Mr.Ashutosh Panda (CSE-2001298106)

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It is not an alien fact that covid-19 took over the world like a storm, even faster than the denims or K-Pop! There was no country, society or community which was left untouched by the pandemic and which did not evolve to fit into a digital structure. Our governments were no exception. To overcome the obstacle of not being able to step out of our houses, the screens became our window to interact and carry out our lives as normally as possible. The government offices, structures and processes also took a similar stance and many portals, websites and apps were launched to carry out tasks from Aadhaar verification to vaccination. Some countries like the USA even conducted their elections through online forums and contactless polls. Such a way of going on with government official activities through digital means is e-governance. In formal and descriptive terms, EGovernance is defined as a way to provide and facilitate government services, communication and information through Information and Communication Technology (ICT). Now the question arises: why do we need a way to organize the government into a digital structure? Imagine collecting and maintaining the data of billions of people in the form of physical files. The picture that comes into our mind is of long aisles of dusty and dirty shelves filled with files. E-GOVERNANCE - BETTER GOVERNMENT OR BITTER GOVERNANCE? Yes, it might not be so but for even a small government organization, the database is huge and every piece of information is equally vital. Now, if this information is stored in proper software, then it reduces time and effort as well as prevents data redundancy, duplicity of data and saves storage space. Same goes with forms, applications and submissions. The physical copy trend has been going on since long and is very vital but it also poses the same problems. Formulating online forums, platforms, channels and websites to

access the required information, get the relevant process started, verify whatever information was provided and then giving the provided result within the span of two weeks automatically reduces half the burden of the officials and reverts the human resource to more useful tasks. It also automatically enters the new data in relevant places and keeps records up to date. In India, online vaccination, online Aadhaar verification, passport application etc. are excellent examples of E-Governance which have worked successfully till now. E-governance, therefore, surely makes the system a bit more efficient and smooth sailing. However, it does put doubts in many a head regarding the safety of their private information and their security. Governments are already the target of many hackers and haters with varying interest and the large amount of data makes it even more tempting to access it. Data theft is a serious risk with e-governance and is one of the major concerns, other than that a corrupted official could do as much harm by leaking or selling the information, a trade for which they will be highly paid for and be lavishly compensated. This data could consist of bank details, social security details and much more. It could be exploited by foreign governments or fraudulent firms for their own evil intentions which could pose a threat to the national integrity of a nation. Data loss is also a very big threat that could lead to loss of money, time and effort. Doing it all over again is a task and there would be no one to blame or put the responsibility on. Cont'd. Cont'd. Therefore, E-Governance is surely a revolution which increases efficiency and transparency of governments, yes there are a few threats but governments are strong institutions which should be able to uphold their security and protect themselves from such threats. It is definitely an amazing and optimal way of governance that nations should adopt to practice better democracy and increase accountability.

Words of Wisdom

“I think computer viruses should count as life ... I think it says something about human nature that the only form of life we have created so far is purely destructive. We've created life in our own image.”

— **Stephen Hawking**

Interesting Facts

Ms. Ankita Sahu (CSE-2001298069)

- COBOL language was developed by the first female admiral in the US Navy, Admiral Grace Hopper.
- Only 8% of the world's currency is physical money, the rest only exists on computers.
- There was a computer worm that would gain access to Windows XP systems, download a patch from Microsoft to close the vulnerability that it used to infect the system, attempt to delete the infamous Blaster worm (if present) from the system, then delete itself.
- The worst breach of U.S. military computers in history happened when someone picked up a memory stick (infected by a foreign intelligence agency) they found in the parking lot and plugged it into their computer, which was attached to United States Central Command.

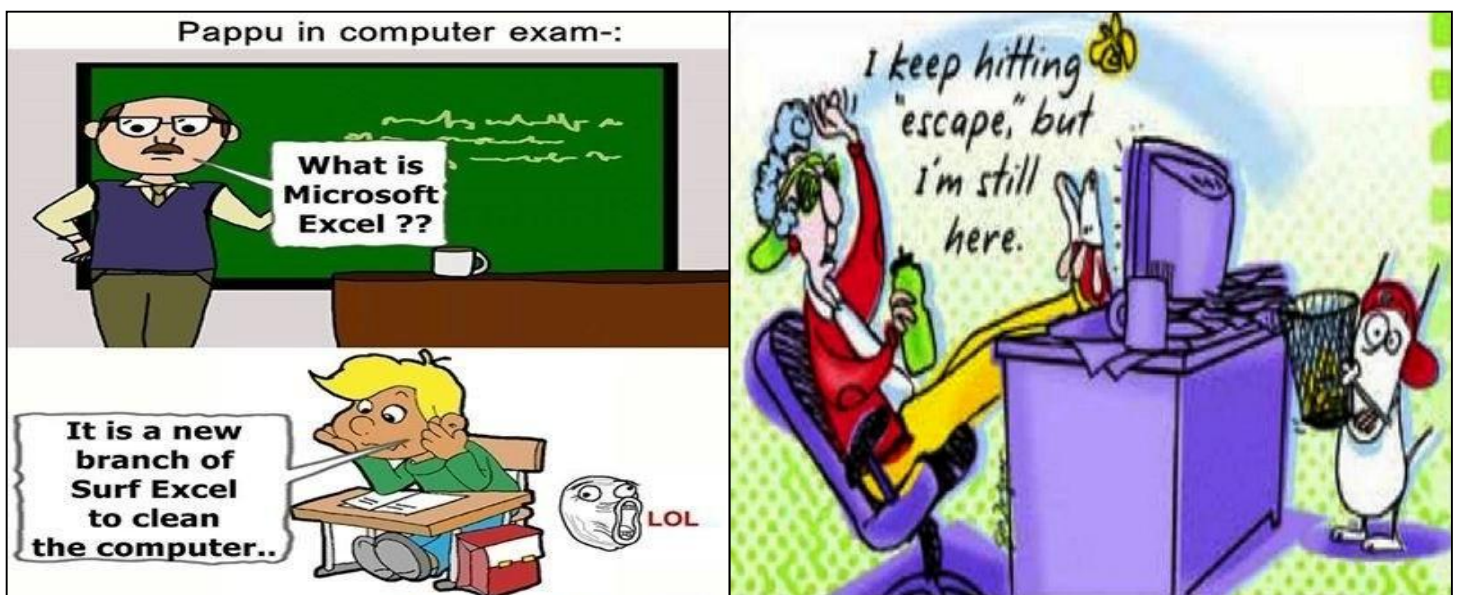
Words of Wisdom

“I still love books. Nothing a computer can do can compare to a book. You can't really put a book on the Internet. Three companies have offered to put books by me on the Net, and I said, 'If you can make something that has a nice jacket, nice paper with that nice smell, then we'll talk.' All the computer can give you is a manuscript. People don't want to read manuscripts. They want to read books. Books smell good. They look good. You can press it to your bosom. You can carry it in your pocket.”

— Ray Bradburyj

Cartoons

Ms.Manorama Pradhan (CSE-2001298098)



proverbios

A hungry man is an angry man: A person who does not get what he wants or needs is a frustrated person and will be easily provoked to rage.

Technical Quiz

Mr.Rahul Biswal (CSE-2001298110)

Mr. Nachiketa Giri (CSE-2001298102)

❖ Which of the following languages is more suited to a structured program?

- A. PL/1B. FORTRAN
- C. BASIC D.PASCAL
- E. None of the above

❖ A computer assisted method for the recording and analyzing of existing or hypothetical systems is

- A. Data transmission B. Data flow
- C. Data capture D. Data processing
- E. None of the above

❖ From what location are the 1st computer instructions available on boot up?

- A. ROM BIOS B.CPU
- C. boot.ini D.CONFIG.SYS
- E. None of the above

❖ What could cause a fixed disk error?

- A. No-CD installed B. bad ram
- C. slow processor D. Incorrect CMOS settings
- E. None of the above

❖ The part of machine level instruction, which tells the central processor what has to be done, is

- A. Operation code B. Address
- C. Locator D. Flip-Flop
- E. None of the above

❖ Which of the following refers to the associative memory?

- A. the address of the data is generated by the CPU B. the address of the data is supplied by the users
- C. there is no need for an address i.e. the data is used as an address
- E. None of the above

❖ How many digits of the DNIC (Data Network Identification Code) identify the country?

- A. First three
- B. First four
- C. First five
- D. First six
- E. None of the above

❖ A station in a network forwards incoming packets by placing them on its shortest output queue. What routing algorithm is being used?

- A. hot potato routing
- B. flooding
- C. static routing
- D. delta routing
- E. None of the above

❖ A report generator is used to

- A. update files
- B. print files on paper
- C. data entry
- D. All of the above
- E. None of the above

❖ Which of the following is not a logical data-base structure?

- A. tree
- B. relational
- C. network
- D. chain
- E. All of the above

❖ What command is used to count the total number of lines, words, and characters contained in a file?

- A. countw
- B. wcount
- C. wc
- D. count p
- E. None of the above

❖ What command is used to remove files?

- A. dm
- B. rm
- C. delete
- D. erase
- E. None of the above

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

POETRY

Ms.Priti Nanda Routray (CSE-2001298345)

Why?

Why can't people see the real me?

I try so hard to be the perfect person I can be.

Sure I'm young, quiet and shy.

But I'm such an amazing person, which many pass by.

Why?

Why can't people just take the time?

Just tell me your favorite thing to do and I'll tell you mine.

The people that do, I hold dear to my heart.

They see me as mysterious, sweet, funny and smart.

You can't expect me to open up the very first day.

It takes time, but trust me, I'll soon have a lot to say.

Why?

Why can't people wait and get to know the real me?

I bet you I'd be a much different person than you first did see.