

FACULTY OF COMPUTER APPLICATIONS & INFORMATION TECHNOLOGY

Master of Computer Applications (MCA)

Theme: DIGITAL TRUST

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From Campus Director's Desk



We are well aware that a lot of personal information, sensitive health data, and financial information, including transactions from e-commerce sites, are stored in the cloud or accessible online in today's digital world. Users must have the assurance that their private information is protected from theft, unauthorized access, misuse and have faith on reliability of the services.

The level of confidence that people or groups have in the security, privacy, dependability, and ethical usage of digital technology and data is simply known as digital trust. As a result, it's critical to implement proper security measures, such as cryptography, firewalls, and two-factor authentication, to prevent unauthorised access to sensitive and private data. Additionally, the time has come for enterprises to offer clear information and insights on data gathering methods, uses for the data, privacy practises, etc. Thus, digital trust is high for companies that place a strong priority on privacy, data security, and ethical data practises.

From wearables and smart homes to industrial IoT applications, IoT devices are becoming more and more prevalent in our daily lives. IoT devices can be subject to cyberattacks because they are connected to the internet. Thus, it is crucial to put in place robust security measures, include privacy into the design of devices and systems, bring about transparency, educate users, and raise their awareness. In conclusion, the development and success of the IoT depend on digital trust. Adopting methods and policies that promote security, privacy, openness, and accountability is crucial for boosting digital confidence.

In this issue of Techbytes, MCA students discuss digital trust, its significance for the Internet of Things, and the measures and policies that should be enacted to improve it. You would undoubtedly learn a lot and continue to delve deeper into this subject. Enjoy this issue by reading it!

From Editorial Desk

Digital trust refers to the confidence and assurance that people have in the security, privacy, and reliability of digital technologies and services, as well as in the individuals and organizations that develop and provide them. It is the belief that the information and data shared online are protected, and that online transactions and interactions are secure and reliable.

In today's digital age, trust is a crucial factor in the success of digital technologies, especially in areas such as e-commerce, social media, and online banking. People want to know that their personal information is secure and that they can trust the digital platforms they use. Digital trust is built through various means, including security features, transparent policies, data protection laws, and ethical practices. When people feel confident and safe using digital technologies, they are more likely to engage with them, which can lead to increased adoption, improved user experience, and ultimately, more significant benefits for both individuals and society.

This issue contains a gist of Digital Trust with different articles contributed by the students of the Faculty of Computer Applications & Information Technology, GLS University. Your suggestions are always welcomed to improve the further issues of TechBytes.

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EDITORS

Dr. Prerna Agrawal | Dr. Devarshi Mehta
Dr. Savita Gandhi | Dr. Harshal Arolkar

DESIGNERS

Mr. Jainil Timaniya [Sem - 2]
Mr. Nirav Vadodariya [Sem - 2]

Treatise

DIGITAL TRUST IN THE ERA OF IOT

-MS. ANISHA RATWANI (II - B)

The Internet of Things (IoT) has revolutionized the way we live and work, connecting everything from homes and vehicles to wearable devices and industrial equipment. With billions of connected devices generating and transmitting massive amounts of data, IoT has created new opportunities for innovation and efficiency. But it has also raised serious concerns about privacy and security. In this era of IoT, digital trust is more important than ever.

WHY IS DIGITAL TRUST IMPORTANT IN THE ERA OF IOT?

The IoT is transforming the way we live and work, but it also creates new vulnerabilities that can be exploited by Cyber criminals. In the IoT era, globally only 45% of consumers have confidence in the security of their personal data. As more and more devices are connected to the internet, the risk of Cyber attacks increases, and the consequences can be severe. For example, a data breach could result in sensitive information being stolen, or a hacker could take control of a connected vehicle and cause a crash. In addition, the sheer volume of data generated by IoT devices can make it difficult to control who has access to it, which can be a major concern for people who want to keep their personal information private.

Digital trust is also important for businesses that use IoT to improve their operations and create new products and services. Businesses need to ensure that their connected devices are secure, that their data is protected, and that they are in compliance with privacy regulations. This will not only protect them from potential legal and financial consequences but also help to build trust with their customers and partners.

BUILDING DIGITAL TRUST IN THE ERA OF IOT

To build digital trust in the era of IoT, it is important to prioritize privacy and security from the outset. This requires taking a comprehensive approach that involves the following steps:

1. Implementing Strong Security Measures: Businesses and consumers alike need to be proactive in securing their IOT devices. This

includes using strong passwords, enabling encryption, and using firewalls and antivirus software to prevent unauthorized access.

2. Ensuring Compliance with Privacy Regulations: IoT devices and the data they generate must comply with privacy regulations such as the EU's General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA). This includes being transparent about the data collected, who has access to it, and how it is used.

3. Ensuring Data Privacy: IoT devices must be designed with privacy in mind, and the data they generate must be protected from unauthorized access. This requires implementing security measures such as data encryption, data masking, and access controls.

4. Building Trust with Customers: To build digital trust with customers, businesses must be transparent about their data practices, provide clear and concise privacy policies, and take action to protect customers' personal information.

IMPORTANT CONSIDERATIONS FOR IMPROVING IOT SECURITY OUTCOMES AND DIGITAL TRUST

- Align security needs to the highest internal standards.
- Invest in devices and other infrastructure components for value rather than cost savings.
- IoT security should be viewed as a conduit for enabling digital trust.
- Building digital trust should be an ongoing exercise with investments, resources, and attention coming from all stakeholders at all times.
- Opportunities for improving security posture should be a key area of attention.

THE KEY REQUIREMENTS TO ENSURE DIGITAL TRUST INCLUDE

- Authentication: Organizations must authenticate the identity of users, workloads, services and containers, as well as machines and devices.
- Integrity: Digital trust requires organizations to take steps to ensure that an object and its data have not been altered or tampered.
- Encryption: Protecting data as it is transmitted is vital.

CONCLUSION

In the era of IoT, digital trust is a critical component of the IoT landscape and must be given the necessary attention and resources to ensure the continued growth and success of the technology. To build trust in the technology and systems that support it, it is important to prioritize privacy and security, ensure compliance with privacy regulations, and be transparent with customers about data practices. By doing so, we can create a safer, more secure, and more trustworthy digital world for everyone.

DIGITAL TRUST, PLATFORMS AND POLICY

-MS. NANCY PATEL (II - B)

Digital Trust stands by addition of establishing trust, managing trust and extending trust of the user. Users are the assets of the digital world, living every moment on the click and getting more and more useful to this lifestyle because of the huge covid-19 pandemic. This has up-scaled the digital network to a point where the main concern comes of security and confidentiality of the data. It is crucial for a number of reasons, including the protection of sensitive data and personal information. It is critical that people have faith in the security of these platforms given the rise in the quantity of private data that users exchange online, including credit card details, Pan Card or any other private information. Digital trust contributes to the protection of users, private data from online threats like hacking, identity theft, and data breaches.

Privacy is concerned with protecting the personal information of users and ensuring that their personal data is not misused. This includes protecting sensitive information, such as financial data, personal addresses, and phone numbers, as well as preventing unauthorized access to personal accounts. Security is concerned with protecting the data and information stored and transmitted online. This includes protecting against cyber attacks. Both privacy and security are crucial for the growth of e-commerce, social networks, and other online services. Effective privacy and security measures can increase trust and confidence in online services, encourage greater participation, and support the growth of digital commerce.

Investments and priorities of the digital era are focused more on the visible and easier to pass "front" solutions, like access to internet, services, portals,

which is effortless to see as an output. Simultaneously some fundamental areas, which are less visible to the public, like digitization of data, interoperability, electronic identity access, often receive less attention creating a "death valley" between strategic priorities and their actual realization.

Whether you are doing a little research, following a news story, or sharing interesting things on social media, the Internet is a never-ending source of information. The Internet is a social medium made up of communities, cliques, and groups. While this is usually positive, sometimes people fall a prey to intimidation or harassment. When we use digital devices we run certain risks - to our personal information, our financial data, and those devices themselves. Maintaining a healthy balance between entertainment media and other activities has always been a challenge. The Internet has made this challenge even more difficult. Especially from the last decade, both governments and giant corporations have become data miners, collecting information about every aspect of our activities, behavior and lifestyle.

Users exchange the data locally as well as internationally. Many users lack the technical skills and knowledge required to navigate the digital world safely, which can result in them becoming vulnerable to Cyber attacks and data breaches.

The vast amount of information available in the digital world can be overwhelming, which can result in users being unable to effectively navigate and use digital services and ultimately putting their security at risk, at times.

To ensure privacy and security in the digital world, it is important for both individual users and platform providers to take proactive measures, such as using strong It is important for users to educate themselves about digital literacy and security, to adopt safe online practices, and to be mindful of the personal information they share online passwords, keeping software up-to-date, and implementing encryption technologies. Additionally, it is important for platform providers to have clear privacy and security policies in place, as well as ensuring that their policies are in compliance with relevant privacy laws.

Users may lose trust in a platform if they experience data breaches, unauthorized access to their accounts, or if their personal information is misused. This loss of trust can result in decreased usage of the platform, or users may switch to a competitor that has better privacy and security practices.

To build and maintain digital trust with regards to privacy, digital platforms and companies must be transparent about their data collection and usage practices, implement strong privacy and security measures, and provide users with control over their personal information. They should also be accountable and responsive to user concerns and be proactive in addressing privacy and security issues.

DIGITAL TRUST: A REVIEW

-MR. JIGAR MARU (II - B)

In this digital age, trust in technology is becoming very important, with the growing reliance on digital devices and platforms for communication, commerce, and the storage of sensitive personal information, it is crucial to understand how to build and maintain trust in digital technologies. The establishment of digital trust requires a combination of security measures, transparency and accountability, and the protection of personal data. Digital trust helps to protect against Cyber threats and data breaches.

Digital Trust is the combination of many factors such as security of digital systems, accountability of organizations, protection of personal data, etc. Encryption and multi factor authentication can help to protect the sensitive information from the Cyber threats. Organizations must be transparent about their data collection and usage practices. Organizations should be accountable for any security incidents that might occur in future.

To understand it more easily we can say there are 4 pillars of the digital trust:

- 1) Transparency and Accessibility
- 2) Privacy and Control
- 3) Ethics and Responsibility
- 4) Security and Reliability

Transparency around digital business practices can be an important factor in building trust with customers. By being transparent about how they collect, use, and handle customer data, organizations can help customers understand the extent to which their information is being used and how it is being protected.

Companies can demonstrate their commitment to digital trust by investing in the latest security technologies, regular auditing and educating employees and customers on the importance of security and privacy. This can help to establish the company's reputation as a trustworthy and reliable provider of digital products and services, building customer loyalty and confidence in the long term.

Organizations that prioritize data privacy and respect their customers' preferences with regards to data collection and handling tend to build trust with their customers, leading to increased permissions for handling their information. This allows the organization to provide personalized services and experiences, improving customer satisfaction and loyalty.

With the rapid advancement of technology, organizations are acquiring more power to collect, store, and analyze vast amounts of customer data. This raises a number of ethical questions about the appropriate use of this information and the impact it can have on customers.

Seminars/Visits

ADVANCEMENTS IN BLOCK CHAIN

The Faculty of Computer Applications & Information Technology organized a seminar on "Advancements in Block Chain" for the students of MCA, on 8th August 2022. The guest was Mr. Krunal Soni, Manager, Minddeft Technologies. A total of 100 students attended the webinar. The seminar was coordinated by Dr. Prerna Agrawal.

The guest started the seminar by explaining the importance of Block Chain in Real life. He also focused on different types of Block Chains, and Real life Implementations of Blockchain technology. He also discussed the usage of the blockchain in different domains in real-life scenarios.



Students also interacted with her and she solved all their doubts of them properly. The session ended with a keynote on developing a career in blockchain technology and having a bright future in this technology.



BEAT THE DIABETES

The Faculty of Computer Applications & Information Technology organized a seminar on "Beat the Diabetes" under the WDC for the students of MCA and BTech, on 13th October 2022. The guest was Dr. Manish Agarwal, Director, of Medilink Hospital. A total of 250 students attended the seminar. The seminar was coordinated by Dr. Prerna Agrawal.

The guest started the seminar by explaining the importance of maintaining physical health from a young age. He also focused on misconceptions and symptoms leading to Diabetes like extreme thirst, frequent urination, dry skin, hunger, blurred vision, and drowsiness. He also discussed how to diagnose diabetes and the steps to cure and prevent it. He also explained the factors why Indians are more prone to diabetes.

The team also performed a drama named "Madhumay ki Adalat" in front of students. In the drama, one person asked questions related to Diabetes in the current scenario and the other person would answer them. At the end of the drama, the judge reached the conclusion that diabetes is increasing more in the young generation.

Students also interacted with the guest and he solved all their doubts of them properly. The session ended with a keynote for the young generation to take precautions for diabetes and regular do's and dont's to apply in their regular life to stay fit and healthy.



CSR ACTIVITY

With the intention to bring value to the community and generate positive impact GLS University - Faculty of Computer Applications & Information Technology (FCAIT) - Master of Computer Applications Programme had planned a CSR activity. On 17th January 2023 a total of 100 students from semester II and faculty members visited Government Schools with the objective to impart the fundamental knowledge of computers. Mr. Vishal Patel - alumni of GLS programme had played a vital role to make this happen. He was a bridge of communication between Government Officials and FCAIT - coordinator.

Students of FCAIT-MCA had shown enthusiasm to participate in this activity. Student volunteers had identified various activities including fundamental knowledge of computers, educational videos, brain games, typing games etc. On 17th January 2023, Dean - FCAIT - PG Programme - Dr. Savita Gandhi, faculty members - Dr. Devarshi Mehta, Dr. Krupa Mehta, Dr. Prerna Agrawal, Dr. Arpit Jain, Dr. Hetal Thaker, Ms. Aditi Joshi, Mr. Kartik Joshi along with students had participated in this noble activity. Students were divided into two groups to visit two different schools i.e. Government School - 28-1 (Sector 28) & Government School 29-1 (Sector 29) and to interact with school children of standard 1st to 8th standard. School students and MCA students were divided into clusters and had performed various activities that included : experience of video conferencing,

brain games, typing games, educational videos and other activities. Students have also played outdoor games - tug of war, kho-kho, cricket etc. In the 2nd part approximately 200 Drawing Kits were distributed to each school student. Using this drawing kit which includes drawing book, color pencils and pestle colors - school children had enjoyed drawing. Experience and feedback of MCA students who had taken part showed that they got satisfaction when they saw the eyes of those school children who were not privileged to do some of these activities. The Entire event was successfully coordinated and managed by Dr. Prerna Agrawal - Assistant Professor - MCA Programme.



INTERVIEW TIPS AND RESUME BUILDING

The Faculty of Computer Applications & Information Technology organized a seminar on "Interview tips and Resume Building" for the students of MCA, on 27th August 2022. The guest was Mr. Ankit Hiware, Co-Founder ILA Hiring Technologies. A total of 120 students attended the webinar. The seminar was coordinated by Dr. Prerna Agrawal.

The guest started the seminar by explaining the importance of Resume Building and appearing in an interview. He showcased his real life implementation ilaforplacements.com an AI powered CV Assistance platform to the students and also explained how a resume can be automatically generated using this website.

Students also interacted with him and solved all their doubts regarding the interview questions. The session ended with a keynote on building a resume properly and guidance of interview questions.



SOFTWARE TESTING

The Faculty of Computer Applications & Information Technology organized a seminar on "Software Testing" for the students of MCA, on 25th November 2022. The guest was Mr. Harsh Bhatia a QA at a renowned IT company. A total of 100 students attended the webinar. The seminar was coordinated by Dr. Prerna Agrawal.

The guest started the seminar by explaining the importance of Software Testing in IT for any application. He also focused on different types of testing like functional, non-functional, manual, and automation. He also discussed the usage of QA in different applications.

Students also interacted with him and he solved all their doubts of them properly. The session ended with a keynote on developing a career in QA and having a bright future in this domain.



HACKATHON

- 9 teams from FCAIT MCA Programme participated in the first round of SIH-2022 "Smart India Hackathon" - world's biggest Open Innovative Program and the team of students Jitendra Kumar, Harsh Agrawal, Nishant Kumar, Kirtan Nair, Dhruvi Parekh and Bhavik Bhatia with mentor Prof. Vinita Nair had qualified in the Grand Finale and went to Jaipur for participating in the final round.

- 4 teams from FCAIT MCA Programme participated in Azadi Ka Amrit Mahotsav Hackathon 2022 organized by Government of Gujarat on 7th-8th October 2022. The team of students Dhruvi Parekh, Jitendra Kumar, Bhavik Bhatia, Jeet Mehta, Yash Mehta, Mansi Khakhi, Shreya Lakhani and Dhaval Kriplani has been selected in Finals to be held on 10-11th February 2023.

- TechnoMark Solutions organized Hackathon on 19 & 20 November 2022. MCA students presented their innovative ideas for real life problems.

- Pritesh Bhatiya won the 1st prize by presenting the project on integrated e-commerce with e-learning.
- The team of Padiya Bhavin, Miral Savera, Ankit Chavda, Pranay Bhatt and Devanshu Agarwal was awarded as the youngest team by presenting the project on advance school /institute management system.



STUDENTS ACHIEVEMENTS

- MCA students Ms. Nancy Patel, Mr. Monarch Jain, Ms. Shivani Shah and Ms. Vrushika Shah won the 1st prize in Culinary Activity at GLSU Youth Festival 2023.
- MCA student Ms. Shreya Ramolia won the silver medal in 400m race in the IM Nanavati Sports 2023 organized by GLSU.



INDUSTRIAL VISIT

The Faculty of Computer Applications & Information Technology has organized a one-day industrial visit to Space-O Technologies for MCA students on June 29, 2022. The aim of the visit was to bridge the gap between classroom teaching and real market scenario. The whole-day event was conducted based on the complete life cycle of a software project and live interaction with various teams to gain insight. The visit was coordinated by placement team members Dr. Devarshi Mehta and Dr. Krupa Mehta.

PLACEMENTS @ GLSICT

FCAIT MCA program provides the placement right in the 3rd semester itself to most of their students. The placement is normally hovering around 90%. We invite nearly 100 companies every year with various requirements. The industry liaison and cordial relation with the industry is the key component in driving these excellent results.

We have a placement cell that some of our experienced faculties with good industry linkage manage. They start by identifying the companies, communicating with the company authorities, inviting them to discuss personally, assist them in the placement process, and continue helping them even when the students start working with them. Normally our students work on a 4th sem project with the company and the company recruits them once they complete the project. The placement cell organizes various activities in enhancing the placement ratio, provides cohesive communication directly with the recruiting companies, helps the student learn to focus on a specific career path, and so on.

Here is the list of some of the companies that visit GLS for placements.

- Anblicks
- Aspire Software Solutions
- Bacancy
- Biztech IT Consultancy Pvt. Ltd.
- BizzAppDev Systems Pvt. Ltd.
- Bluepixel Technologies LLP
- CrossShore Solutions
- Cybercom Creation
- Cygnet Inc.
- Global Vox LLC
- iFour Technolab Pvt Ltd
- Impero IT Services Pvt Ltd
- Knovos
- Knowarth Technologies
- Learniphi Technology
- Magneto IT Solutions Pvt Ltd
- Net-Square Solutions Pvt. Ltd
- Radixweb
- Redefine Solutions
- Sarjen Systems Pvt. Ltd.
- Shiv Technolabs Pvt. Ltd
- SoluLab
- Solution Analyst
- Source Ved
- Space-O Technologies
- Streebo Inc.
- Synoverge Technologies
- Tatvasoft
- Tech Compose
- TechHolding
- The One Technologies
- Third Rock Techkno
- Webline India
- WebOccult Technologies
- Yudiz Solutions Pvt. Ltd.
- ZealousWeb
- Zeus Learning

Glorious Five of GLSICT



MR. GOHEL PRATIK

SGPA 9.34



MS. LAKHANI SHREYA

SGPA 8.79



MR. PANCHAL PARSHAV

SGPA 8.78



MR. MEHTA YASH

SGPA 8.62



MS. BHATT NEHA

SGPA 8.59

FOR FURTHER INFORMATION CONTACT

**Faculty of Computer Applications & Information Technology,
GLS (Shailesh R Parikh) Institute of Computer Technology (MCA),
GLS Campus, Opp Law Garden, Ellisbridge, Ahmedabad-380006.**

Phone: +91(079) 26447636, 26447637

Mail At : mca@glsuniversity.ac.in

Website: www.glsuniversity.ac.in, www.glsict.org