

GTU Innovation & Startup Center



Report on Event on Cryptography, Hunting Firmware and Meet up

Prepared By Mr.Nitin Magjikondi | IT Administrator | September 16, 2019



One Day Event on Cryptography, Hunting Firmware and Meet up

Date: 20th July 2019

Time: 10:00 A.M. - 1:00 P.M.

Venue: Block 6, GTU Innovation Council, Ahmedabad

About the Event:

GTU Innovation Council is one of the elite organization for fostering Entrepreneurship and Innovation under the aegis of Gujarat Technological University. Imagination is the base of innovation. GIC has been designed to establish close bonding between industries, entrepreneur and students to make research and development at the University relevant to the needs of industries at national and international levels.

The Event is all about for implementation of web security and hacking meet up. The Session was exclusively conducted for the students, faculty, startups Innovators in field of Cyber security. The main focus of the event was on how cryptography work in real world and backend process of the security. And **Digital audit** is important and what is the exact process model of the digital audit and why **ISO standard ISO/IEC 27000** is important as well as learning most significant practical was **Vulnerability assessment, Penetration testing** of websites.

About the Speaker:

Mr. Vismit Rakhecha, Security Analyst in Softweb Solution.

He has been in the security field from the last 6 years and currently working as Security Analyst for Softweb solutions(Avnet).

Mr. Vivekkumar Sinha, DevOps in eInfochips, Ahmedabad.

Vivek has been in the cloud field from the last 5 years and currently working as a Sr. Engineer in eInfochips.

Mr. Vishal Purani, Information Security Executive, eInfochips, Ahmedabad.

As a security Engineer, I am responsible for monitoring and analyzing real time logs from network devices and identifying attacks at network, application and system level.

Highlights from the Session

10:00 am - 11:00 am: Introductions and Cryptography Session by **Mr. Vivek Sinha**

11:00 am - 12:00 pm: Digital Audit ISO/IEC is important by **Vishal Purani**

12:00 pm - 01:00 pm: Vulnerability test in website by **Mr. Mr. Vismit Rakhecha**

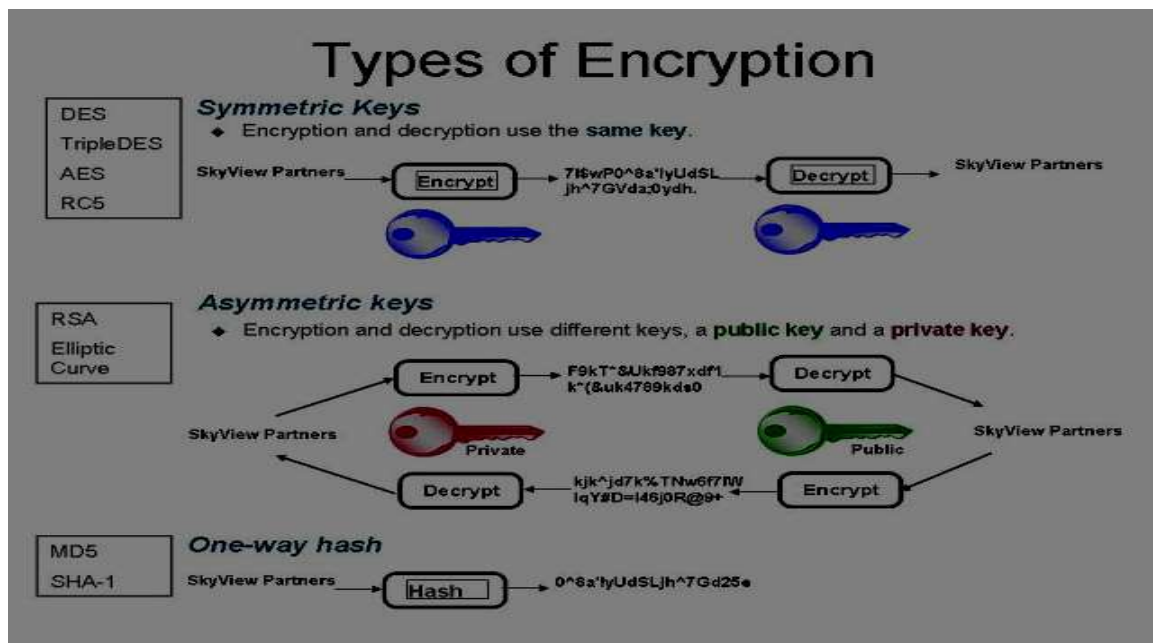
01:00 pm - 01:15 pm: Question Answer

Event at Glance:

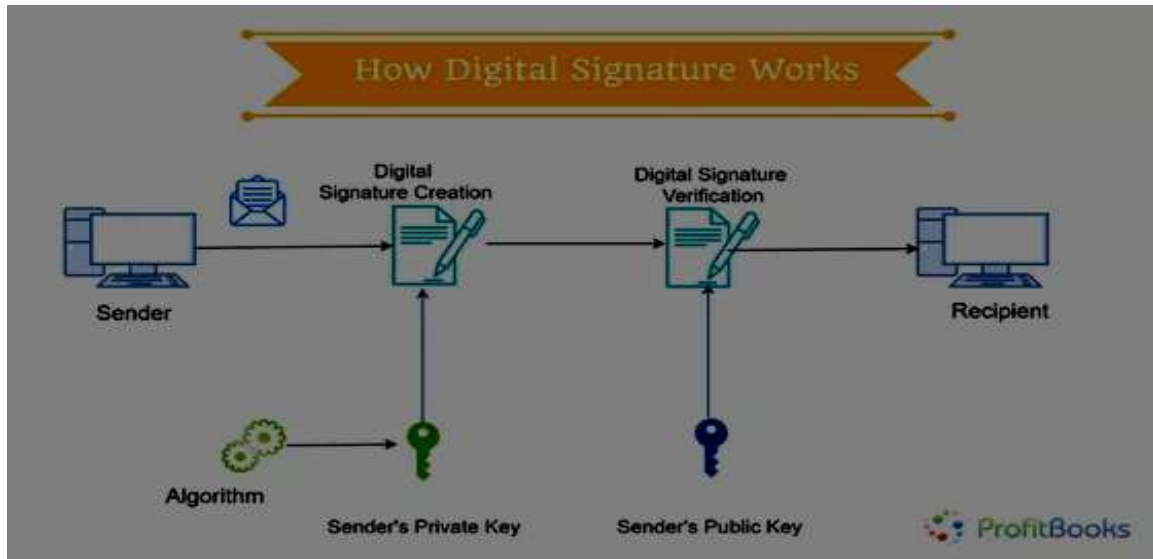
The event began with a round of introduction and attended by students, faculties as well as startup members were present in the session.

First Session was started by **Mr. Vivek Sinha** with brief explanation about the cryptography and where it is useful, what is the important of the Cryptography into Digitalization world about symmetric key and Asymmetric key. Cryptography is playing very big role into Digital signature how it work and how safe our digital signature into real world scenario.

Encryption:



Digital Signature:



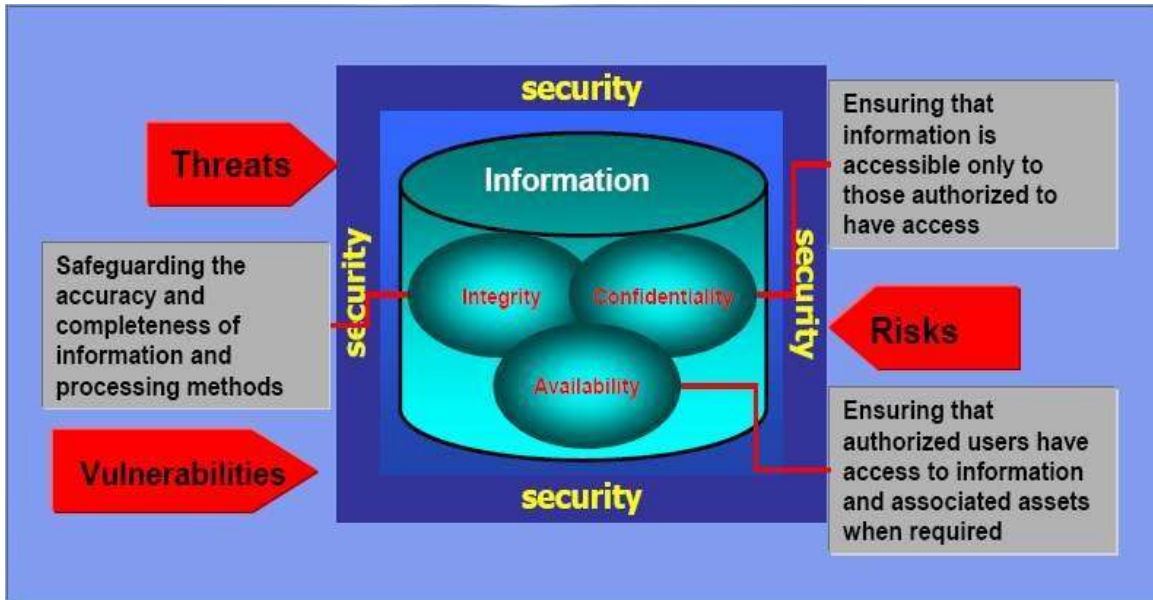
Point discussed by Mr. Vivek Sinha is below:

1. What is cryptography ? Which are types of Cryptography?
2. Common CA List, Steganography and Watermarking
3. Digital Rights Management, VPN Protocols : IPSec, Layer 2 Tunneling, Protocol, Point to Point Tunneling Protocol, SSL and TLS, SSH, Open VPN
4. Cryptographic Attacks : Brute Force, Man in the Middle
5. Other Attacks : Rainbow tables, Ciphertext only Attack, Known Plaintext, Chosen Ciphertext, Chosen Plaintext

After completion of the Cryptography session, **Mr. Vishal Purani** took over the next topic regarding the Digital Audit into organization. There are important points that are playing a key role and Core auditors work for the organization as internal employees to examine records and help improve internal processes such as operations, internal controls, risk management, and governance. They shared their experience how it is useful to any organization.



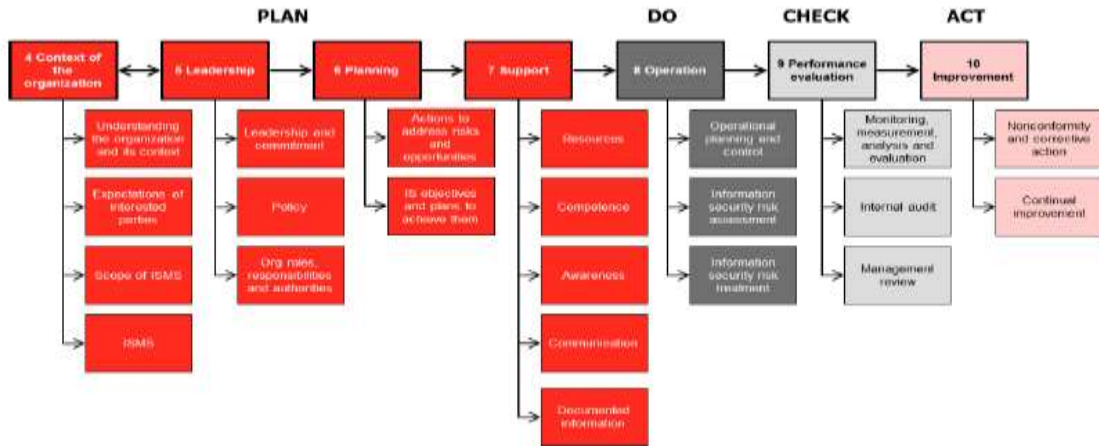
How to secure your organization:



Audit Process:



Planning process:



Organization Safeguard:



- Training
- Awareness
- HR Policies
- Background Checks
- Roles / responsibilities
- Mobile Computing
- Social Engineering
- Social Networking
- Acceptable Use Policies
- Performance Mgmt.



- Asset Management
- Data Classification
- Info Rights Management
- Data Leak Prevention
- Access Management
- Change Management
- Patch Management
- Configuration Management
- Incident Response
- Incident Management
- Business Continuity
- Risk Management

After Digital Audit session, **Mr. Vismit Rakhecha** took over session and he started discussion with the audience about their experience on Vulnerability and Penetration in real world issue that are facing by many organization in their website.



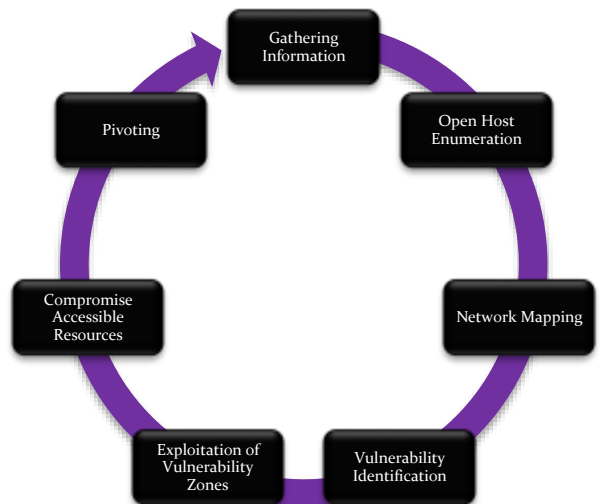
Points discussed by Mr.Vismit Rakhecha is below:

1. Host Discovery
 - Identify the list of live nodes in the network
 - Scan Internal IP Addresses
2. Asset Priority
 - Classify assets based on criticality to business.
3. Scanning
 - Scan for all TCP Port and common UDP services
 - Identify the services / Operating System found running
 - Identify Older Version/Out dated services and OS.
 - Identify vulnerabilities in the services enumerated during the above steps.
 - Remove False/Positive
4. Reporting
 - Report the loop holes in the infrastructure along with recommendations to plug them.
5. Implementation
 - Address the vulnerabilities identified based on the recommendations
6. Retest
 - Repeat Activity and conduct a full re-scan on a quarterly/bi-annually basis

Vulnerability Assessment



Penetration Testing



CVSS (Common Vulnerability Scoring System)

Rating	CVSS Score
None	0.0
Low	0.1 - 3.9
Medium	4.0 - 6.9
High	7.0 - 8.9
Critical	9.0 - 10.0

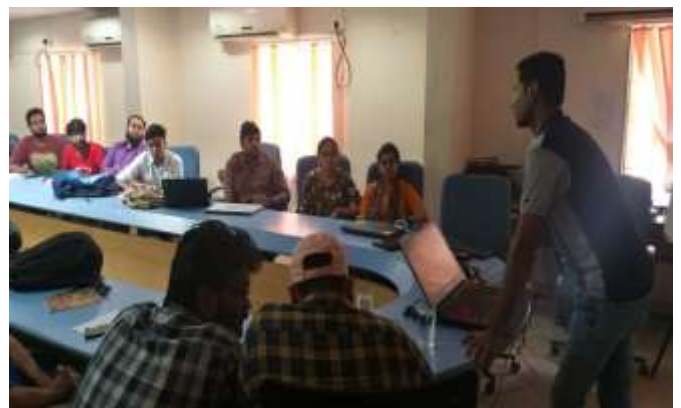
CVSS Calculator:

<https://www.first.org/cvss/calculator/3.0>

References:

- <http://sharemanila.com/wtf-is-cia/>
- <https://www.guru99.com/vulnerability-assessment-testing-analysis.html>
- <https://www.cert-in.org.in/>
- <https://twitter.com/jenniehall111/status/1063147247943254017>
- <https://memegenerator.net/instance/75226483/mukesh-ambani-lol>
- <https://www.first.org/cvss/specification-document>

Glimpses from the event:



Report on Event on cryptography, Hunting Firmware and Meet up

