



Applications of Information and Communication Technology(ICT)

Lecture 6

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Lecture Outline

- Computer Virus
- Types of Computer Virus
- Impact of Computer Virus
- Signs of a Virus Infection
- Preventative Measures



Computer Virus

- A **VIRUS**(Vital Information Resources Under Siege) is a program that can infect other programs by modifying them.
- Viruses are self-replicating and are designed to infect other programs.
- The modification includes a copy of the virus program which then goes on to infect other programs.



Types of Computer Viruses

➤ **Malware:**

- Software designed to damage or infiltrate a computer system without the user's consent, including viruses, spyware, and adware.

➤ **Spyware:**

- Spyware is a type of malware that is designed to secretly monitor and collect information about a user's online activities without their consent. It can gather various types of data, including browsing history, keystrokes, passwords, and personal information.

➤ **Adware:**

- Adware, short for advertising-supported software, is a type of malware that delivers unwanted advertisements to users' computers. It often accompanies free software downloads and generates revenue for its creators by displaying advertisements or redirecting web traffic to sponsored websites



Types of Computer Viruses (Conti.)

➤ **Trojans:**

- Malicious programs disguised as legitimate software to trick users into installing them.

➤ **Worms:**

- Self-replicating malware that spreads across networks without human intervention.

➤ **Ransomware:**

- Malware that encrypts files or locks users out of their systems, demanding payment for their release.

➤ **File Infector virus:**

- Comes in an attached form format and affects *.exe* and *.com* files.



Types of Computer Viruses (Conti.)

➤ **Direct Action Virus:**

- Attacks only .exe and .com files, not very harmful as it is triggered after being executed.

➤ **Overwrite virus:**

- This type of virus deletes the information contained in the file that it infects, rendering them partially or totally useless once they have been infected.

➤ **Directory Virus :**

- This virus is also called File System Virus or Cluster Virus. It infects the directory of the computer by modifying the path that is indicating the location of a file.



Types of Computer Viruses (Conti.)

➤ **Browser Hijacker:**

As the name suggests this virus is coded to target the user's browser and can alter the browser settings. It is also called the browser redirect virus because it redirects your browser to other malicious sites that can harm your computer system.

➤ **Multipartite Virus:**

This type of virus is able to infect multiple parts of a system including the boot sector, memory, and files. This makes it difficult to detect and contain.

➤ **Boot sector Virus:**

It infects the boot sector of the system, executing every time system is booted and before the operating system is loaded. It infects other bootable media like floppy disks. These are also known as memory viruses as they do not infect the file systems.



Impact of Computer Viruses

➤ **Financial Losses:**

- Businesses can incur significant financial losses due to downtime, data breaches, and recovery expenses.

➤ **Data Breaches:**

- Viruses can compromise sensitive information, leading to identity theft, fraud, and legal consequences.

➤ **Disruption of Services:**

- Viruses can disrupt critical services such as healthcare, transportation, and utilities, affecting millions of people.



Signs of a Virus Infection

- **Slow Performance:**
 - Viruses consume system resources and can cause computers to slow down or freeze.
- **Unusual Pop-ups:**
 - Pop-up windows or advertisements may appear unexpectedly, indicating a virus infection.
- **Strange Behavior:**
 - Computers infected with viruses may exhibit unusual behavior, such as crashing or restarting unexpectedly



Preventative Measures

➤ **Use Antivirus Software:**

- Install reputable antivirus software and keep it updated to detect and remove viruses.

➤ **Regular Software Updates:**

- Keep operating systems, software applications, and security patches up-to-date to address known vulnerabilities.

➤ **Strong Passwords:**

- Use complex passwords and enable two-factor authentication to protect accounts from unauthorized access.



Note for the Students

- Note: Dear Students you can Download Books/Lectures and other helping material form the given link.
- Link: <https://cslearnerr.com/applications-of-information-and-communication-technologyict/>