

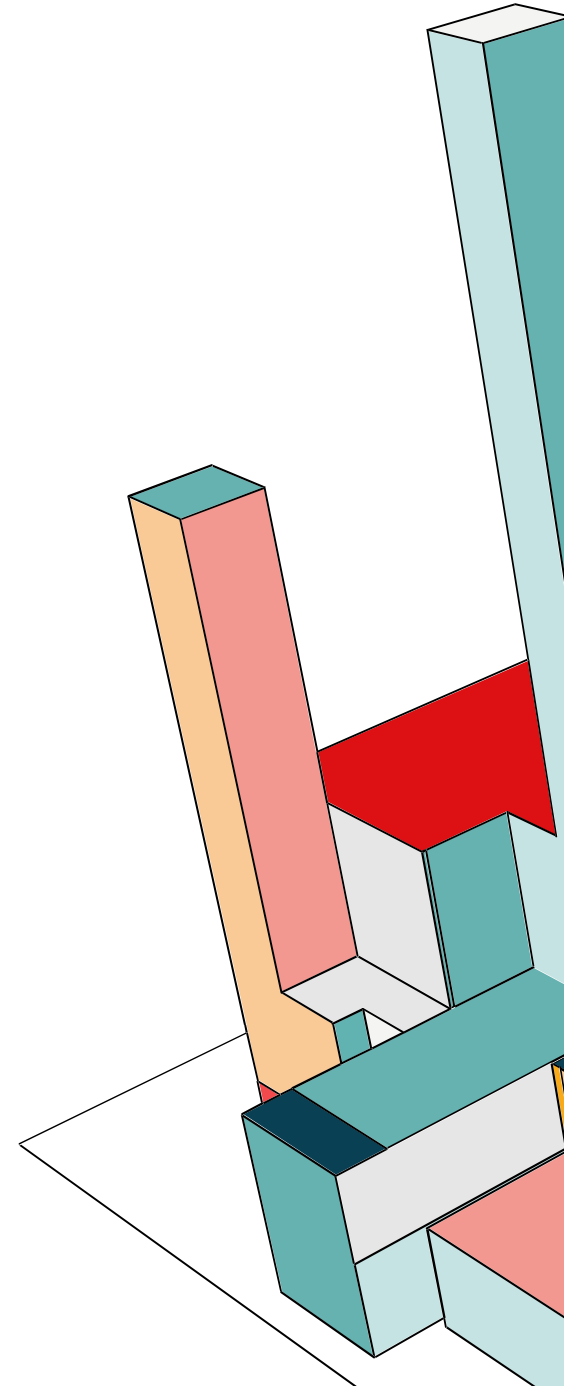
CYBER SECURITY

01 INTRODUCTION

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AGENDA

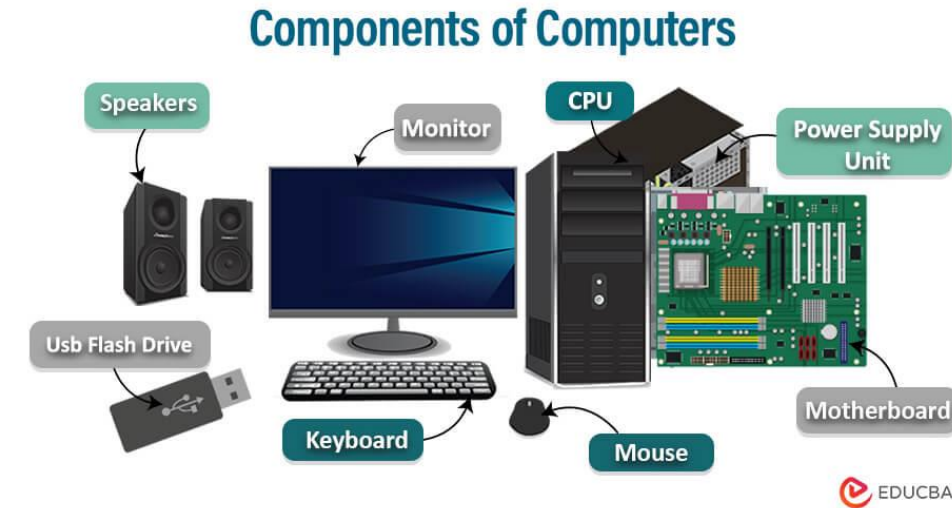
- Introduction & History
- Cyberspace in Modern Society
- Operating Systems & Networking
- World Wide Web & Web Technologies
- Web Servers and Clients
- Architecture of Cyberspace & ISPs



INTRODUCTION & HISTORY

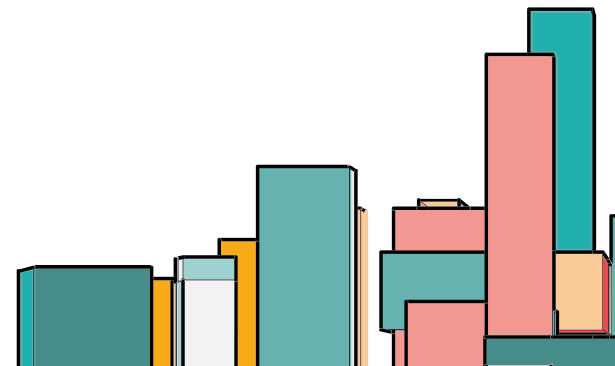
Cyberspace and Computer/Web Technology

- Cyberspace refers to the virtual environment where communication over computer networks occurs.
- It encompasses the Internet, Networks, and Digital Communication
- Historical Context and Evolution of Cyberspace
 - 1960s: ARPANET, the precursor to the internet, was created.
 - 1980s: The term "cyberspace" was coined by William Gibson.
 - 1990s: The World Wide Web became publicly accessible, revolutionizing communication



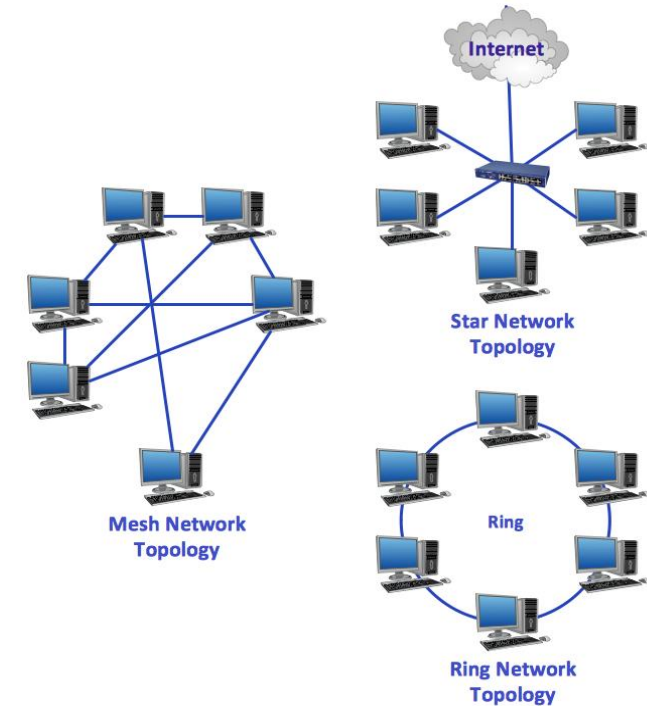
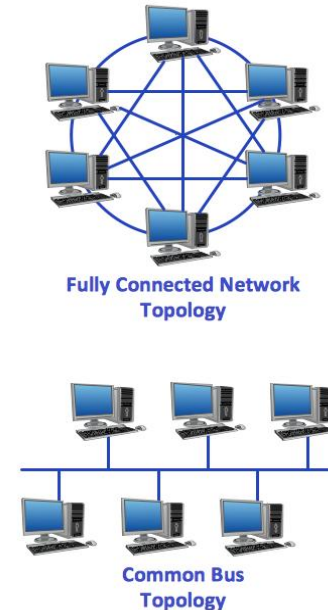
CYBERSPACE IN MODERN SOCIETY

- Facilitates global communication and commerce.
- Integral to daily activities such as banking, shopping, and social interaction.
- Critical for the functioning of governments, businesses, and education.
- Basic Components of Computer
 - CPU: The brain of the computer.
 - RAM: Temporary storage for active processes.
 - Storage: Hard drives and SSDs for long-term data storage.
 - I/O Devices: Keyboards, mice, monitors, etc.



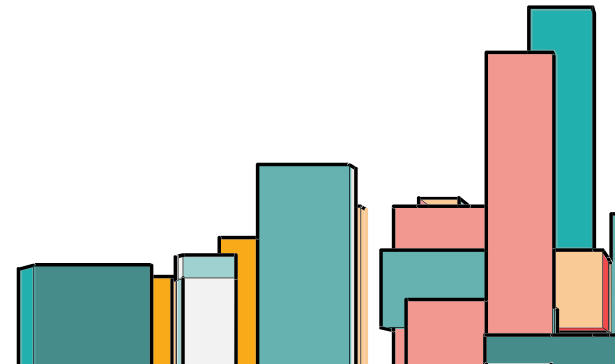
OPERATING SYSTEMS & NETWORKING

- Operating systems manage hardware and software resources.
- Common OS: Windows, macOS, Linux.
- Functions: File management, process management, and device management.
- Networks and Networking Basics Content
 - A network is a collection of computers and devices connected to share resources.
 - Types: LAN, WAN, MAN.
 - Essential concepts: IP addresses, routers, switches



WORLD WIDE WEB & WEB TECHNOLOGIES

- The WWW is a system of interlinked hypertext documents accessed via the internet.
- Created by Tim Berners-Lee in 1989.
- Facilitates information sharing and communication
- Basic Web Technologies
 - HTML: Markup language for creating web pages.
 - CSS: Stylesheets for designing web pages.
 - JavaScript: Programming language for dynamic content.



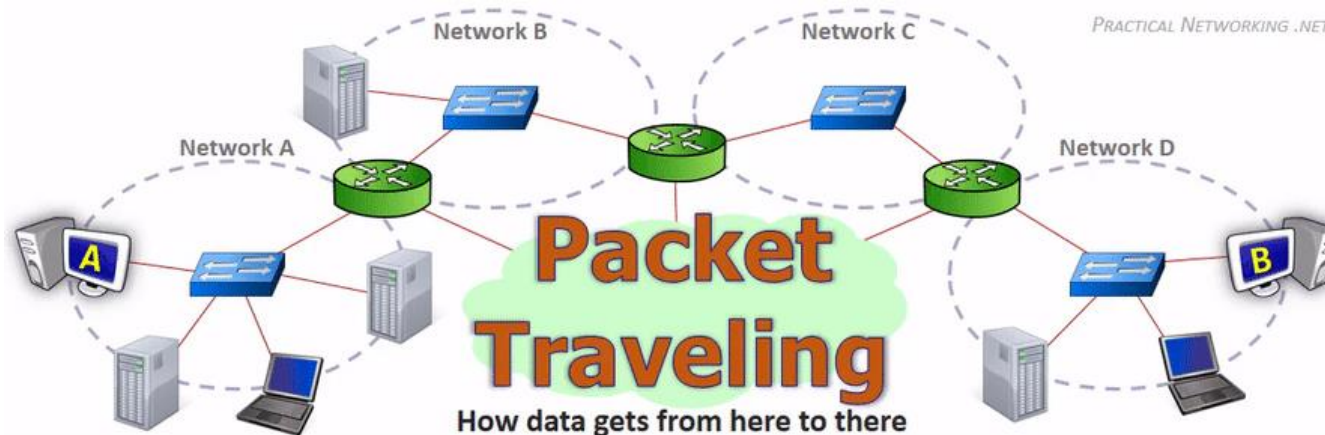
TECHNOLOGY STACK FOR WEB APPLICATIONS

FRONT-END	BACK-END	DATABASES	INFRASTRUCTURE
React.js	Node.js	MySQL	Nginx
Redux	Feathers.js	MongoDB	Bitbucket
Svelte	Nest.js	Postgresql	TeamCity
Angular	Redis	FireBase	Docker
Next.js	Python (Django, Flask)		Kubernetes
ES5, ES6			Apache
Typescript			AWS



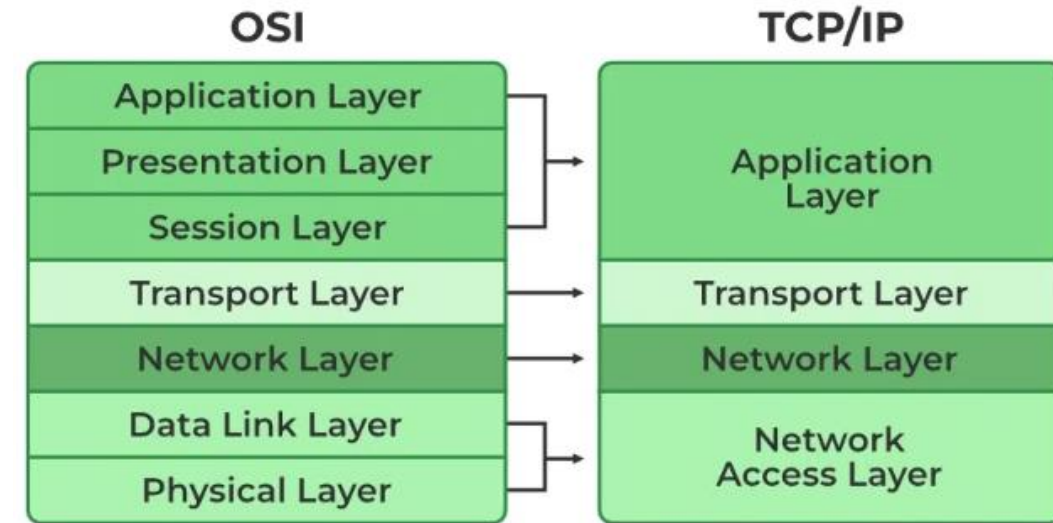
WEB SERVERS AND CLIENTS

- Web Server: Hosts and serves web content (e.g., Apache, Nginx).
- Client: Requests and displays web content (e.g., browsers like Chrome, Firefox)
- URL: Uniform Resource Locator, the address of a web resource.
- HTTP: Hypertext Transfer Protocol, the foundation of data communication.
- HTTPS: Secure version of HTTP, encrypts data for secure communication



ARCHITECTURE OF CYBERSPACE & ISPS

- Layers: Application, Transport, Network, Data Link, Physical.
- Key components: Servers, clients, routers, switches.
- Protocols: TCP/IP, FTP, SMTP
- ISPs
 - Internet Service Providers (ISPs) offer access to the internet.
 - Services include broadband, DSL, fiber-optic connections.
 - ISPs manage network traffic and ensure connectivity



THANK YOU

