



Web Designing

Lecturer
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Chapter 1: An Overview of the internet and the web

Understanding the Foundation of the digital world



Defining the Internet

A global network of computers that communicate via standardized protocols, enabling data exchange and access to services worldwide.



What is the Web?

The World Wide Web (WWW) is a collection of information accessible through the internet, structured via hypertext and accessed using web browsers.

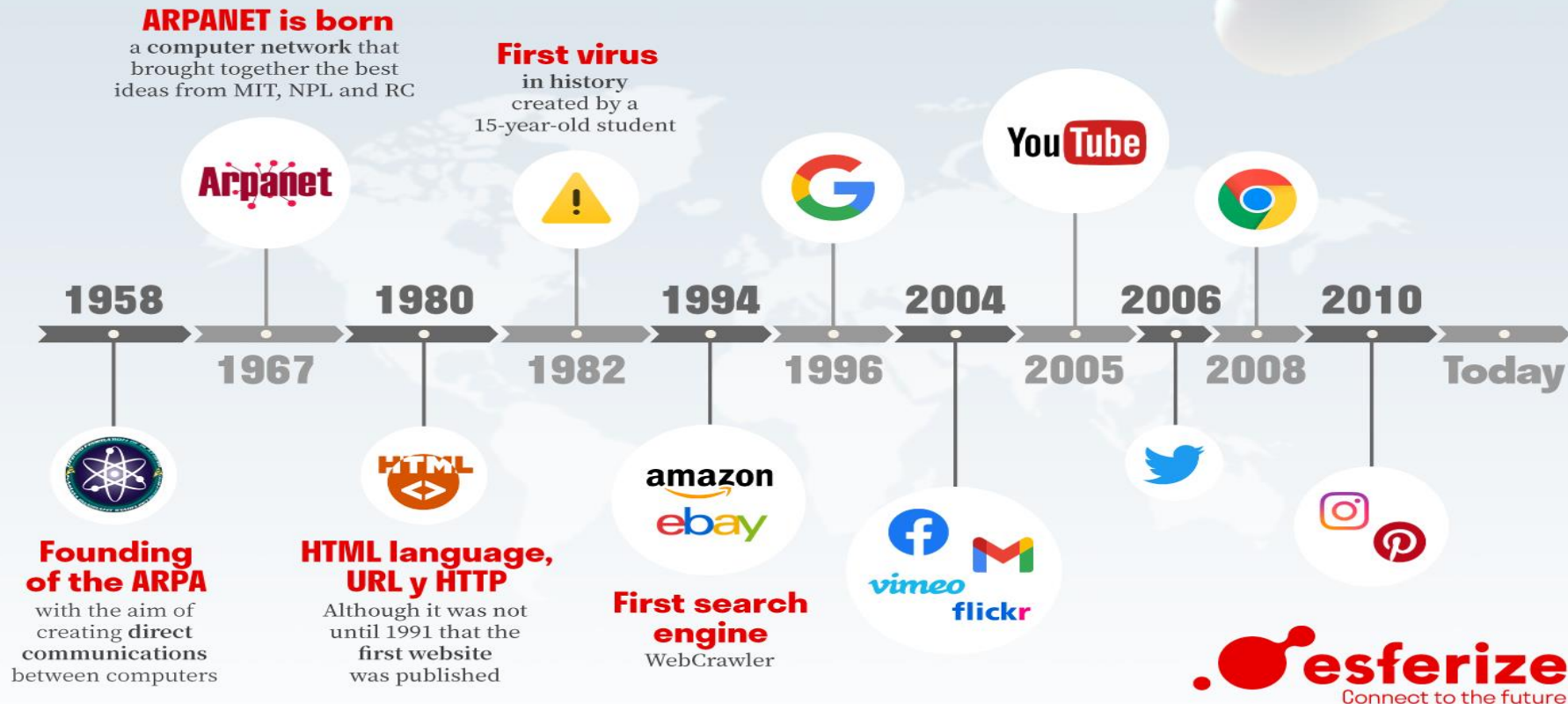


Key Difference

The internet is the infrastructure; the web is a service that operates on top of it—like roads versus cars.

Evolution of the Internet

Description Link



Advantages and Disadvantages of Internet



Advantages

Facilitates global communication, instant access to information, remote work, e-commerce, and online education.



Disadvantages

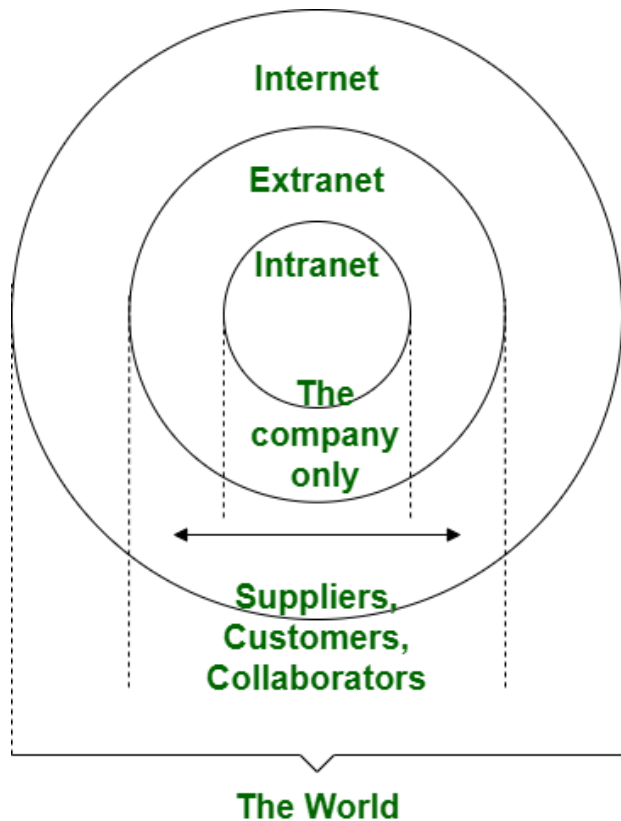
Leads to cybersecurity threats, digital addiction, misinformation, and a widening digital divide.



Balanced Usage

Critical thinking and digital literacy are essential to maximize benefits while minimizing risks.

Intranet, Extranet and Internet



Basis of comparison	Internet	Intranet	Extranet
Size of the network	A global network with an unlimited number of connected devices.	A private network with a small number of connected devices.	A private network with a limited number of connected devices.
Purpose	To share information and communicate all over the world.	To share corporate data among the employees within the organization.	To exchange business information among the company's employees and external members.
Regulation	Not regulated by any authority.	Regulated by a single company that owns it.	Regulated by one or multiple companies.
Mechanism of regulation	No mechanisms of regulation or censorship.	Regulated in accordance with company policies.	Regulated in conformity with the contractual agreements among the companies.
Security	The security depends on the user and the device that is used to get connected to the network.	The intranet is secured by a firewall.	The extranet is secured by firewalls and VPNs.
Access	Unrestricted in terms of access and can be used anonymously.	The intranet can be accessed by authorized users only.	The extranet can be accessed by authorized users only.
User Training	No previous user training.	May require previous user training.	May require previous user training.

Understanding IP and DNS

- IP is a set of rules that defines how data is formatted, addressed, and routed for communication across networks

What is an IP Address?

An IP address, or Internet Protocol address, is like a digital home address for your devices.

Every device connected to a network, whether it's your smartphone, laptop, or smart fridge, gets a unique IP address.

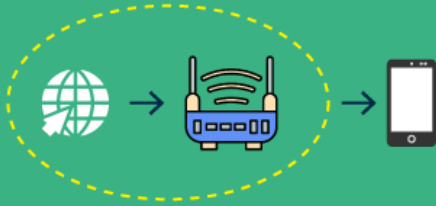
This numerical label ensures that data packets find their way to the correct device, enabling seamless communication over the internet.



Types of IP Addresses

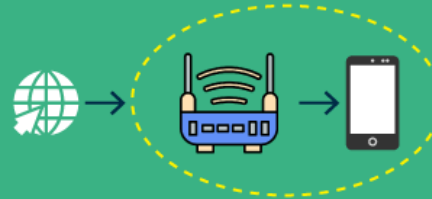
Public

Accessible over the internet



Private

Used for devices within private networks



Static

Fixed and manually assigned



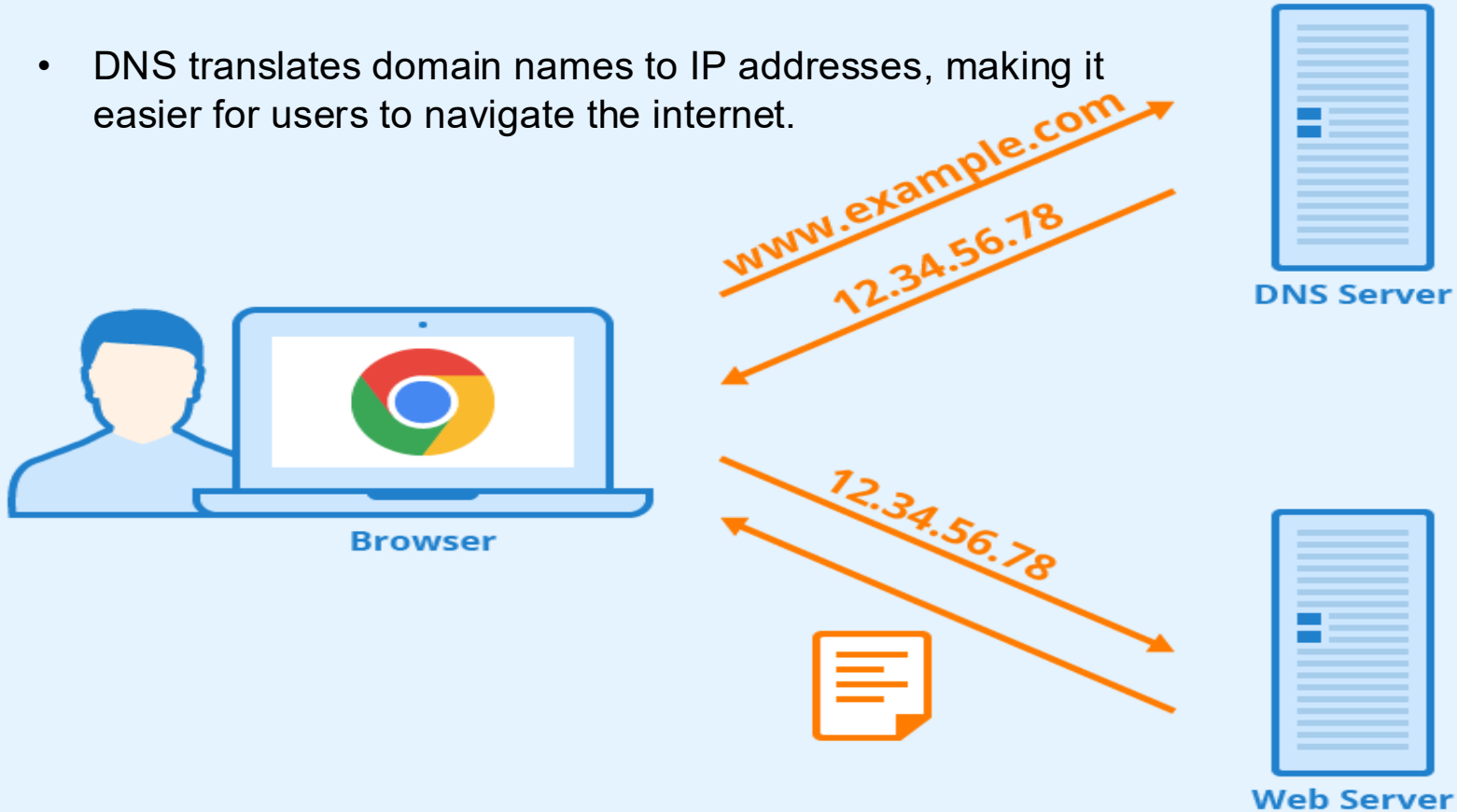
Dynamic

Automatically assigned and can change



DNS: Domain Name System

- DNS translates domain names to IP addresses, making it easier for users to navigate the internet.



What is a URL?

The Web Address You Use Everyday



Definition of URL

Uniform Resource Locator (URL) is the address used to access resources on the internet.



URL Structure

Comprises components like protocol, domain name, path, and query string; e.g.,
`https://www.example.com/page?id=1`



Functionality

URLs guide browsers to the correct server and location, initiating content retrieval processes.

Types of Internet Services



Communication
services



File transfer
services



Directory
services



Ecommerce and
online transactions



Network
management
services



Time
services



Search
engine services
on the web

What is WWW?

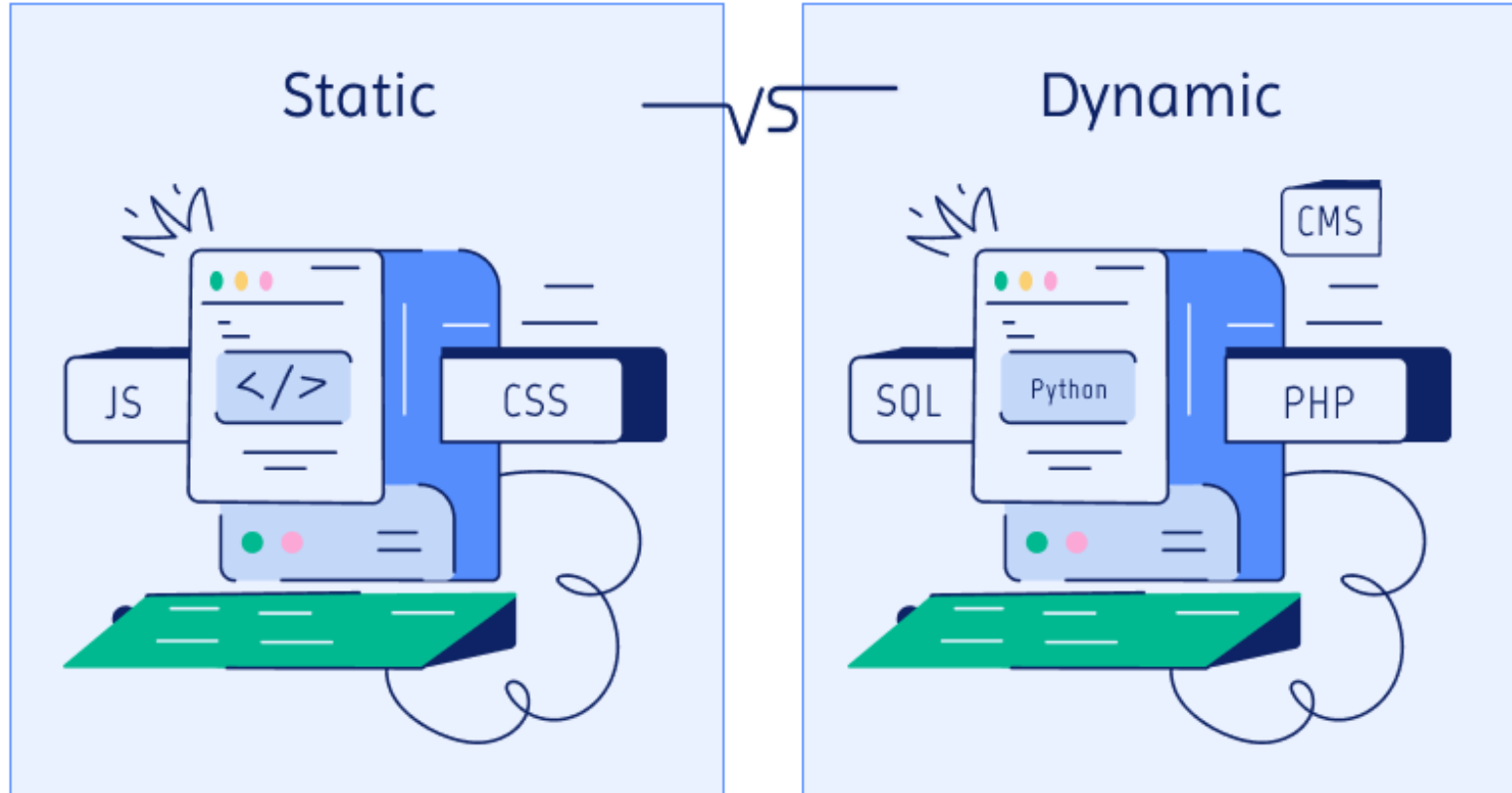


The term WWW refers to the World Wide Web or simply the Web.

The World Wide Web consists of all the public Web sites connected to the Internet worldwide, including the client devices (such as computers and cell phones) that access Web content.

The WWW is just one of many applications of the Internet and computer networks.

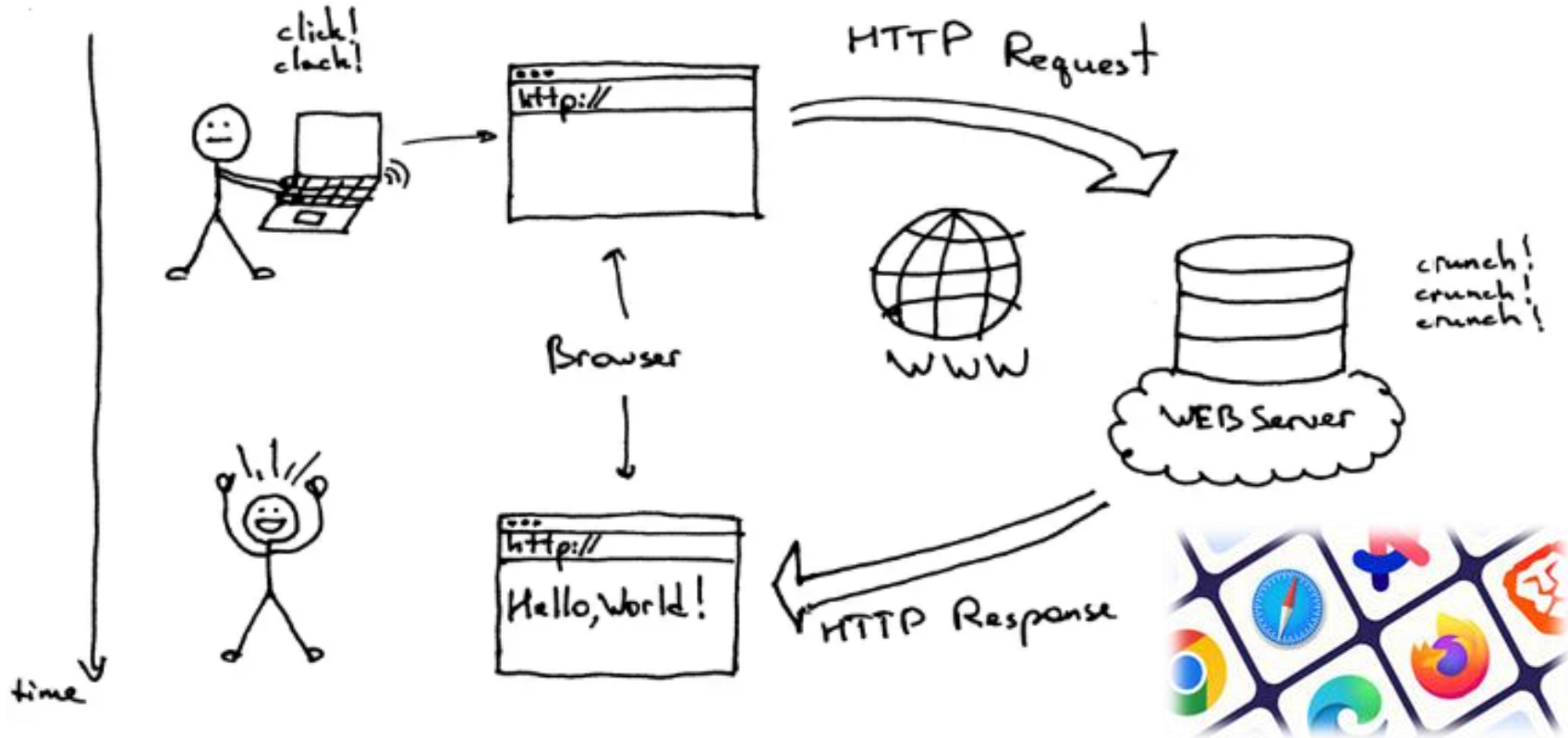
Static and Dynamic Web Pages




Static Website	Dynamic Website
Content of Web pages can not be change at runtime.	Content of Web pages can be changed.
No interaction with database possible.	Interaction with database is possible
It is faster to load as compared to dynamic website.	It is slower than static website.
Cheaper Development costs.	More Development costs.
No feature of Content Management.	Feature of Content Management System.
HTML, CSS, Javascript is used for developing the website.	Server side languages such as PHP, Node.js are used.
Same content is delivered everytime the page is loaded.	Content may change everytime the page is loaded.

Web Browser

- A software application that allows users to access and display content on the World Wide Web. It retrieves information from servers, such as websites, and presents it visually on the user's screen.



Assignment : What is Search Engine How does it work?

1. What is IP address and DNS . Write short notes.
 2. What are different types of IP address
 3. What is web page ? Write detailed notes on static and dynamic web page.
 4. How does web browser work?
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THANK YOU!