

Web Technologies



UNIT I

INTRODUCTION TO THE WEB

Understanding the internet and WWW



- Internet is a global system that consists of interconnected computer networks that uses the *internet protocol*
- Internet use a common set of rules called *Protocols*
- *Standard protocol* : Transmission Control Protocol/Internet Protocol (TCP/IP) Is used by the internet



- To retrieve information from the internet, WWW is used.
- The information is accessed as ‘web pages’ or ‘HTML’ documents.
- Web pages contain links called *hyperlinks*, which allows to access other web pages by simply clicking them.



- Web pages are viewed using a software called ‘browser’.

- First browser : Mosaic

- Commonly used browsers :
 - Microsoft Internet Explorer
 - Netscape Navigator
 - Mozilla Firefox



- Internet and WWW are not one and the same.
- Internet is a global data communication system.
- World Wide Web is a repository of information that can be accessed via the Internet .

History of the Web



- 1980 - WWW was started @ European Organization for Nuclear Research (CERN), Laboratory, Switzerland by Tim Berners-Lee.
- 1989 – NeXTcube computer became the world’s first web server.
- Tim considered several names :
 - Information mesh
 - The information mine/mine of information
 - Finally, WWW



- DECEMBER 1990 – Lee developed all tools for the WWW.
 - HTTP 0.9(Hyper Text Transfer Protocol)
 - HTML
 - First web browser(web editor)
 - First HTTP server
 - First website <http://info.cern.ch>
 - *First web page address*
<http://info.cern.ch/hypertext/WWW/TheProject.html>
 - *First practical web browser : Mosaic in 1993 by Marc Andreessen*



- September 1994 – Berners-lee founded World Wide Web Consortium(W₃C)
- WWW became commercially during 1996-98
- Now, the Internet has become such an integral part of our lives.

PROTOCOLS GOVERNING THE WEB



- Protocol is a set of rules that defines
 - Syntax (grammatical structure) and semantics(vocabulary) of the connection.
 - Examples of syntax: words,phrases,punctuation to form sentences
 - Examples of semantics: entire texts to single words(‘destination’ and ‘last stop’)
 - Data transfer between two computing endpoints.



- TCP/IP is used to govern the web and to communicate across the internet.
- TCP/IP has a set of layers
- Commonly used protocols are
 - HTTP(HyperText Transfer Protocol)
 - SMTP(Simple Mail Transfer Protocol)
 - DNS(Domain Name System)

CREATING WEBSITES FOR INDIVIDUALS AND THE CORPORATE WORLD



- A *website* is set of related web pages that are addressed with a common domain name or IP address.
- A *website* is hosted on a machine called web server.
- The web pages of a website are accessed using URLs(Uniform Resource Locator)
- Web pages contain hyperlinks that guide the visitors navigating the website.



- Each website is usually designed for a specific purpose.
- Websites has two groups
 - Personal Websites
 - Corporate Websites

Personal Web Sites



- Personal Websites contain web pages that are created by an Individual Person.
- Individual information only available.
- Separate domain/larger domain.
- Many Internet Service Providers(ISPs) provide a few megabytes of space to their subscribers.

Corporate Websites



- Corporate website is developed by Company or Private enterprise.
 - such as charities or non-profit organization
- Any website can contain a hyperlink to any other website.

WEB APPLICATIONS



- Web applications accessed by web browsers usually through networks.
- Web applications run on a server called web server.
- Each web application is identified by a URL.



- Two types of web applications:

- Service oriented – implement web services and coded using server side technologies.
- Presentation oriented – are usually clients of service oriented applications. They are coded in browser supported language
 - HTML, XML, JavaScript.