Kabul Polytechnic University
Computer Science Faculty
Information System Department

Web-Engineering I

Lecture 0: Course Overview

28 August – 2024

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Course Information

▸ **Course Name:**

 ▸ Web Engineering 1 (Web Design)

▸ **Pre-Requirements for the participation**

 ▸ Introduction to computing

▸ **Type of Course:**

 ▸ Lecture with supporting weekly exercises to repeat and adapt the lecture contents and Projects.

▸ **Slides and Extra Notes:**

 ▸ Soft Version, available here: *https://github.com/mujtabaSultani01/web_design*

Lecture Issues

- Lecture Times per Week
  - Monday 08:00 – 09:45 (Lecture)
  - Wednesday 09:45 – 11:20 (Lecture)
- Office hours
  - Sunday   10:00 – 01:00
  - Wednesday 08:00 – 01:00
- Private appointment
  - Contact me through email.

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Web Design

Assignments

- Weekly basis

- Rules

  - The Assignments should be handover Before the deadline…
  - You will work on the homework in Small groups
  - There should be no copy and paste
  - The copy and paste homework has zero points
  - Don't Cheat Yourself, Please!!!…

Examination and Grading

- Exams
  - Term-wise Project: **20%**
  - Final-term Exam: **60%**

- Others
  - Class Activity: **10%**
  - Homework: **10%**

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Class Rules

- Full attendance
- Please come on time
- Turn off your mobile.

Don't disturb your classmate !!!!

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Problems and Question

- Place:
  - Computer Science Faculty (Lecturer room)

- Internet contact :
  - Mujtaba.cs01@gmail.com
  - *https://github.com/mujtabaSultani01/web_design*

Course Contents

▸ Introduction to Web Design

▸ Web Design Fundamentals

▸ The Internet and Web

▸ HTML5 (List, Special Characters, Tables, & Forms)

▸ CSS3 (CSS Selectors, Web Fonts, Text formatting, Background, Padding, Margin, & Borders)

▸ Building Layouts

▸ JavaScript (Basic Syntax, HTML DOM, Events & event handler, regular expressions, functions, get & post methods)

▸ JQuery (Basic Syntax)

▸ Introduction to frameworks

Course Materials

- Learning Web Design: A beginner's guide to HTML, CSS, JavaScript, and web graphics (Main reference).

- HTML & CSS Design and build Websites by Jon Dukett (Recommended reference).

- David Flanagen; JavaScript: The Definitive Guide; O'Relly (Recommended reference).

Introduction to the Web

▶ The internet is a world-wide network of hardware. The World Wide Web is part of the internet.

▶ Websites are divided into categories that meet particular needs.

❑ **Key Terms**

▪ Internet – World Wide Web – File – Web Browser – Website – Web Page – Home Page

The internet and the world wide web

▶ The **internet** and the **world wide web** is not the same things. The internet provides the access to the world wide web.

▶ The information on the web is stored in individual **files**.

> ▶ **Internet:** Hardware, such as computers, cables, telephone wires, that is connected to create a massive world wide network.
>
> ▶ **World Wide Web:** Is a system of interlinked hypertext documents that are accessed via the internet.
>
> ▶ **File:** Contain information, such as text, graphic, video, or animation, that is stored on computer hardware.

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How the Web Works?

▶ A **Web site** is made up of **Web pages**.

▶ A home pages is generally the first page a user sees when visiting a site.

▶ Hypertext Markup Language (HTML) is used to create web pages.

  ▶ **Website:** A group of related files organized around common topic.

  ▶ **Web Page:** A single file within a website that has a unique name.

  ▶ **Home Page:** The main page on the website which contains general information about the site.

Web Browser

▸ A **Web Browser** access the web page from internet and displays that web page on to the monitor screen.

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Web Basics

▸ How a web browser works?

Your browser connects to a server and requests a page.

The server sends back the requested page.

Your machine running a Web browser

Server machine running a Web server

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Types of websites

▸ Commercial Websites

- E-commerce sites
- Corporate presence site

▸ Portal sites

▸ Informational sites

- News sites
- Government sites
- Public interest sites

▸ Educational sites

- School & university sites
- Tutorial & distance learning
- Museums and other institution

▸ Personal sites

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Elements of a web page

▶ **Web pages** are composed of many different elements, including text, graphics, animation, and hyperlinks.

▶ Hyperlinks link web pages together and help a user navigate through a website.

▶ **Key Terms:** Text – graphics – multimedia – audio – animation – video – hyperlink

Elements of a web page

▸ Web designer use **text** and **graphics** to add interest to a website. The combination of text and graphics are the basics of the website.

  ▸ **Text:** Consist of words, letters, numbers, and other symbols.
  ▸ **Graphics:** A drawing, chart, diagram, painting or photograph stored in a digital format.

Elements of a web page

▸ **Multimedia** refers to the integration of elements such as graphics, text, audio, video, animation, and interactivity.

  ▸ **Audio:** Live, streamed, or recorder sound.

  ▸ **Video:** Live or recorded moving images.

  ▸ **Animation:** The movement of text and graphics.

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Elements of a web page

▸ **Hyperlinks** can be a word, phrase, or graphic. There are three types of hyperlinks: internal, external, and intrapage.

   ▸ **Hyperlink:** A way to link web pages together and allow users to move from one online location to another.

Web Programming

❑ **Web Technology**

- Creates mechanism through which two or more then two computes can communicate with each other and share data.

❑ **Web Programming**

- Creates web pages using web technologies…

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Web Programming
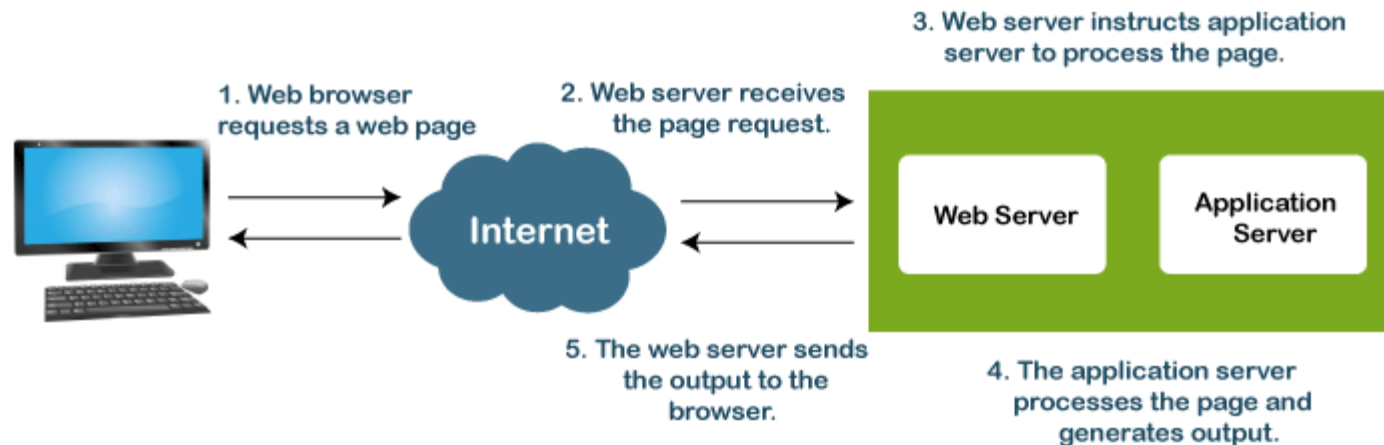
▸ In 1989 physical scientist Tim Benrs who worked in Cern company has written proposal that how to share information on internet…, finally in 1990 he created HTML.

http://info.cern.ch/hypertext/www/TheProject.html

▸ In April of 1993 Cern company announced that WWW is free for all peoples.

Web Application

▸ What's Web application?

▸ A web-application is an application program that is usually stored on a remote server, and users can access it through the use of **Software** known as **web-browser**.

1. Web browser requests a web page

2. Web server receives the page request.

3. Web server instructs application server to process the page.

Web Server   Application Server

5. The web server sends the output to the browser.

4. The application server processes the page and generates output.

Web Programming Classification

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Web Design

▸ Web designing is used to make layout of web page. Or in other words, It's used to create client-side of the web page.

  ▸ **HTML:** It is used to format web pages with the help of different tags. HTML defines the structure of documents.

  ▸ **CSS:** It is a design language which simplifies the process to make web pages presentable.

  ▸ **JavaScript:** It is a dynamic computer programming language. It implements client-side script to interact with user and make dynamic pages.

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Web Development

▶ Web development is the actual web programming. Used to work with the server side of web page.

   ▶ **PHP:** It's a server scripting language, and a powerful tool for making dynamic and interactive Web pages.

   ▶ **Database (MySQL):** It's a standard language for accessing databases.

URLs & Client-Server Model

▶ Each document/resource on the **WWW** needs to have an identifier in order to be accessed by others.

▪ A **Uniform Resource Locator (URL)** provides means of obtaining the resource by describing its network "location".

URLs & Client-Server Model

- Two things are given by the URL

  - Exact location of the document.

  - The method or protocol by which to retrieve and display the document.

- Example: **http://www.bims.edu.pk/mypages/index.html**

  - http://: Specifies the protocol.

  - www.bims.edu.pk: Specifies the host name / domain name.

  - /mypages/index.html: Specifies the path of the document on the host.

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Website Development

The Website Development Process

▶ There are three layers of a website design process:

- ▶ **Interaction Design:** Part of website design process in which you determine how the user is likely to navigate through the site.

- ▶ **Information Design:** Part of website design process in which you determine the content that will appear on each page.

- ▶ **Presentation Design:** Part of website design process in which you determine how the physical appearance of the site's pages.

Website Design Process

Website Development Careers

▸ Here are some careers in website development:

- ▸ **Web Author:** Person who writes the text that will appear on each web page.

- ▸ **Web Designer:** Person who develops the look and feel of the web site.

- ▸ **Web Developer:** Person who uses programming skills to develop websites.

- ▸ **Webmaster:** Person who manages and maintains websites.

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Home Work

▸ Create groups until next week (Maximum of four students).

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References

- Learning Web Design: A beginner's guide to HTML, CSS, JavaScript, and web graphics

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Questions ...?

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