

WEB PROGRAMMING - HTML, CSS, JS - 1

**TEXAS SKILLS DEVELOPMENT FUND
TRAINING PARTNERSHIP**



Day – 1 Objectives

- 01 | Introduction
- 02 | Web Development
- 03 | HTML 5 Basics
- 04 | Elements and Tags
- 05 | Assignment 1
- 06 | Lab 1



Introduction

- Introduction (90-120 seconds per person)
 - Name and Title
 - Experience with Web Design, HTML
 - Fun Facts about you





Daily Course Structure

- Daily 2 hours from 4 pm to 6 pm
- This is a basic course to get you an Introduction in Web development with HTML, CSS and JavaScript
- On Day 1, we would have a round robin intro – 20 mins
- Basic Course Work/Lecture – 30 minutes
- Interactive Discussion – 30 minutes
- Lab/In class work – 60 minutes
- Break time – 10 minutes (5:00am-5:10am/Flexible)

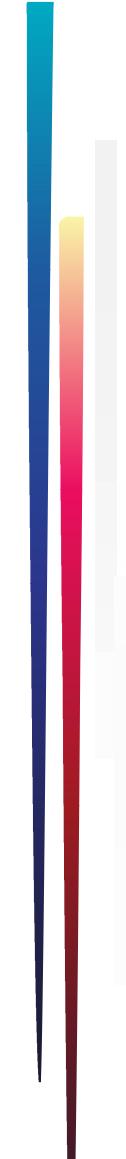
Course Outcome

- Brief History of the Program – Texas Skill Development
- 2020 Program Phase 1
- 2023 – Just kicked off Phase 2
- Setting Expectations
 - Eight days – 2 hours sessions
 - All sessions are recorded, and the recordings are available
 - Attendance to all 8 days is required to obtain the completion certificate
 - Attendance is also critical for the continuous success of the program



Course Outcome

- Understand the basic concepts of Web Development
- Build a web application using HTML, CSS and JavaScript



Course Requirements

Course requirements or prerequisites?

- Laptop with macOs or Windows.
- IDE eg Vscode(Best), Sublime text, Atom, etc.
- No programming experience needed
- Code Editing - VS Code download

<https://code.visualstudio.com/download>

Course Objectives

- To teach developers the basics of using HTML, CSS and JS for web development.

Purpose	Learn the basics of web development using HTML, CSS and Javascript
Audience	Web Developers wanting to learn HTML, CSS, Javascript.
Role	Software Developer - Web Developer
Skill Level	Introduction
Style	Collaborative
Duration	8 Days
Related Technologies	Web Development HTML JavaScript CSS



Course Structure

- Labs: We will have a code example each day to practice the concepts.

IDE / Code Editor

- We will use VS Code - a free, extensible IDE that works on all operating systems.



Types of Web Development

Three main types of web development

- Front-end development - Front-end development is the process of designing, building, and testing the visual part of a web or mobile application
- Back-end development - Includes everything from developing the system's architecture to writing code to support user authentication and data storage
- Full stack development - Full-stack development is the process of developing a web application from start to finish, including the design, development, testing and deployment of all the necessary components



Front End Development

Some common front-end developments

- Designing and developing graphical user interfaces (GUIs)
- Developing and testing web pages using HTML, CSS, and JavaScript
- Developing responsive designs for varying screen sizes
- Building custom animations and 3D effects for websites or applications
- Conducting usability tests to evaluate the effectiveness of a website or application's user interface



Backend Development

- Back-end developers work in close collaboration with front-end developers, who design and create the user interface for a website or app
- Together, they form the entire front-end/back-end development pipeline
- It is also responsible for ensuring that all data is stored securely and accessible by users



The Website Development Process

- Research - Once you've determined what you want your website to look like and what features you need, it's time to do some research.
- Design - After you've gathered your research material, it's time to start designing your website. This phase involves creating a layout, developing graphics and logos, and creating content.



The Website Development Process

- Development - Once the design is finalized, it's time to start coding! This phase involves creating the actual website codebase and working on features such as pages, menus, widgets, etc.
- Testing - Once development is complete, it's time to test the site by loading it with users and checking for any possible errors.

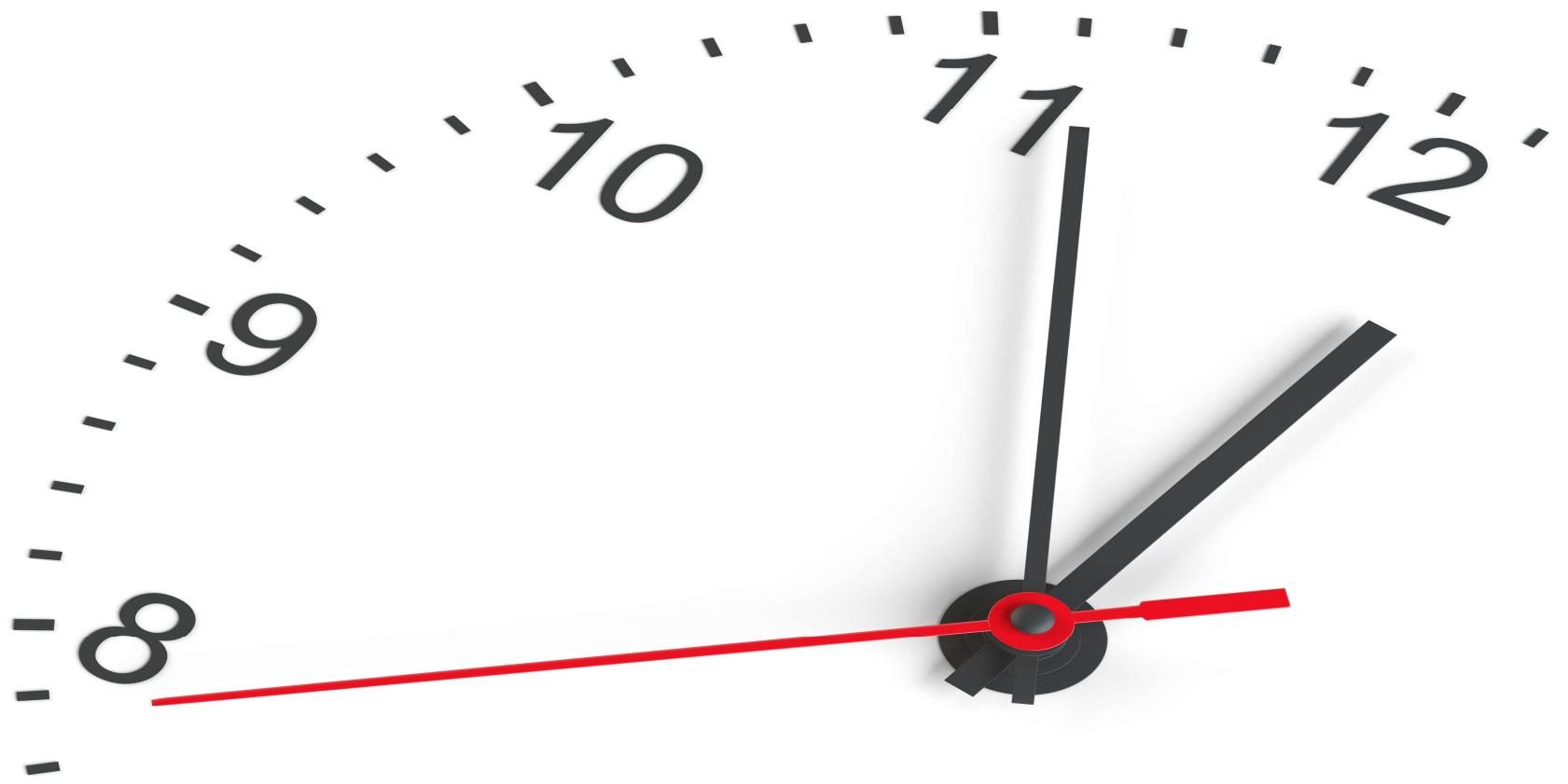


Assignment 1

- Research about front end technologies, what are the main three technologies you liked most and what are three pros and cons of those?
- Talk about the front-end technologies you used in your recent project.
- (If have not used any of the technologies, please do research on it)



Break



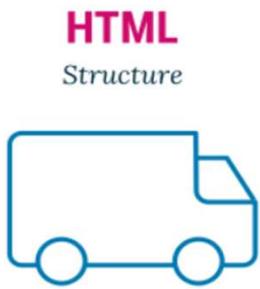


HTML

- Hypertext Markup Language, a standardized system for tagging text files to achieve font, color, graphic, and hyperlink effects on World Wide Web pages.
- HTML is primarily used to develop web pages and web applications that run on web browsers like Chrome, Firefox, and Internet Explorer.
- It provides a structure for web pages that allows browsers to understand and display the content on the page.

Webpage

- What makes a web page?



Separation of Concerns: In computer science, separation of concerns (SoC) is a design principle for separating a computer program into distinct sections, so that each section addresses a separate concern



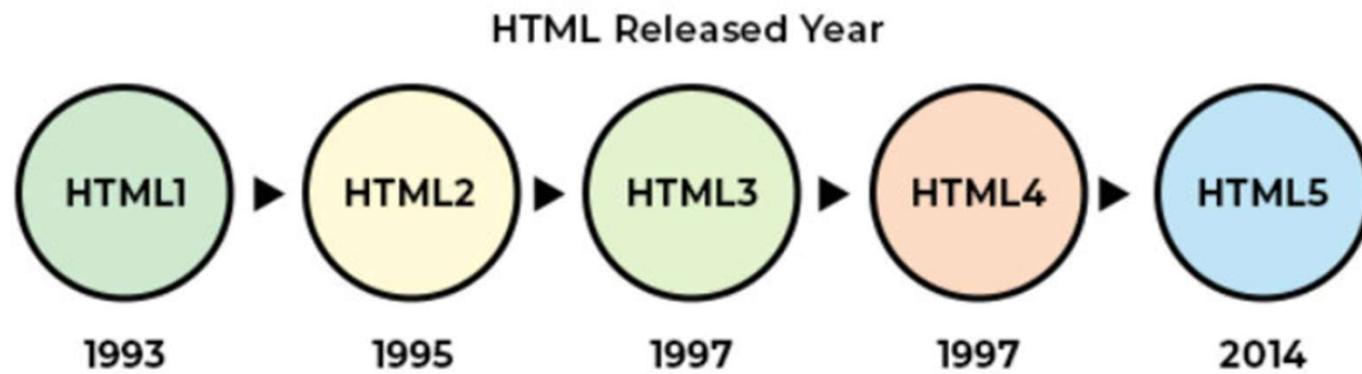
HTML History

- The first version of HTML was written by Tim Berners-Lee in 1993.
- 1995- HTML 2.0 is published. This contains the features of HTML 1.0 plus new features.
- 1997- HTML 3.0 was invented, which improved new features of HTML and gave more powerful characteristics for webmasters in designing websites.
- 1999- The widely-used HTML 4.0 comes out.
- 2014- HTML 5.0 is released and used worldwide. It is said to be the extended version of HTML 4.01

History of HTML

1991	HTML first published	
1995	HTML 2.0	
1997	HTML 3.2	After HTML 4.01 was released, focus shifted to XHTML and its stricter standards.
1999	HTML 4.01	XHTML 2.0 had very strict standards but was abandoned in 2009 in favor of HTML5.
2000	XHTML 1.0	
2002	XHTML 2.0	
2009		
2012	HTML5	HTML5 is much more tolerant and can handle markup from all the prior versions. A working draft was released in 2012 and it is scheduled to be finalized by the end of 2014.
2014	HTML5.1	HTML5.1 is currently under development and expected to be finalized in late 2016.

History of HTML





What is HTML5?

- HTML5 is the newest version of HTML, only recently gaining partial support by the makers of web browsers.
- It incorporates all features from earlier versions of HTML, including the stricter XHTML.
- It adds a diverse set of new tools for the web developer to use.



Goals of HTML5

- Support all existing web pages. With HTML5, there is no requirement to go back and revise older websites.
- Reduce the need for external plugins and scripts to show website content.
- Improve the semantic definition (i.e. meaning and purpose) of page elements.
- Make the rendering of web content universal and independent of the device being used.
- Handle web documents errors in a better and more consistent fashion.

New Elements in HTML5

<article>	<figcaption>	<progress>
<aside>	<footer>	<section>
<audio>	<header>	<source>
<canvas>	<hgroup>	<svg>
<datalist>	<mark>	<time>
<figure>	<nav>	<video>

These are just some of the new elements introduced in HTML5. We will be exploring these during this course.



Other New Features in HTML5

- Built-in audio and video support (without plugins)
- Enhanced form controls and attributes
- The Canvas (a way to draw directly on a web page)
- Drag and Drop functionality
- Support for CSS3 (the newer and more powerful version of CSS)
- More advanced features for web developers, such as data storage and offline applications.

Sample HTML document

- <!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>



HTML Document

- DOCTYPE declaration: Indicates the document type as HTML.
- <html> tag: The root element, signifying the start of the HTML document.
- <head> tag: Contains metadata like the title of the page, which is displayed in the browser tab.
- <title> tag: Defines the title of the webpage.
- <body> tag: Contains the visible content that appears on the webpage



HTML Document

The basic structure of an HTML document has four parts

- The document type `<!DOCTYPE ...>`,
- The HTML section `<html>...</html>`
- within the HTML section, the head `<head>...</head>`
- followed by the body `<body>...</body>`



The <head> Section

Here is a typical XHTML <head> section:

```
<head>
  <meta http-equiv="content-type"
content="text/html; charset=utf-8" />
  <title>My First XHTML Page</title>
  <link rel="stylesheet" type="text/css"
href="style.css" />
</head>
```

And the HTML5 version:

```
<head>
  <meta charset="utf-8">
  <title>My First HTML5 Page</title>
</head>
```

Basic HTML5 Web Page

Putting the prior sections together, and now adding the <body> section and closing tags, we have our first complete web page in HTML5:

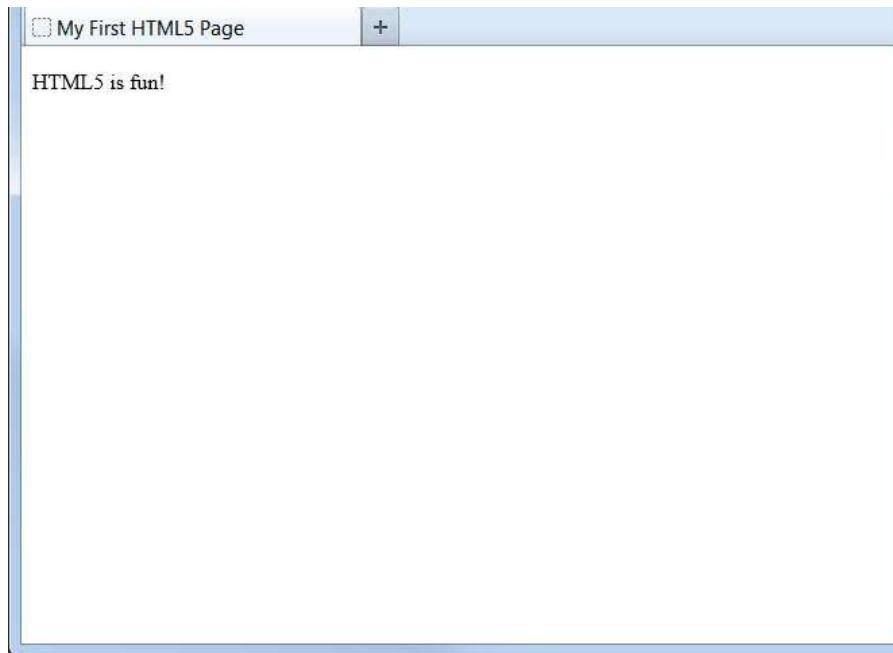
```
<!DOCTYPE html>
<html lang="en">

    <head>
        <meta charset="utf-8">
        <title>My First HTML5 Page</title>
    </head>

    <body>
        <p>HTML5 is fun!</p>
    </body>

</html>
```

Viewing the HTML5 Web Page



Even though we used HTML5, the page looks exactly the same in a web browser as it would in XHTML. Without looking at the source code, web visitors will not know which version of HTML the page is in.



HTML tag

The `<html>` tag

- The `<html>...</html>` element is simply the container for the HTML content of the document everything apart from the `<!DOCTYPE ...>` is contained in the `<html>` element.



head tag

The `<head>` tag

- The `<head>...</head>` element holds the page title, the `<title>...</title>` element is required in HTML documents and is the title of the web page displayed in the browser tab. It also holds scripts, metadata (information about the web page used by search engines) and links to other external files (such as CSS files).

<body>

The <body> tag

- The <body>...</body> element holds everything that is displayed on the web page (headings, text, links, images &c.).



HTML Headings

All 6 HTML headings

Heading 1

Heading 2

Heading 3

Heading 4

Heading 5

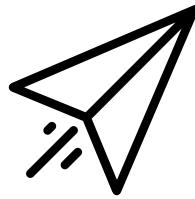
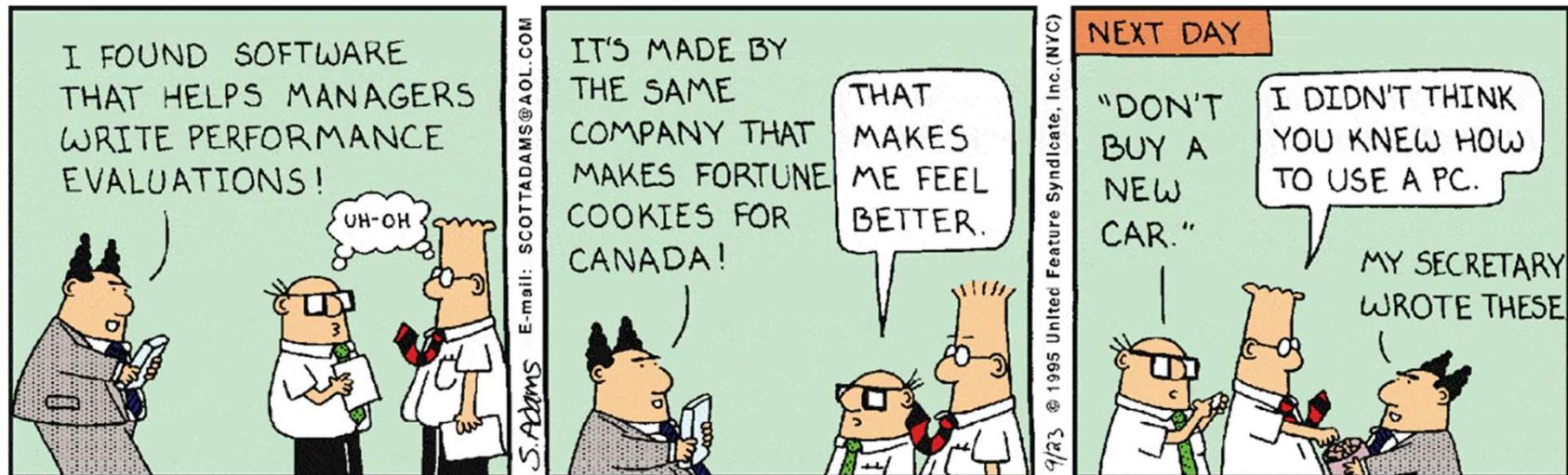
Heading 6



Lab 1

- Create an html page with multiple headings.

End of Day 1



For any questions or clarifications
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