CSE4500 – Platform Computing

Project1 - Physics Projectile App

(Accompanying Lecture Video: https://www.youtube.com/watch?v=oId3lPZpPv4)

Introduction

The history of HTML dates to 1980s when Tim Berners-Lee started development of a system for sharing documents among fellow physicists. The first HTML specifications were proposed in 1991 by Sir Berners-Lee, when HTML was competing with several other communication protocols on the Internet such as gopher. There was a time when it was believed that HTML 4.01 would be the last version of HTML, which would make way for XHTML1.1. Yet here we are studying HTML5.

In this project, we are going to review some of the basic HTML5 syntax and create simple static web pages. We will discuss and demonstrate how to upload these web pages to a web server. We will view these web pages through all the key browsers on desktop/notebook computers as well as mobile devices.

Together, we will explore the basics of HTML and create the following page.

Instructions *(Watch the accompanying video to hear an explanation of what the HTML code is doing.)*

1. Download Visual Studio code:
   a. Use this link: https://code.visualstudio.com/
   b. It is available for both Mac and PC.
2. Create a folder on your computer called *CSE4500Projects*.
   a. Within it, create a folder called *Project1.*
3. Open the folder *Project1* using Visual Studio Code.
4. Install an extension called *Live Server.* This will give you a helpful tool called the 'Go Live' button.
5. **How to Create a Simple HTML5 Web Page:**
   a. Create a new file called *Project1.html.*
   b. Inside of the newly made html document, put your insertion point in the middle, and press 'Shift+1+Enter. This will create a basic HTML template.

```
Get Started        Project1.html ●
Project1.html > html > head > meta
 1    <!DOCTYPE html>
 2    <html lang="en">
 3    <head>
 4        <meta charset="UTF-8">
 5        <meta http-equiv="X-UA-Compatible" content="IE=edge">
 6        <meta name="viewport" content="width=device-width, initial-scale=1.0">
 7        <title>Document</title>
 8    </head>
 9    <body>
10
11    </body>
12    </html>
```

   c. You can press the 'Go Live' button to see the web page that it creates. This page will open on Google Chrome and will refresh automatically. When you are finished 'going live'. You can click the 'Port: 5500' button to stop the web page.
   d. I prefer to put both the live window and VSC on the same monitor and watch the updates occur as you press 'Ctrl+S' (save).
      i. If you do this, I recommend, turning on Word Wrap on VSC.
   e. Add this starting code:

```html
<!DOCTYPE html>
<html>

<head>
  <title>Physics Application</title>
</head>

<body>
  <h1>Projectiles</h1>

  <p>In 1600s, armies used equations of motions to calculate
    velocities and angle for firing a missile to hit
    a target. While a quarterback does not do explicit
```

```
    calculations using equations of motion, a computerized
    football game will certainly need to do these calculations.
    <br> We will use the metric notations that are favored
    for all scientific and engineering calculations
    <br>
    <br> The following abbreviations will be used:
  </p>

  meters, m
  <br> kilometers, km: 1000 meters make up a kilometer
  <br> meters per second, m/s: units for measuring distance
  <br> meters per second squared, m/s
  <sup>2</sup>: units for measuring acceleration
  <br>

  <p>
    The following physics notation will be used:
  </p>

  Initial velocity, u
  <br> Final velocity, v
  <br> Acceleration, a
  <br> Time, t
  <br> Distance, s
  <br>

  <p>Therefore, some of the useful equations of motion
    for us are:
  </p>

  a = (v - u) / t, which can be arranged to get the following
  equation
  <br> t = (v - u) / a, which can be further arranged as
  <br> v = u + a * t
  <br> s = u * t + 0.5 * a * t<sup>2</sup> , another useful
  equation of motion
  <br>

</body>

</html>
```

f. Follow the steps in the accompanying lecture video in order to finish Project1 (https://www.youtube.com/watch?v=oId3lPZpPv4). You will modify the code to complete the following:
    i.   Add an unordered list.
    ii. Add an ordered list.
    iii. Add a table.
    iv. Add formatting through Cascading Style Sheets.
    v.   Add an image.
    vi. Add a video.

Lab Report

Use the 'Lab Report Template' found on Blackboard/Canvas. Your lab report must contain the following:

- Report:
    - What is HTML and what does it stand for?
    - What do the various different tags do?
        - <Head>
        - <Body>
        - <h1> to <h6>
        - <p>
        -
    - Explain the process of adding a web app to the internet.
    - Explain the process of adding an unordered list. An ordered list.
    - Explain the process of adding a table.
    - Explain the process of adding formatting through Cascading Style Sheets.
    - Explain the process of adding an image or a video.
- Source Code:
    - Project1.html
    - Project1.css
- Screenshot:
    - Screenshot of your finished Project1.