Interactive Web Development

Pelin Mutanguha

Course Outline

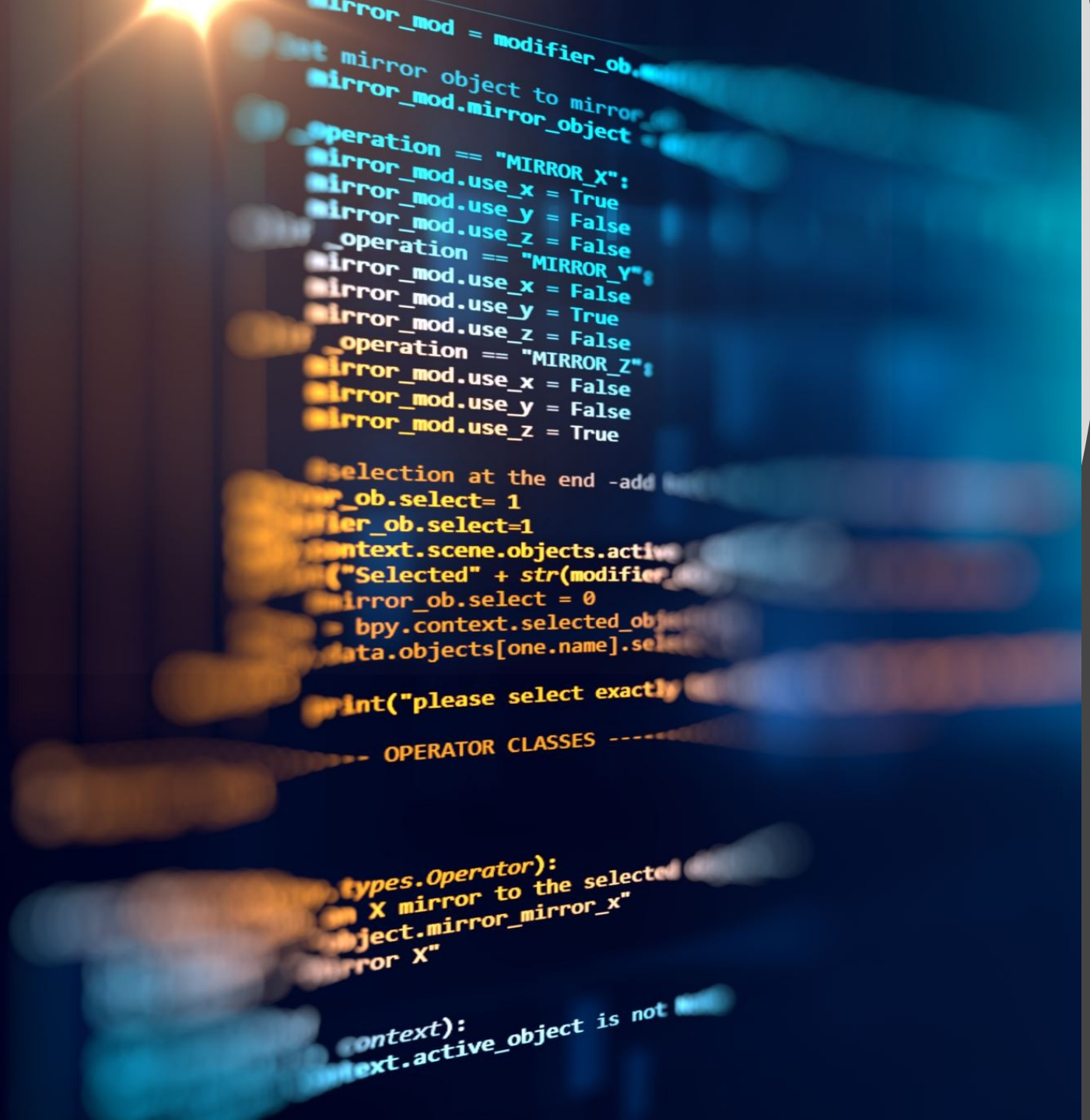
Part 1 : Front End

- Web Structuring with HTML
- Web Styling with CSS
- Dynamic Client-side Scripting with JavaScript
- Bootstrap fundamentals
- ***UI/UX Design***

Part 2: Back End

- Python Fundamentals
- Django Framework

- Deployment



PART 1: HTML

HyperText Markup Language

HTML (Hypertext Markup Language)

- It is a markup language that tells web browsers how to structure the web pages you visit.
- HTML consists of a series of elements enclosed in tags
- Example:
  - <title><title>, , <section></section>
- ***Note***: Tags in HTML are case-insensitive.

Anatomy of an HTML element

- Attributes: contain extra information about the element that won't appear in the content.
  - Eg:
- Nested Elements:
  - Elements can be placed within other elements. This is called nesting
- Block versus inline elements
  - A **block-level element** appears on a new line following the content that precedes it.
    - Eg: , <h1>
  - An **inline element** will not cause a new line to appear in the document
    - Eg: ,

HTML Structure

- Head
  - title
  - Meta
  - link
- Body

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>My test page</title>
  </head>
  <body>
    <p>This is my page</p>
  </body>
</html>
```

Environment Setup

- Editors:
  - VS code: https://code.visualstudio.com/
  - Sublime Text: https://www.sublimetext.com/
  - Atom: https://atom.io/
- IDE:
  - WebStorm: https://www.jetbrains.com/webstorm/

- VS Code Extensions:
  - Html CSS support
  - Html snippets
  - Live server
  - Prettier
- Version Control System
  - Git: https://git-scm.com/


Coding Demo

HTML Text

- Headings (h1….h6)
- Paragraphs
- Lists
  - Ordered (ol)
  - Unordered (ul)
  - Definition list (dl)
  - Nested List
- Emphasis and Importance (em, strong, bold, I, u,..)


Coding Demo

Hyperlinks

- Hyperlinks allow us to link documents to other documents or resources, link to specific parts of documents, or make apps available at a we
- Anatomy of links

```
<p>I'm creating a link to
<a href="https://www.mozilla.org/en-US/">the Mozilla homepage</a>.
</p>
```

- Types links:
  - Internal links, External links and bookmarks
- "target " Link attributes: The target attribute specifies where to open the linked document
- Absolute URLs vs. Relative URLs
- Any web content can be converted into links (images are most used)Absolute URLs vs. Relative URLs


Coding Demo

Semantic Web

- HTML elements for semantic web
- <main>
- <article>
- <section>
- <aside>
- <header>
- <nav>
- <footer>


Coding Demo

HTML multimedia

- Images in HTML
  - <img>, <figure>
- Video and audio Content
  - <audio>, <video>
- Embedding tags
  - <iframe>, <embed>, <object>

HTML Tables

- HTML tables allow web developers to arrange data into rows and columns.
- The <table> tag defines an HTML table.
- Each table row is defined with a <tr> tag. Each table header is defined with a <th> tag. Each table data/cell is defined with a <td> tag.
- By default, the text in <th> elements are bold and centered.
- By default, the text in <td> elements are regular and left-aligned.
- Spans: used To make a cell span more than one row/column
  - Rowspan
  - Colspan
- It's also possible to nest tables

```
<table style="width:100%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
</table>
```


Coding Demo

HTML Forms

- The HTML <form> element is used to create an HTML form for user input:
- The <form> element is a container for different types of input elements
- The HTML <input> element is the most used form element.

Type	Description
<input type="text">	Displays a single-line text input field
<input type="radio">	Displays a radio button (for selecting one of many choices)
<input type="checkbox">	Displays a checkbox (for selecting zero or more of many choices)
<input type="submit">	Displays a submit button (for submitting the form)
<input type="button">	Displays a clickable button

```
<form>
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" name="fname"><br>
  <label for="lname">Last name:</label><br>
  <input type="text" id="lname" name="lname">
</form>
```


Coding Demo

Questions?

References

- https://developer.mozilla.org/en-US/docs/Learn/HTML
- https://www.w3schools.com/html/default.asp