Ryerson University
Faculty of Engineering & Architectural Science

Department of Mechanical and Industrial Engineering

Program: Mechanical Engineering

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Instructor	Dr. Ghassem Tofighi

Report NO.	5

Report Title	HTML

Group No.	N/A
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HTML Code of LAB5

Snip of the section of the code focused for LAB_5.

```
<div class="container my-container border rounded">
    <div class="row my-row">
        <h2 class="headings" id="LAB_5"><b>LAB_5</b></h2>
    </div>
    <div class="row">
        <div class="col" id="lab_json">
            <b>Loading content as JSON object used from the LAB_5 manual.
                <br>Later, the following content will be
                changed to reflect to developers profile.</b><br>
            <script type="text/javascript">
                $.ajax({
                    type: "GET",
                    url: "external.json",
                    success: function (response) {
                        // console.log(response);
                        $("#lab_json").append(
                            "<br><img src=" + response.imageURL + " /><br>" +
                            "<br><b>Name: </b>" + response.name +
                            "<br><b>Year: </b>" + response.year +
                            "<br><b>Engine: </b>" +
                            "<br>  Type: " + response.engine.type +
                            "<br>  Size: " + response.engine.size +
                            "<br>  Configuration: " + response.engine.configuration +
                            "<br><b>Brakes: </b>" +
                            "<br>  Front: " + response.brakes.front +
                            "<br>  Back: " + response.brakes.Back)
                    }
                })
            </script>
        </div>
    </div>
</div>
```

GitHub Link to HTML page

https://fareedsyed31.github.io/LAB5/LAB5_Fareed_Syed.html
https://github.com/FareedSyed31/FareedSyed31.github.io/tree/main/LAB5

HTML Tags and Usage

The following HTML tags were used in writing the HTML code for LAB1.

1. **<!DOCTYPE>:** This was used to let the browser know what version of HTML doc is written.
2. **<html>:** This tag was used to set a container for other elements to be used in HTML documents.
3. **<head>:** This tag was used to define the head portion of the document containing info of HTML doc.
4. **<meta>:** This tag was used to set the info about the website for search engines.
5. **<body>:** This tag was used to define the main content of the HTML doc to display on the web browser.
6. <**style>:**This tag was used to set the font size and color of text on the HTML web page.
7. ** :** This tag was used to make divisions of content in the web page like (text, image, etc)
8. **<h1> :** This tag was used to set the name of the developer on the web page as Heading 1.
9. **<h2> :** This tag was used to set the profile and work experience on the web page as Heading 2.
10. **<img>:** This tag was used to set the image on the web page and edit the size of the image used.
11. **<p>:** This tag was used to create a paragraph of text in the body of the HTML code.
12. **<a>:** This tag was used to define the hyperlinks used to link from one page to another page.
13. **<b>:** This tag was used to bold the text within the tag range.
14. **
:** This tag was used to break the text to a new line within the paragraph of text.
15. **<ul>:** This tag was used to create an unordered list within the <h2> tag used for work experience.
16. **<li>:** This tag used to to create lists within the unordered list to specify details of work experience.
17. **<script>:** This tag was used to embed a client-side script (JavaScript).

CSS Features

The following CSS features have been used as Globals CSS class inside the <style> tag in HTML code.

```
body {
   font-family: SansSerif;
   text-align: justify;
   padding: 10px;
   margin: auto;
   background-color: #e2e6ea
}
.profile {
   background-color: #e2e6ea;
   padding: 10px;
}
table {
   border-collapse: collapse;
}
.headings {
   color: #0080FFFF;
   font-size: 1.5em;
   font-weight: bolder;
   text-align: left;
}
.dates {
   text-align: right;
}
.my-container {
   background-color: white;
   border: 100px black;
   align-content: center;
   justify-content: center;
   gap: 5px;
}
.my-col {
   padding: 1rem;
   background-color: white;
   border: 2px white;
}
.my-row{
   padding: 10px;
}
.circular--landscape {
   display: inline-block;
   position: relative;
   width: 200px;
   height: 200px;
   overflow: hidden;
   border-radius: 50%;
}
.circular--landscape img {
   width: auto;
   height: 100%;
   margin-left: -50px;
}
```

Consumption and Parsing of JSON

The JSON object provided by the Professor in the LAB_5 manual was loaded as an external text file. This external.json file was called inside the HTML page with the help of AJAX calls using JQuery. The content from the object was loaded by parsing the information in the format of 'key':'value' pairs. The extracted info was placed successfully inside the bootstrap grid just like other information found on developers webpage.

Web Browsers Used

The web browsers used during this Lab were Google Chrome and IntelliJ IDEA built in preview web browsers. When a web page is loaded, the browser first reads the HTML text and constructs a DOM Tree from it. Then it processes the CSS whether that is inline, embedded, or external CSS and constructs the CSSOM Tree from it. After these trees are constructed, then it constructs the Render-Tree from it. Different browsers use different rendering engines: Internet Explorer uses Trident, Firefox uses Gecko, Safari uses WebKit. Chrome and Opera (from version 15) use Blink, a fork of WebKit.

JQuery vs JavaScript using AJAX and Navigating through DOM

Sometimes we hear such familiar terms like JavaScript, JQuery, Ajax. They seem to be similar in some ways. Nevertheless, there are some fundamental differences between these three terminologies. A web developer at some point of time, always asks this question to himself, what should I code in: jQuery or JavaScript? A few beginner web developers want to know the exact difference between the two. JQuery and JavaScript are actually the same. JQuery is a group of JavaScript libraries designed for DOM operations in HTML pages such as animation, event handling, traversing and Ajax interactions. A strong hold on JavaScript is necessary to use either of the two scripting languages. Therefore, in case you have just started out, please get a basic understanding of JavaScript. JavaScript is a scripting language used to make web pages more dynamic and have increased user interactions. JQuery is a fast, small, and feature-rich JavaScript library. It handles all cross-browser issues itself. jQuery is also called a framework of JavaScript. Doing HTML DOM (document object model) traversal, manipulation, animation, event handling, and Ajax has become so simple using jQuery. Also, it makes the same code work uniformly also across all web browsers. Write less do more is the motto of jQuery. JQuery is very simple to grasp and even easier to use, therefore its learning curve is very small. There are a couple of other JavaScript based libraries for example, MooTools, but jQuery is the most popular because it is so easy to use and extremely powerful.

Conclusion

Total time spent on this LAB was around 2-3 hours. 1 hour was dedicated to readings, researching and learning using the Module5, Stack Overflow and blog posts. And the rest of the time was spent in writing the code. Majority of the text information and images used were taken from developers personal LinkedIn. Another 30 minutes was spent on debugging the code to make sure the HTML web page validated for HTML5 and CSS3 compliance. Approximately 45 Minutes were spent on writing the report for this LAB. Over all the Lab was a successful and fun learning experience.

References

Ashish, “JavaScript or jQuery: which one should I use?,” *Medium Ashish*, 29-Oct-2015. [Online]. Available: https://medium.com/@ashish_fagna/javascript-or-jquery-which-one-should-i-use-c4574fb00281. [Accessed: 30-Oct-2021].