



**A TECHNICAL REPORT**

**ON**

**STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)**

**UNDERTAKEN AT**

**JUSTWEB INSTITUTE OF TECHNOLOGY**

**OGBA-IKEJA, LAGOS STATE**

**BY**

**WAHAB, FATIMAT YEWANDE**

**MATRIC NO: (EES/18/19/0576)**

**SUBMITTED TO**

**DEPARTMENT OF COMPUTER ENGINEERING**

**FACULTY OF ENGINEERING**

**IBOGUN, IFO, OGUN STATE, NIGERIA.**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD  
OF BACHELOR OF ENGINEERING IN COMPUTER ENGINEERING**

**13/09/2021 -**

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**13/09/2021– 13/02/2022**

## **CERTIFICATION**

This is to certify that the Student Industrial Work Experience Scheme (SIWES) and technical report was carried out and written respectively by WAHAB, FATIMAT YEWANDE with Matric No: EES/18/19/0576 of Computer Engineering Department, Faculty of Engineering, Olabisi Onabanjo University, Ago-Iwoye, Ogun state.

---

Dr. Lawal  
SIWES Coordinator

---

Engr. Abolade  
Head of Department

## **DEDICATION**

This report is dedicated to God Almighty for His special grace and favour upon my life.

I would also love to dedicate it to my Mom, siblings and to everyone who made this SIWES programme a successful one.

## **ACKNOWLEDGEMENT**

Firstly, I give thanks to Almighty God for the journey so far.

I appreciate my Mom, my siblings for their love and encouragement, my aunties, and my cousins

I also want to specially say a big thank you to the Opanugas (Mrs. R.A Opanuga, Mr. O.M Opanuga, Mr. Adekunle Opanuga, Mr. O.A Opanuga and Miss O.R Opanuga), thank you all for the love, support and sponsorship.

My regards to Mr. Rasheed Ashimolowo (CEO JUSTWEB TECHNOLOGY) for those lifting words and for His professionalism while putting me through the trainings.

I will also love to appreciate the staffs (Miss Nancy, Master Chibuike, Master Israel and other colleagues) of JUSTWEB TECHNOLOGY who took me through rigorous trainings and teachings, thank you all.

Lastly, I want say a big thank you to every member of MFMCF OOUIBOGUN for the love and care.

## **ABSTRACT**

This report presents the experience I gained during my period of Student Industrial Work Experience Scheme at JustWeb Technology, Ogba Bus-stop, Lagos State.

My Training was on Web Design.

I acquired practical knowledge on how to design a website and a web-based graphics editing and user interface app known as FIGMA

This report discusses the technical skills gained during the training period and justify the relevance of the scheme in equipping student with technical skills needed with competence to thrive in the real world.

## **TABLE OF CONTENT**

<b>TITLE PAGE</b>	<b>i</b>
<b>CERTIFICATION</b>	<b>ii</b>
<b>DEDICATION</b>	<b>iii</b>
<b>ACKNOWLEDGEMENT</b>	<b>iv</b>
<b>ABSTRACT</b>	<b>v</b>
<b>TABLE OF CONTENTS</b>	<b>vi</b>

### **CHAPTER ONE**

<b>Introduction</b>	<b>1</b>
1.0 Purpose of Training	1
1.1 Vision Statement	1
1.2 Mission Statement	1
1.3 Aims and Objectives of SIWES	2
1.4 Benefits of SIWES	3
1.5 Description of the establishment of attachment	3
1.6 Mission and vision of JustWeb	4
1.7 JUSTWEB Focus Area	4
1.8 Company's Organogram	4

### **CHAPTER TWO**

<b>Industrial Experience</b>	<b>5</b>
2.0 Web design department	5
2.1 Definition of terms	5
2.2 HTML and its properties	6
2.3 CSS and its properties	7
2.3.1 Designs using HTML and CSS	8

2.4	JavaScript and its properties	10
2.4.1	Design using HTML, CSS and JavaScript	11
2.5	FIGMA and its properties	15
2.5.1	Designs Using FIGMA	16
2.6	Bootstrap	17
2.6.1	Designs using Bootstrap	18
2.7	API (Weather APIs and Google Map API)	19
2.8	React and its properties	22
<b>CHAPTER THREE</b>		<b>23</b>
<b>Skills acquired and challenges encountered</b>		<b>23</b>
3.0	Technical skills acquired	23
3.1	Social and functional skills acquired	23
3.2	Personal impact on the company	23
3.3	Challenges encountered	23
<b>CHAPTER FOUR</b>		
<b>Conclusion and recommendation</b>		<b>24</b>
4.0	CONCLUSION	24
4.1	RECOMMENDATION	24
<b>REFERENCES</b>		<b>25</b>



## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Purpose of Training**

The **Student Industrial Work Experience Scheme (SIWES)**, also known as **Industrial Training** is a yearly programme designed by the institution in collaboration with the industries to give student opportunities to gain practical working experience scheme, to expose and prepare students of Nigerian Universities, Polytechnics, Colleges in their various field or area of specialization.

Before the establishment of the scheme, there was a growing concern among industrialists, that graduates of institutions of higher learning lacked adequate practical background studies preparatory for employment in industries, the need for technical know-how in the field of Engineering cannot be over-emphasized, as the acquisition of practical knowledge is required in all Engineering establishments.

Thus, employers were of the opinion that the theoretical education in higher institutions wasn't responsive to the needs of the employers of labour.

SIWES introduction, initiation and design was done by the Industrial Training Fund (I.T.F) in 1993 to acquaint students with the skills of handling employer's equipment and machinery.

The Industrial Training Fund (I.T.F) solely funded the scheme during its formative years. However, due to financial constraints, the fund withdrew from the scheme in 1978.

The Federal Government, noting the significance of the skills training handed the management of the scheme to both the National Universities Commission (N.U.C) and the National Board for Technical Education (N.B.T.E) in 1979.

The management and implementation of the scheme was however reverted to the I.T.F by the Federal Government in November, 1984 and the administration was effectively taken over by the Industrial Training Fund in July 1985, with the funding solely borne by the Federal Government.

#### **1.1 Vision Statement**

To be the prime skills training development organization in Nigeria and one of the best in the world.

#### **1.2 Mission Statement**

To set and regulate standards and offer direct training intervention in industrial and commercial skills training and development

### **1.3 Aims and Objectives of SIWES**

The effort is aimed at helping/training students in the Nigerian tertiary institutions the practical aspect of their field of study by exposing students to machines and equipment, professional work methods and ways of safeguarding the work areas and workers in industries and other organizations.

The Industrial Training Fund initiated S.I.W.E.S in 1971 with the following aims:

To give students a preview of the working environment and its expectations.

1. The acquisitions of industrial skills and experience.
2. Prepare students for industrial work situations that they are likely to meet after graduation.
3. To widen the scope of knowledge through the interaction with professionals from similar and dissimilar fields.
4. To widen the students' knowledge acquired in the school to work environment to the actual industrial practice.
5. To make room for easy transition from school to work environment and enhance students' contracts for later job placement.
6. To motivate students for future challenges so as to compare brilliantly in the labour market after graduation.
7. Students learn how to apply the latest technology in their professional.
8. It enhances students in the fundamental and basic knowledge needed in inspection, installation, maintenance, operations and processes, designing, constructions, fabrication and repairs of industrial equipment.

## **1.4 Benefits of SIWES**

Experts identified industrial experience as necessity for proper job preparation. This is because is because productivity is enhanced by graduate or new entrance into the world of work really needs and early exposure to the value and skills of the industry. Therefore, without appropriate skills and experience young graduates are not properly trained on work, norms and the role behavior among others, these components will ensure success at the job.

Today, Information and Communication Technology (ICT) is changing the way many jobs are performed, thus altering the knowledge and the skills required of workers. Consequently, a new level of competency is required of our students. This cannot be sufficiently met by training facilities in our education institutions hence, the need for collaborative effort between institution and industrial sector.

The major benefits accruing to student who participate conscientiously in industrial training are the skills and competencies they require. These relevant production skills remain a part of the recipient of industrial training as lifelong assets which cannot be taken away from them. This is because the knowledge and the skills acquired through training are internalized and become relevant to perform jobs or functions. Several other benefits can accrue to student who participate in industrial training.

Provision of an enabling environment where student can develop and enhance personal attributes such as critical thinking, creativity, initiative, resourcefulness, leadership, time management, presentation skills and interpersonal skills among others

## **1.5 Description of Establishment of attachment.**

JustWeb Technology is web development institute and IT firm, which designs, develops, manages and maintain websites and applications, the company has gained ample experience in the services such as; Custom Software Development, E-commerce Solutions Development, E-learning solutions Development, Web development, Legacy Applications Reconstruction, Project Recovery, Consulting, Quality Assurance.

JustWeb designs a user-friendly, quality and affordable web-design based on international development standards which include: website design HTML5, website development, jQuery framework, CSS3, C#, PHP, JAVA, JAVASCRIPT, JSON, MICROSOFT SQL SERVER DATABASE etc.

## 1.6 Vision and Mission

The Mission of JustWeb is to discover the potential of mankind and utilize them for productivity.

## 1.7 JustWeb Focus Area

- Website Development
- Software Development
- Branding
- Domain Registration
- Digital Marketing
- E-commerce Solution
- Training
- Business Intelligence
- IT Support

## 1.8 Company's Organogram

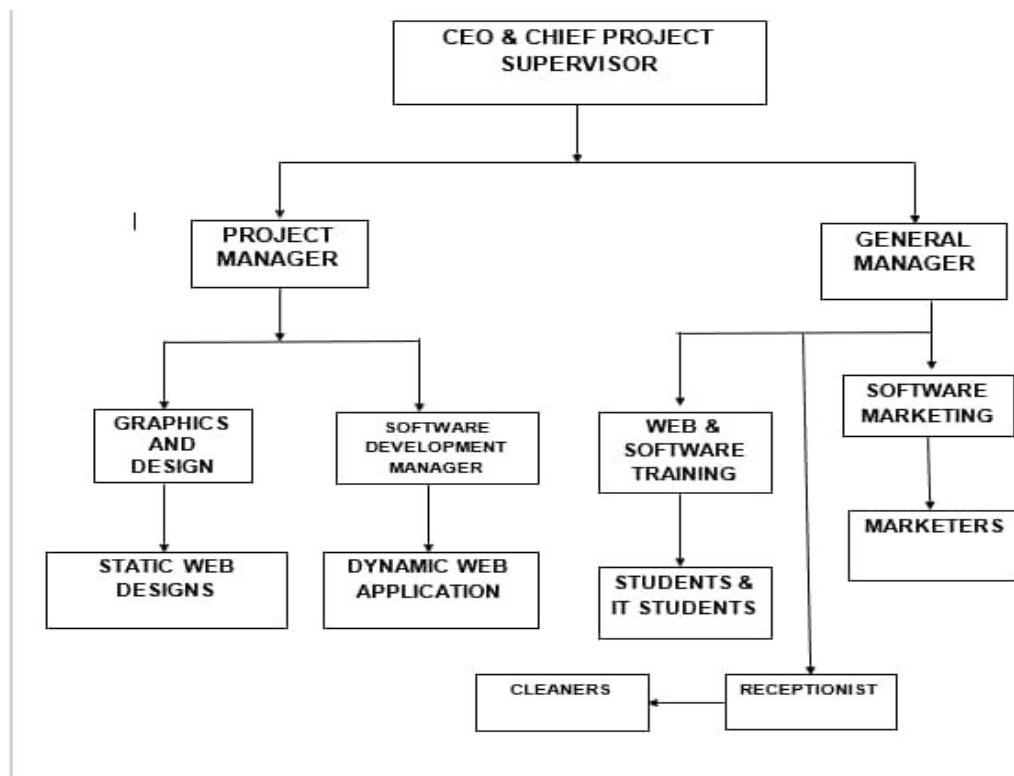


Fig 1.1 – The Company's Organogram

## CHAPTER TWO

## **INDUSTRIAL EXPERIENCE**

### **2.0 WEB DESIGN**

JustWeb is all about web design, I had little or no idea about web development. I got grounded and expose to the website world especially the design of website from scratch.

### **2.1 DEFINITION OF TERMS**

The following are terms commonly use:

#### **WEBSITE**

Website is a set or group of World Wide Web pages under a single domain usually containing hyperlinks to each other and made available online by individual, company, educational institution, government, or organization.

#### **WEBPAGE**

A webpage is a document, typically written in plain text interspersed with formatting instruction of hypertext markup language (HTML, XHTML). A webpage may incorporate elements from other websites with suitable anchors. Webpages are accessed and transported with the Hypertext Transfer Protocol (HTTP), which may occasionally employ encryption (HTTP secure, HTTPS) to provide security and privacy for the use of the webpage content. The user's application often a web browser renders the page content according to its HTML mark-up instruction display terminal.

#### **HTTP**

HTTP stands for Hyper Text Transfer Protocol which is the set of rules for transferring file (text, graphic, image, sound, video and other multimedia files) on the World Wide Web.

#### **URL**

This stands for Uniform Resource Locator, it provides a way to locate a resource on the web, the hypertext system that operates over the internet.

## 2.2 HTML AND ITS PROPERTIES

### 2.2.1 What is HTML?

HTML is the standard markup language for creating Web pages. It stands for Hyper Text Markup Language which describes the structure of a Web page. HTML consists of a series of elements; these element tells the browser how to display the content. HTML elements are represented by tags, the tags label pieces of content such as "heading", "paragraph", "table", and so on. Browsers do not display the HTML tags, but use them to render the content of the page.

#### Example Explained

- The `<!DOCTYPE html>` declaration defines this document to be HTML5
- The `<html>` element is the root element of an HTML page
- The `<head>` element contains meta information about the document
- The `<title>` element specifies a title for the document
- The `<body>` element contains the visible page content
- The `<h1>` element defines a large heading
- The `<p>` element defines a paragraph.

### 2.2.2 HTML Page Structure

Below is a visualization of an HTML page structure:

```
<html>

<head>

<title>Page title</title>

</head>

<body>

<h1>This is a heading</h1>

<p>This is a paragraph. </p>

<p>This is another paragraph. </p>

</body>

</html>
```

## 2.3 CSS AND ITS PROPERTIES

### 2.3.1 What is CSS?

CSS stands for **Cascading Style Sheets**, it is the language for describing the presentation of Web pages, including colors, layout and fonts. CSS describes how HTML elements are to be displayed on screen, paper, or in other media. CSS saves a lot of work. It can control the layout of multiple web pages all at once. External stylesheets are stored in CSS files.

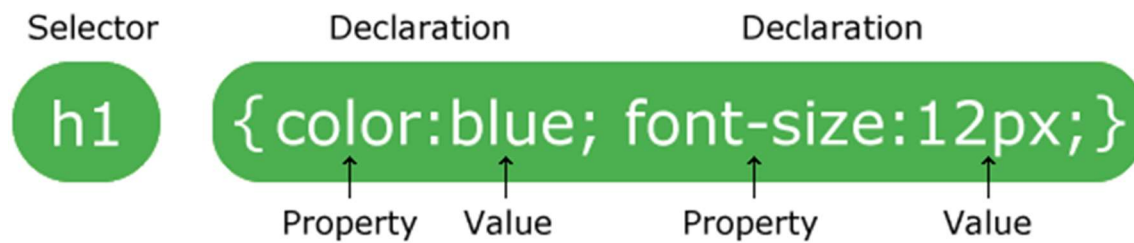
CSS is used to define styles for your web pages, including the design, layout and variations in display for different devices and screen sizes.

### 2.3.2 METHODS USED BY CSS IN FORMATTING HTML DOCUMENT

1. **Inline Style:** It is used to apply a unique style to a single HTML element. An inline CSS use the style attribute of an HTML element.
2. **Embedded/ Internal Style:** It is used if one single page has a unique style. Internal styles are defined within the `<style>` element inside the `<head>` section of an HTML page.
3. **External Style:** With an external style sheet, you can change the look of the entire website by changing just one file. Each page must include a reference to the external style sheet file inside the `<link>` element. The `<link>` element goes inside the `<head>` section. Also when using external CSS it is preferable to keep the CSS separate from your HTML. Placing CSS in a separate file allows the web designer to completely differentiate between content (HTML) and design (CSS). External CSS is a file that contains only CSS code and it is saved with a “.css” file extension. This CSS is then referenced in HTML using `<link>` instead of `<style>` as earlier said.

### 2.3.3 CSS SELECTOR

A CSS rule-set consists of a selector and a declaration block:



The selector points to the HTML element you want to style, such as Element, ID or class of an element

The declaration block contains one or more declarations separated by semicolons.

Each declaration includes a CSS property name and a value, separated by a colon.

A CSS declaration always ends with a semicolon, and declaration blocks are surrounded by curly braces.

### 2.3.4 DESIGN USING HTML AND CSS PROPERTIES

The images below are codes using Microsoft Virtual Studio editor with the output on a Google Chrome browser after running the code.

The screenshot shows the Visual Studio Code editor with a file named 'anoda.html'. The code is as follows:

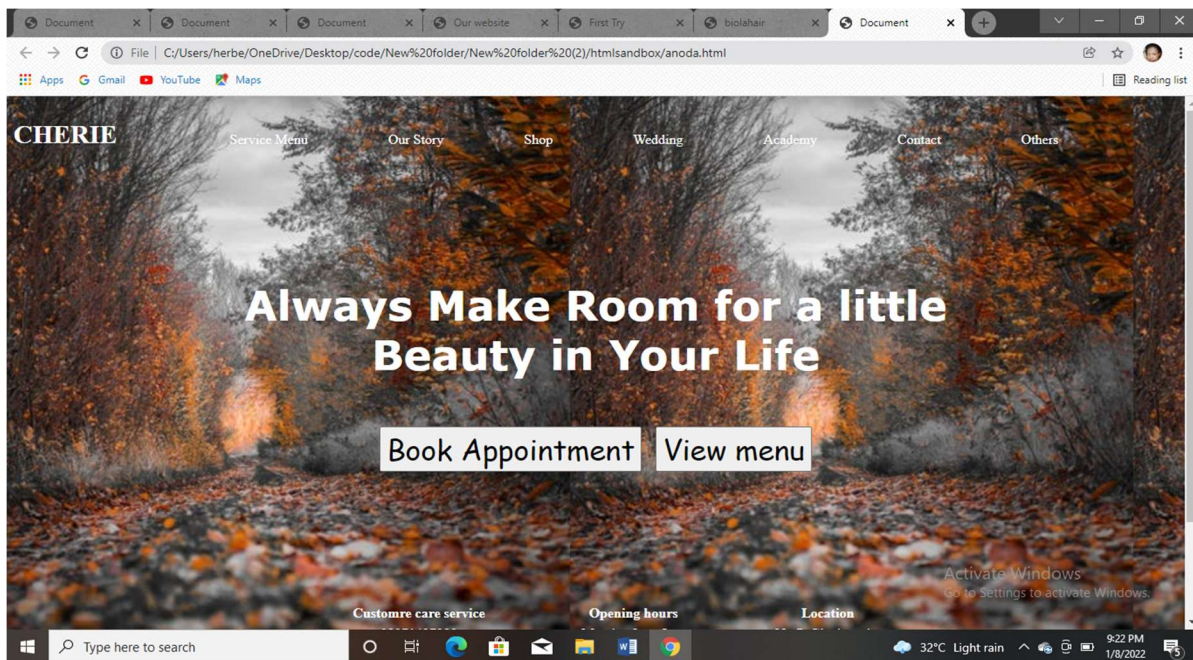
```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta http-equiv="X-UA-Compatible" content="IE=edge">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <title>Document</title>
8 </head>
9 <style>
10  body{
11    background-image: url('../Screenshot_20210914-124214_2.png')
12  }
13
14
15  h1{
16    color: white;
17    font-size: 30px;
18  }
19
20  #top{
21    margin:auto;
22    display: flex;
23    flex-direction: row;
24  }
25
26  .brain{
27    display: flex;
28    flex-direction: row;
29    flex-wrap: nowrap;
30  }
31
32  .brain,ul,li,a {
33    padding:3px;
34    color: white;
35    text-decoration: none;
36    list-style-type: none;
37  }
```

The bottom of the image shows the Windows taskbar with the system tray indicating 32°C, light rain, and the date 1/8/2022.



```
File Edit Selection View Go Run Terminal Help
anoda.html - Visual Studio Code
C:\Users\herbe> OneDrive > Desktop > code > New folder > New folder (2) > htmsandbox > anoda.html > ...
67
68 </style>
69 <body>
70 <!--parent -->
71 <div id="top">
72 <h1 id="o11">CHERIE</h1>
73
74 <!--middle nav-->
75 <ul class="brain">
76 <li><a href="#">Service Menu</a></li>
77 <li><a href="#">Our Story</a></li>
78 <li><a href="#">Shop</a></li>
79 <li><a href="#">Wedding</a></li>
80 <li><a href="#">Academy</a></li>
81 <li><a href="#">Contact</a></li>
82 <li><a href="#">Others</a></li>
83 </ul>
84 </div>
85 <!--2nd div-->
86 <div id="middle">
87 <p>Always Make Room for a little <br>Beauty in Your Life</p><br><p>
88 <p>
89 <p>
90 <button>Book Appointment</button>
91 <button>View menu</button>
92 </p>
93 </div>
94 <!--4th div-->
95 <div id="ended">
96 <div class="fill">
97 <li><b>Customre care service</b></li>
98 <li><b>08071427389</b></li>
99
```

## HTML CONTENT WITH INTERNAL STYLING



## RESULT

## **2.4 JAVASCRIPT AND ITS PROPERTIES**

### **2.4.1 WHAT IS JAVASCRIPT?**

JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities.

### **2.4.2 FUNCTION OF JAVASCRIPT**

JavaScript is most commonly used as a client side scripting language, which implies that JavaScript is written into an HTML page and when a user requests an HTML page with JavaScript is sent to the browser. It is also used for form validation.

### **2.4.3 BROWSER DETECTION**

This refers to a feature of a web browser to execute a JavaScript code without any error irrespective of its version.

### **2.4.4 Advantages of JavaScript**

The merits of using JavaScript are:

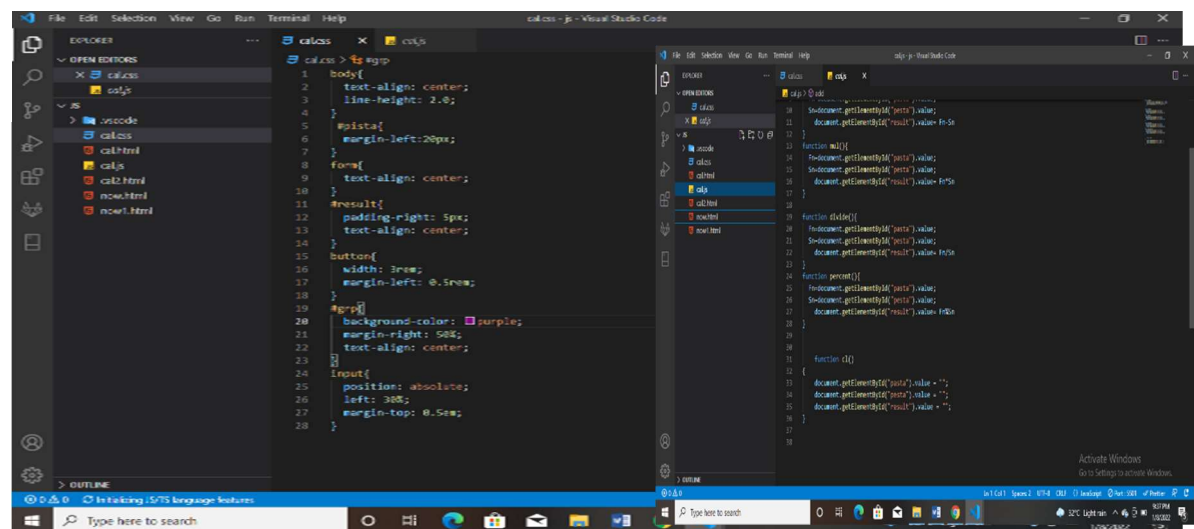
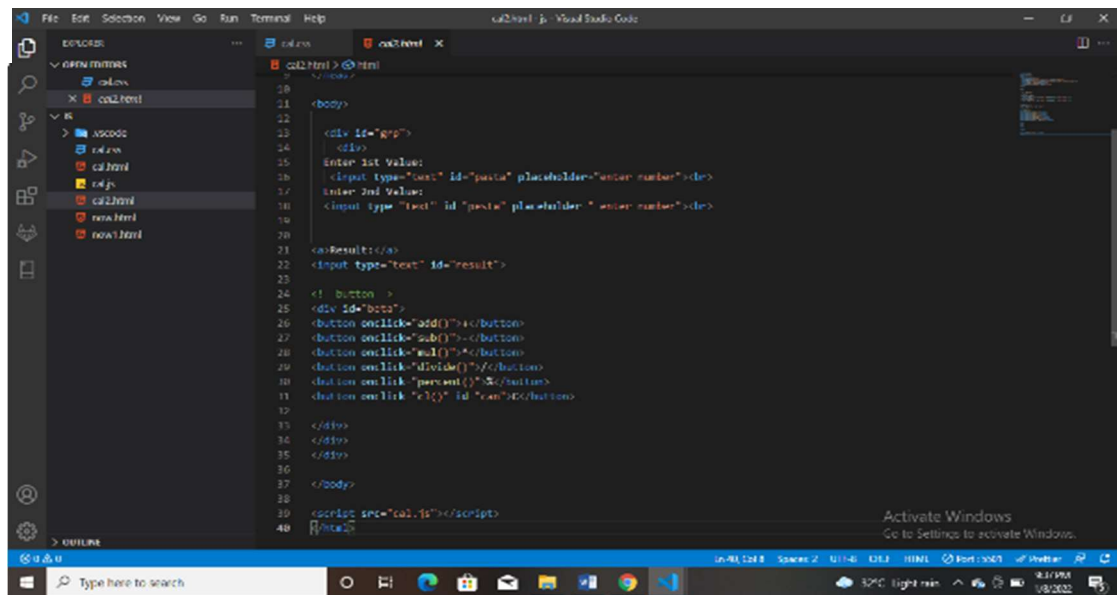
- **Less server interaction:** You can validate user input before sending the page off to the server. This saves server traffic, which means less load on your server.
- **Immediate feedback to the visitors:** They don't have to wait for a page reload to see if they have forgotten to enter something.
- **Increased interactivity:** You can create interfaces that react when the user hovers over them with a mouse or activates them via the keyboard.

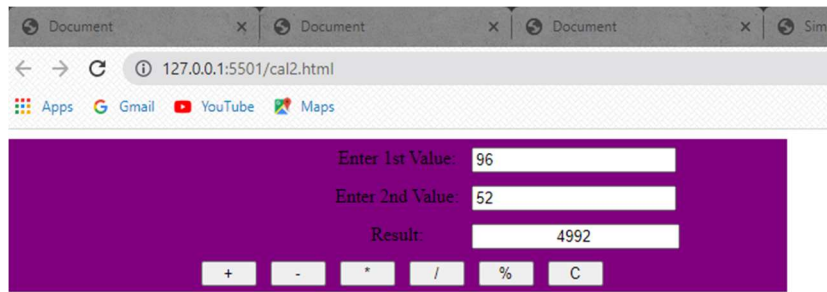
- Richer interfaces: You can use JavaScript to include such items as drag-and-drop components and sliders to give a Rich Interface to your site visitors.

## 2.4.5 DESIGNS USING HTML, CSS AND JAVASCRIPT

The images below are codes using Microsoft Visual Studio editor with the output on a Google Chrome browser after running the code.

1. A simple calculator that allows users to input number.





## RESULT

2. A calculator with “onclick” function that allows users to click on the number, change background color and CSS animation properties.

```

16 <div class="calcu">
17 <!-- firstrow -->
18 <div><input type="text" id="numd" disabled></div>
19 <div><input type="text" id="value" ></div>
20
21 <div class="calcu">
22 <!-- firstrow -->
23 <div><input id="clear" type="button" value="AC" onclick="clr()"></div>
24 <div><input id="delete" type="button" value="DEL" onclick="del()"></div>
25 <div><input id="operator" type="button" value="%" onclick="display('%')></div>
26 <div><input id="operator" type="button" value="/" onclick="display('/')></div>
27
28 <!-- 2ndrow -->
29
30 <div><input id="press" type="button" value="7" onclick="display('7')></div>
31 <div><input id="press" type="button" value="8" onclick="display('8')></div>
32 <div><input id="press" type="button" value="9" onclick="display('9')></div>
33 <div><input id="operator" type="button" value="*" onclick="display('*')></div>
34
35 <!-- 3rdrow -->
36
37 <div><input id="press" type="button" value="4" onclick="display('4')></div>
38 <div><input id="press" type="button" value="5" onclick="display('5')></div>
39 <div><input id="press" type="button" value="6" onclick="display('6')></div>
40 <div><input id="operator" type="button" value="-" onclick="display('-')></div>
41
42 <!-- 4throw -->
43
44 <div><input id="press" type="button" value="1" onclick="display('1')></div>
45 <div><input id="press" type="button" value="2" onclick="display('2')></div>
46
47 <div><input id="press" type="button" value="1" onclick="display('1')></div>
48 <div><input id="press" type="button" value="2" onclick="display('2')></div>

```

## HTML CONTENT

```
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
```

HTML content of cal.html:

```
<!-- 3rdrow -->
<div> <input id = "press" type = "button" value = "4" onclick = "display('4')" > </div>
<div> <input id = "press" type = "button" value = "5" onclick = "display('5')" > </div>
<div> <input id = "press" type = "button" value = "6" onclick = "display('6')" > </div>
<div> <input id = "operator" type = "button" value = "-" onclick = "display('-')" > </div>

<!-- 4throw -->
<div> <input id = "press" type = "button" value = "1" onclick = "display('1')" > </div>
<div> <input id = "press" type = "button" value = "2" onclick = "display('2')" > </div>
<div> <input id = "press" type = "button" value = "3" onclick = "display('3')" > </div>
<div> <input id = "operator" type = "button" value = "+" onclick = "display('+')" > </div>

<!-- 5throw -->
<div> <input id = "press" type = "button" value = "0" onclick = "display('0')" > </div>
<div> <input id = "press" type = "button" value = "00" onclick = "display('00')" > </div>
<div> <input id = "press" type = "button" value = "." onclick = "display('.')" > </div>
<div> <input id = "operator" type = "button" value = "=" onclick = "calculate()" > </div>
</div>
</form>
</div>
<!--emojis-->
<div class="f">🍌</div>
<div class="a">🍌</div>
<div class="t">🍌</div>
<div class="l">🍌</div>
<div class="m">🍌</div>
<div class="ah">🍌</div>
<div class="h">🍌</div>
<div class="b">🍌</div>
<div class="e">🍌</div>
<div class="n">🍌</div>
<div class="z">🍌</div>
<div class="o">🍌</div>
<div class="ne">🍌</div>
<div class="fatty">🍌</div>
```

## HTML CONTENT

```
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
```

HTML content of cal.html:

```
<!--emojis-->
<div class="f">🍌</div>
<div class="a">🍌</div>
<div class="t">🍌</div>
<div class="l">🍌</div>
<div class="m">🍌</div>
<div class="ah">🍌</div>
<div class="h">🍌</div>
<div class="b">🍌</div>
<div class="e">🍌</div>
<div class="n">🍌</div>
<div class="z">🍌</div>
<div class="o">🍌</div>
<div class="ne">🍌</div>
<div class="fatty">🍌</div>
```

## HTML CONTENT

```
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
```

CSS content of cal.css:

```
/* body*/
body{
  background-color: purple;
  font-family: Verdana, Geneva, Tahoma, sans-serif;
  text-align: center;
  font-size: 3rem;
  margin-top: 6%;
  margin-left: 40%;
}

/* display*/
.calculator {
  width: 440px;
  height: 800px;
  border-radius: 4rem transparent;
  background-color: peru;
  padding-top: 50px;
  border-radius: 2rem;
}

.tame{
  display: flex;
  flex-direction: row;
  height: 20px;
  padding: 16%;
}

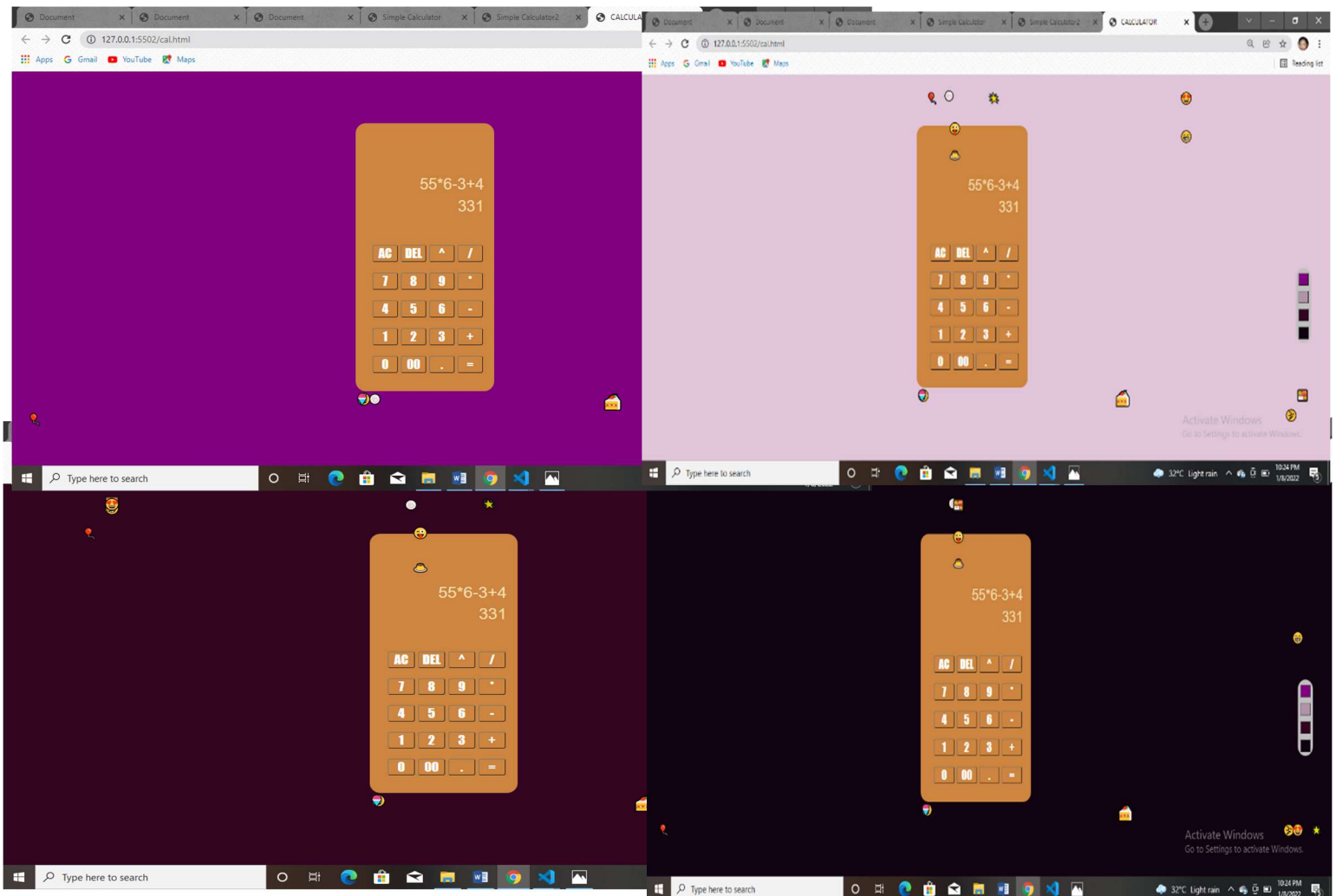
/*disp*/
#numd, #value{
  height: 50px;
  text-align: right;
```

## CSS



```
1 //function that display value
2 function display(val)
3 {
4   document.getElementById("numd").value+=val
5 }
6
7 //function that evaluates the digit and return result in another div
8 function calculate()
9 {
10  let x = document.getElementById("numd").value
11  let y = eval(x)
12  document.getElementById("value").value = y
13 }
14
15 //function that clear the number displayed and result
16 function clr()
17 {
18  document.getElementById("numd").value = "";
19  document.getElementById("value").value = "";
20 }
21 //function clear the value
22
23
24
25
26 //change color
27 function deam(color){
28  document.body.style.background-color;
29 }
30
```

## JAVASCRIPT



## RESULT

## 2.5 FIGMA

### 2.5.1 What is FIGMA

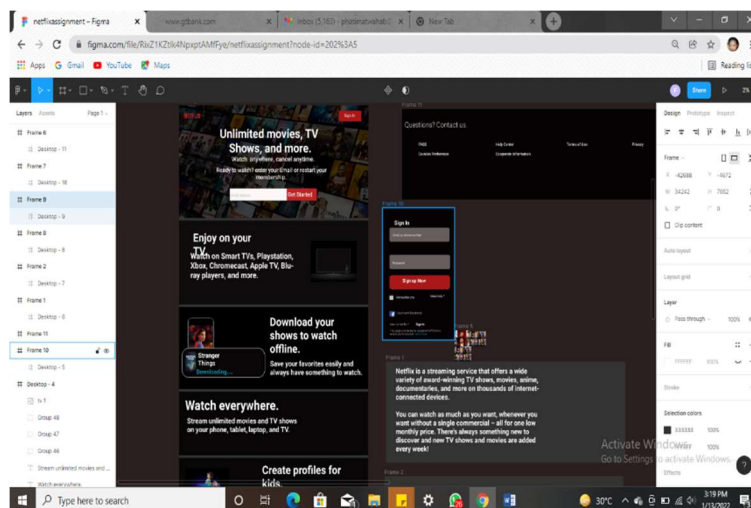
FIGMA is a vector graphics editor and prototyping tool which is primarily web-based, with additional offline features enabled by desktop application for macOS and Windows. The Figma mobile app for android and iOS allow viewing and interacting with Figma prototypes in real-time on mobile devices. The feature set of Figma focuses on use in user interface and user experience design, with an emphasis on real-time collaboration.

FIGMA helps to build an iterative design flow with live collaboration that flow with live collaboration that keeps one in the loop whether you're working in the office or remotely. It also helps to share, present and gather feedback on iterative prototypes with smart animation and dynamic overlays that feel like real thing. FIGMA helps to bring your interactive ideas, pictures into something that can be actualize.

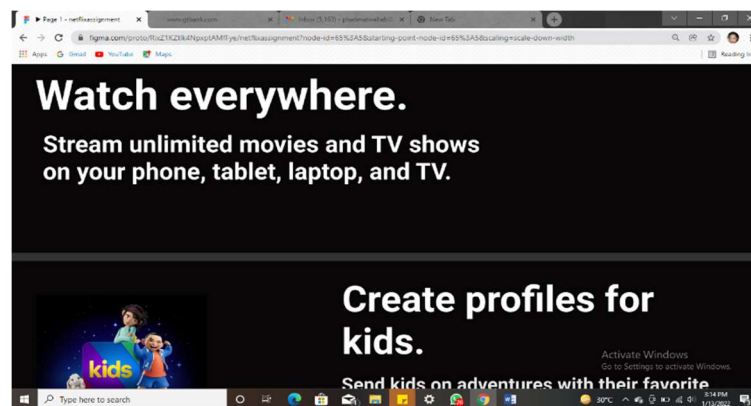
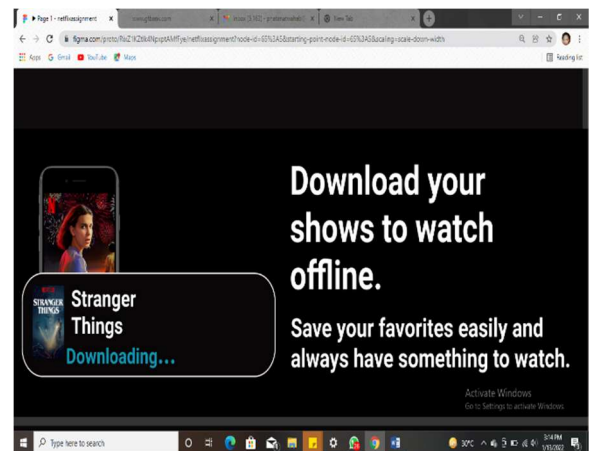
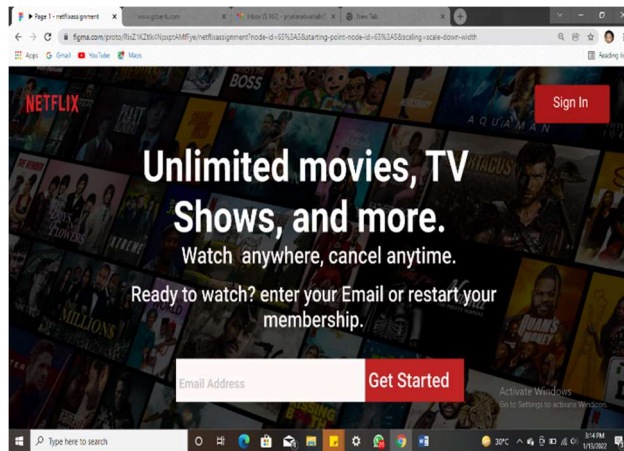
### 2.5.2 FIGMA DESIGNS

#### Netflix Website

Netflix, Inc. is an American subscription streaming service and production company. Launched on August 29, 1997, it offers a library of films and television series through distribution deals as well as its own productions, known as Netflix Originals.



Workflow on FIGMA



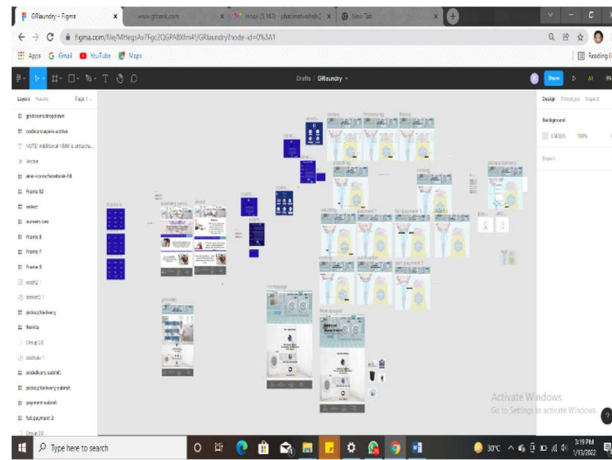
Display after prototyping

## Laundry Website

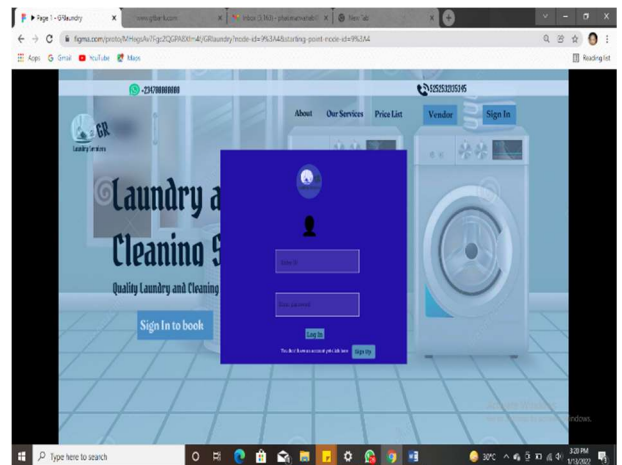
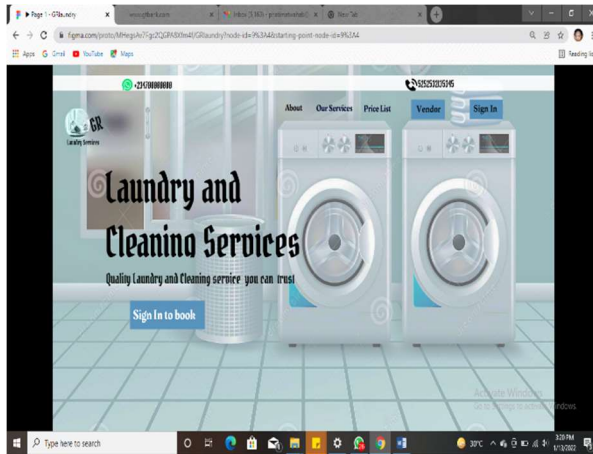
A laundry website is a platform that allows vendor to makes all his/her services accessible on the internet.

Using self-ideology, critical and creative thinking, the below FIGMA design is a prototype of a laundry website. The idea of this particular website is not restricted to displaying services and placing others, but customers will be able to create an account, whereby the customer can monitor the process of his/her order, likewise the vendor. Other vendors can also sign up on the website to carry out and monitor all their day-to-day activities.





The workflow on FIGMA



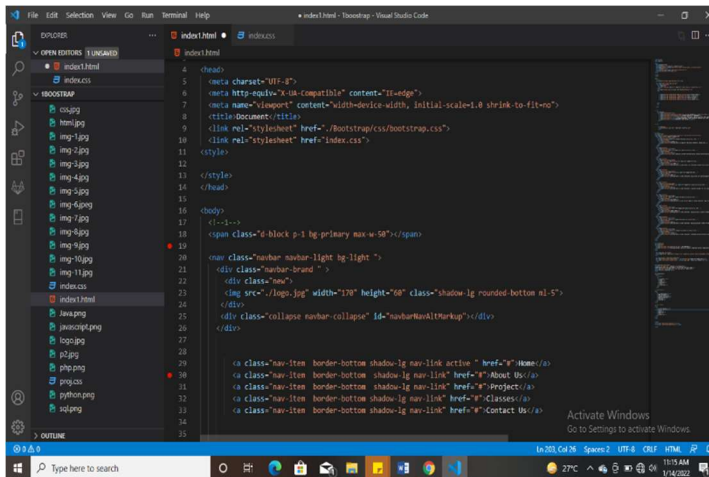
Some display on browser

## 2.6 BOOTSTRAP

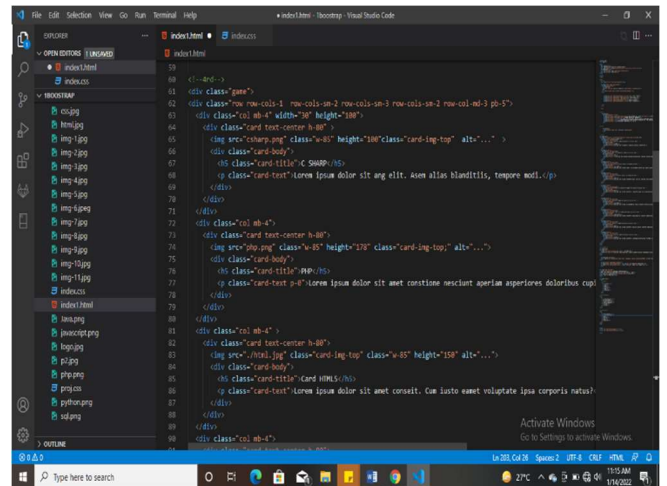
### 2.6.1 What is Bootstrap

Bootstrap is an open source toolkit for developing with HTML, CSS, and JS. Quickly prototype your ideas or build your entire app with our Sass variables and mixins, responsive grid system, extensive prebuilt components, and powerful plugins built on jQuery.

## 2.6.2 Designs Using Bootstrap

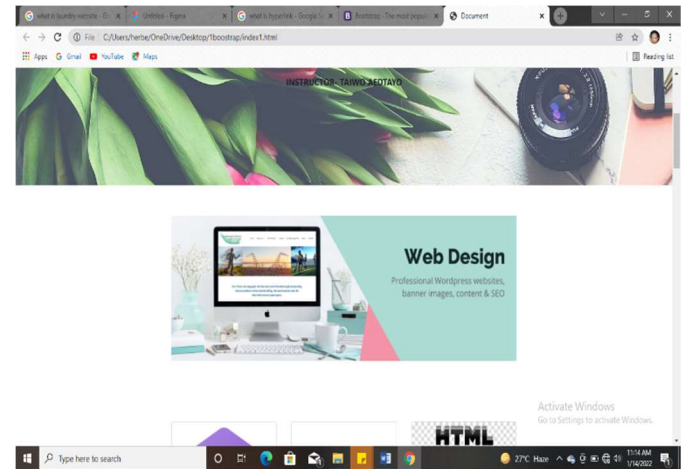
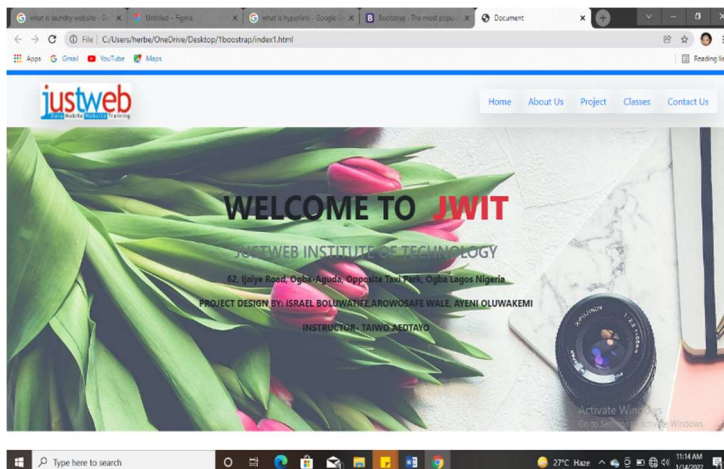


```
1<!DOCTYPE html>
2<html>
3  <meta charset="UTF-8">
4  <meta http-equiv="X-UA-Compatible" content="IE=edge">
5  <meta name="viewport" content="width=device-width, initial-scale=1.0 shrink-to-fit=no">
6  <title>Documents</title>
7  <link rel="stylesheet" href="/Bootstrap/css/bootstrap.css">
8  <link rel="stylesheet" href="index.css">
9  </style>
10 </style>
11 </head>
12 </head>
13 </body>
14 <div class="d-block p-1 bg-primary text-white"></div>
15 <div class="collapse navbar-collapse">
16   <div class="nav-item">
17     <a href="#">Home</a>
18   </div>
19   <div class="nav-item">
20     <a href="#">About Us</a>
21   </div>
22   <div class="nav-item">
23     <a href="#">Project</a>
24   </div>
25   <div class="nav-item">
26     <a href="#">Contact Us</a>
27   </div>
28 </div>
29 </div>
30 </div>
31 </div>
32 </div>
33 </div>
34 </div>
35 </div>
```



```
1<!DOCTYPE html>
2<html>
3  <meta charset="UTF-8">
4  <meta http-equiv="X-UA-Compatible" content="IE=edge">
5  <meta name="viewport" content="width=device-width, initial-scale=1.0 shrink-to-fit=no">
6  <title>Documents</title>
7  <link rel="stylesheet" href="/Bootstrap/css/bootstrap.css">
8  <link rel="stylesheet" href="index.css">
9  </style>
10 </style>
11 </head>
12 </head>
13 </body>
14 <div class="d-block p-1 bg-primary text-white"></div>
15 <div class="collapse navbar-collapse">
16   <div class="nav-item">
17     <a href="#">Home</a>
18   </div>
19   <div class="nav-item">
20     <a href="#">About Us</a>
21   </div>
22   <div class="nav-item">
23     <a href="#">Project</a>
24   </div>
25   <div class="nav-item">
26     <a href="#">Contact Us</a>
27   </div>
28 </div>
29 </div>
30 </div>
31 </div>
32 </div>
33 </div>
34 </div>
35 </div>
```

### THE CODE



Some display on browser

## 2.7 Application programmable Interface(API)

An **API** is a set of programming code that enables data transmission between one software product and another. It also contains the terms of this data exchange. API is also a software intermediary that allows two applications to talk to each other. Each time you use an app like Facebook, send an instant message, or check the weather on your phone, you're using an API.

There is various usage of API, such as Database APIs, Operating System APIs and Web API. The major focus on this reference is **Web APIs**.

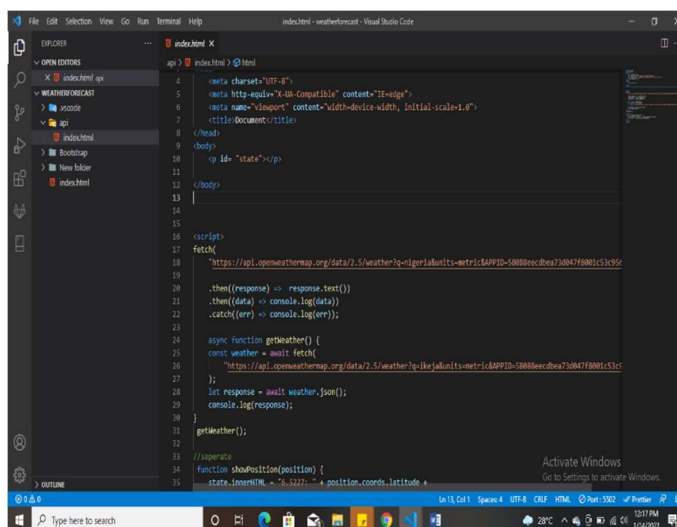
**Web APIs** class is the most common. Web APIs provide machine-readable data and functionality transfer between web-based systems which represent client-server architecture. These APIs mainly deliver requests from web applications and responses from servers using Hypertext Transfer Protocol (HTTP).

Developers can use web APIs to extend the functionality of their apps or sites. For instance, the Pinterest API comes with tools for adding users' Pinterest data like boards or Pins to a website. Google Maps API enables the addition of a map with an organization's location.

Most businesses use more than one API to connect applications and share information. Some end up needing an API management tool to help them control, distribute, and analyze different APIs. Learn more about API management in our detailed article.

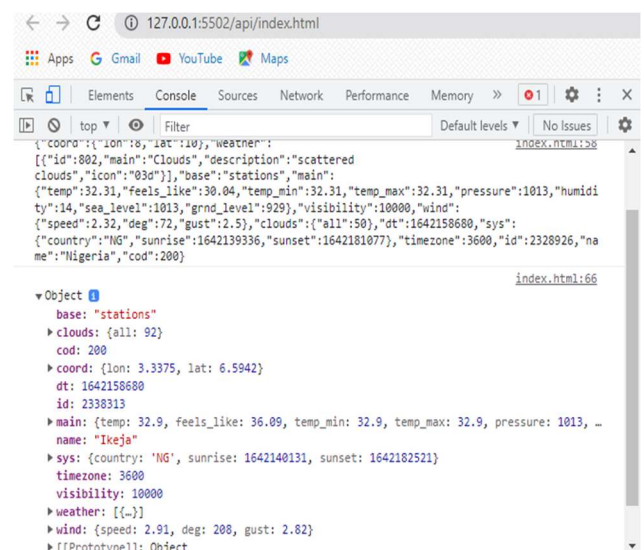
### 2.7.1 Examples of API data with code API call from OpenWeather.

OpenWeather is a team of IT experts and data scientist that has been practicing deep weather data science since 2014. For each point of the globe open weather provides historical current and forecasted weather data via light-speed



```
1 <!DOCTYPE html>
2 <html>
3   <meta charset="UTF-8">
4   <meta http-equiv="X-UA-Compatible" content="IE=edge">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Document</title>
7   </head>
8   <body>
9     <div id="state"></div>
10  </body>
11 </html>
12
13 <script>
14  // Fetching data from OpenWeatherMap
15  fetch(
16    'https://api.openweathermap.org/data/2.5/weather?q=nigeria&units=metric&appid=309080c9d9a730847f0801c3c95f'
17  )
18  .then(response => response.text())
19  .then(data => console.log(data))
20  .catch(err => console.log(err));
21
22  // Async function to get weather
23  async function getWeather() {
24    const weather = await fetch(
25      'https://api.openweathermap.org/data/2.5/weather?q=ikeja&units=metric&appid=309080c9d9a730847f0801c3c95f'
26    );
27    let response = await weather.json();
28    console.log(response);
29  }
30  getWeather();
31
32  // Show position
33  function showPosition(position) {
34    state.innerHTML += `<div id="state">
35      <div id="state">
36        <div id="state">
37          <div id="state">
38            <div id="state">
39              <div id="state">
38            </div>
39          </div>
40        </div>
41      </div>
42    </div>
43  `;
44  }
```

Code for fetching data in text and JSON format

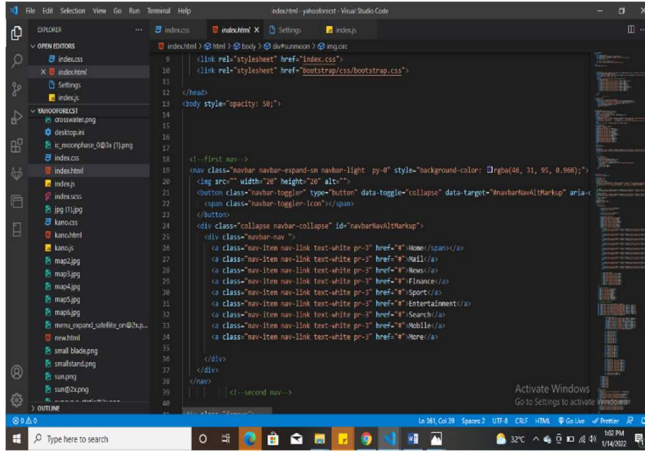


```
{
  "coord": {
    "lon": 8,
    "lat": 10
  },
  "weather": [
    {
      "id": 802,
      "main": "Clouds",
      "description": "scattered clouds",
      "icon": "03d"
    }
  ],
  "base": "stations",
  "main": {
    "temp": 32.31,
    "feels_like": 30.04,
    "temp_min": 32.31,
    "temp_max": 32.31,
    "pressure": 1013,
    "humidity": 14,
    "sea_level": 1013,
    "grnd_level": 929,
    "visibility": 10000,
    "wind": {
      "speed": 2.32,
      "deg": 172,
      "gust": 2.5
    },
    "clouds": {
      "all": 50
    },
    "dt": 1642158680,
    "sys": {
      "country": "NG",
      "sunrise": 1642139336,
      "sunset": 1642181077,
      "timezone": 3600,
      "id": 2328926,
      "name": "Nigeria",
      "cod": 200
    }
  }
}
```

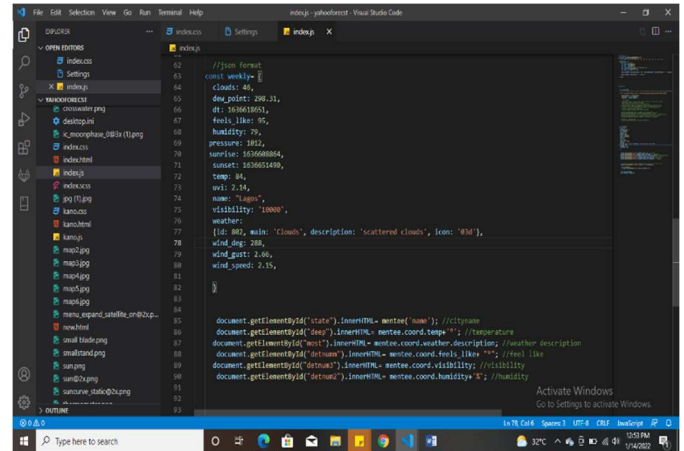
Result on Console

## APPLICATION OF THE DATA FETCHED

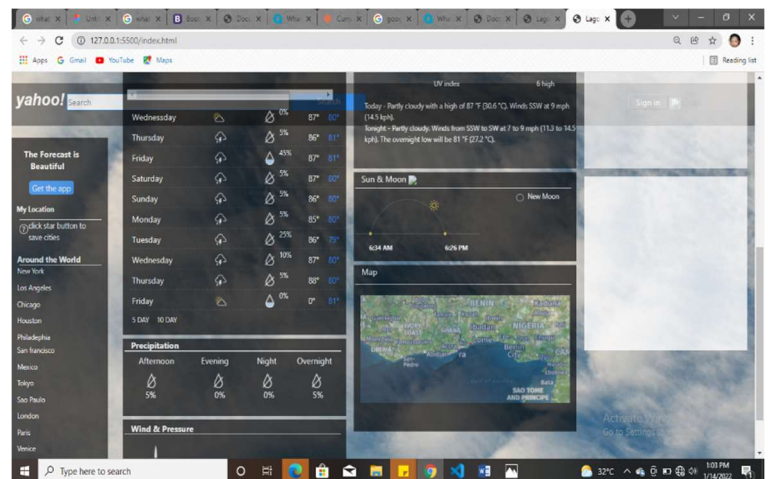
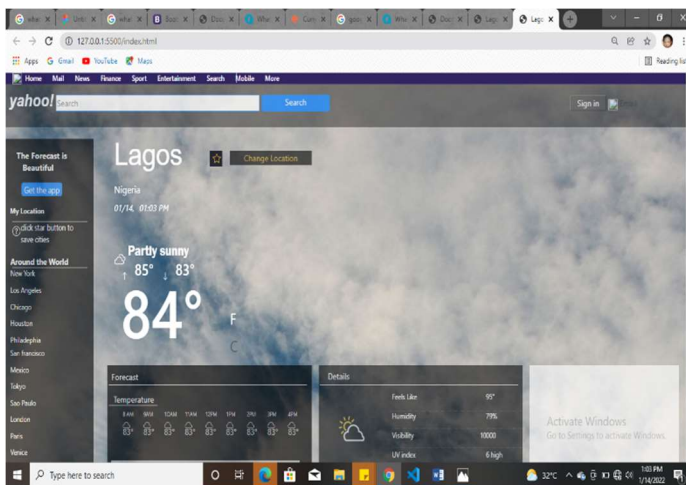
A re-design of yahoo forecast website to apply some to the data fetched in the code using object in JavaScript.



## Content using bootstrap



# JavaScript



Display on browser

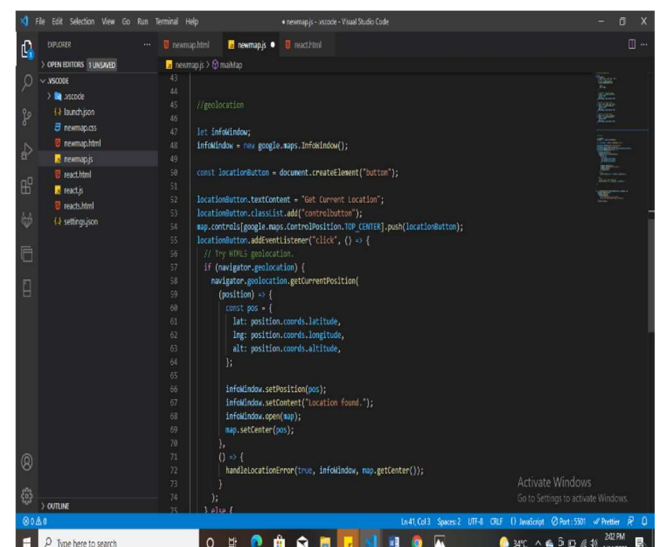
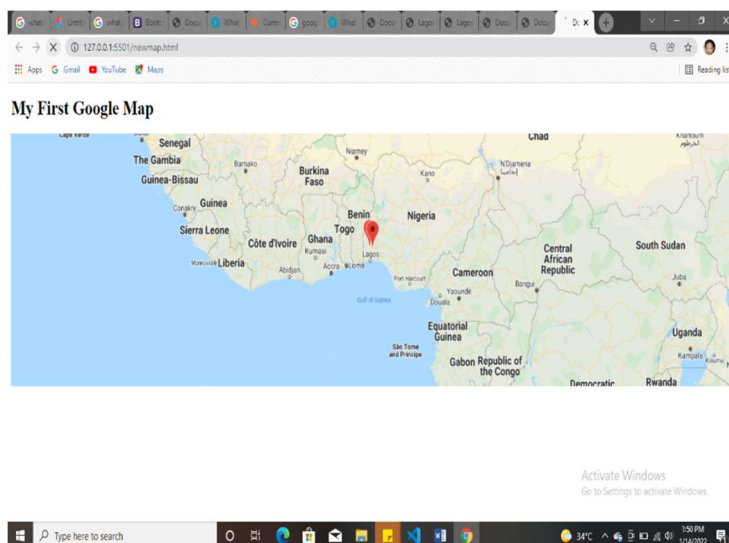


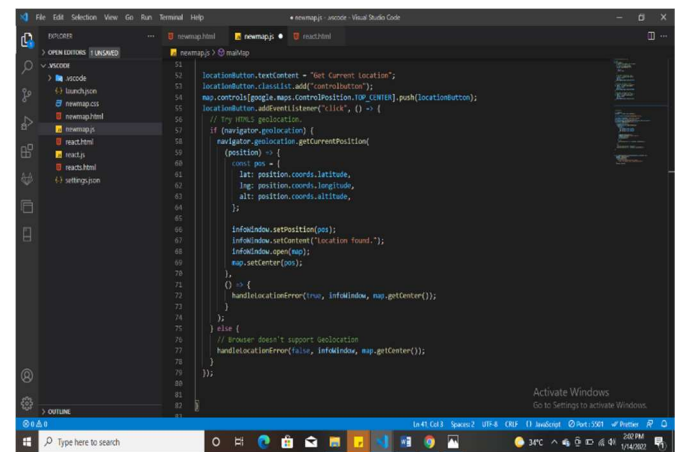
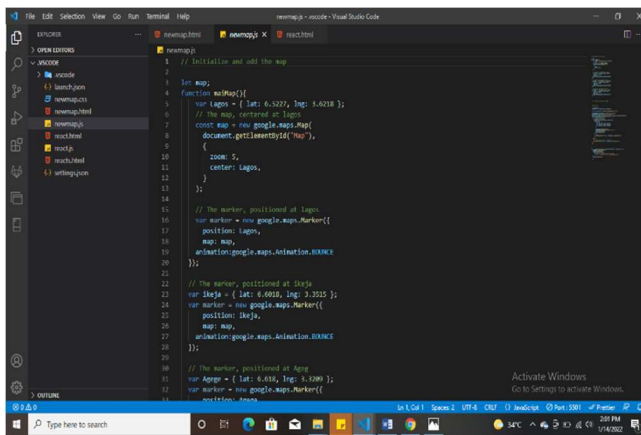
## 2.7.2 Examples of APIs for Google Map

The google map API is one of the clever bits of Google Technology that helps you take over the power of Google Maps and put it directly on your own website. It let you add relevant content that is useful to visitors and customize the look and feel of the map to fit with the style of a site.

The map below was designed using HTML, CSS and JAVASCRIPT alongside with the API key fetched from Google Cloud Platform. The map consists of several properties such as:

1. Zoom properties- It specifies the zoom level on the map
2. Google Map Overlay- Overlays are object on the Map that are bound to latitude/longitude coordinates. Types of overlays are
  - i. Marker- Marks a single location on the map also specify custom icon images
  - ii. Polyline- Series of straight-line on a map
  - iii. Polygon- Series of straight lines on a map, and the shape is closed
  - iv. Circle and rectangle
  - v. Info window- Displays content on top of a map
  - vi. Custom Overlay
3. Geolocation- Contains method to retrieve users or device current position, watch changes in their position and clear a previously-set watch on a map

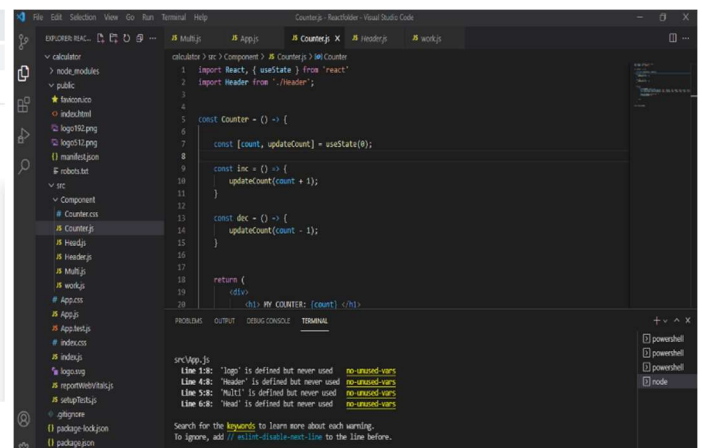
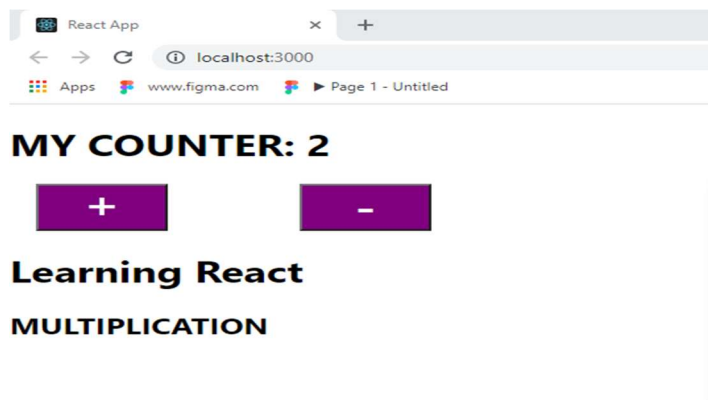




## 2.8 REACT

React also known as React.js is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies. React can be used as a basis in the development of single-phase or mobile application. However, React is only concerned with state to the DOM, so creating React application usually requires the use of additional libraries for routing, as well as certain client-side functionality.

In the course of the training I was introduced to components, props, hooks, event handlers, div destructure, component de-structuring, arrow functions from the knowledge from JavaScript. With the few knowledge of that I was able to design a counter shown below.



## **CHAPTER THREE**

### **SKILLS ACQUIRED AND CHALLENGES ENCOUNTERED**

#### **3.0 TECHNICAL SKILLS ACQUIRED**

I was able to acquire the following skills in the cause of my training

- Deeper knowledge on web development
- Ability to design a website using HTML
- Ability to design a website using HTML and CSS
- Ability to create a standard website using HTML, CSS and little knowledge on JavaScript.
- I was able to design a website using Bootstrap
- I can also use FIGMA to create a prototype of a website and also use it for presentation
- I also learnt how to fetch data from weather API website.
- I also learnt how to fetch Google Map API from Google cloud platform
- I was introduced to React.
- Lastly, I also learnt app testing.

#### **3.1 SOCIAL AND FUNCTIONAL SKILLS ACQUIRED**

- I was able to enhance soft and communication skills.
- Improvement on team work.
- Enhanced teaching and effective learning skills.
- Good time Management.

#### **3.2 PERSONAL IMPACT ON THE COMPANY**

- Teaching and assisting colleagues with code not running.
- Teaching new student who came for web design training.
- Help in installing various development application on new student laptop.
- Help in application testing.

#### **3.3 CHALLENGES ENCOUNTERED**

- Lack of transportation fee.
- Lack of internet access.
- I was not paid at the place of my attachment.

## **CHAPTER FOUR**

### **CONCLUSION AND RECOMMENDATION**

#### **4.0 CONCLUSION**

My training at JustWeb was an awesome experience of acquisition of skills. With this training I was able to unlock some hidden potentials in me such as critical thinking, it has broadened my thinking and tenacity. Right from onset I've never loved coding. But in the cause of the training I begin to discover my real self. The beginning was boring and though, but the moment I opened my mind to it I start seeing the possibilities in the field. The training has also given me broader view to the importance and relevance web development to the society and world at large. And now I look forward to impacting it positively in the process of my final year programme and after graduation, I have improved my communication and presentation skills and thereby developed good relationship with my fellow colleagues at work. I have also been able to see the connection between my course and other disciplines in producing a successful project.

#### **4.1 RECOMENDATION**

- Institutions should provide place of attachment for student.
- Allowances should be paid during the period of training instead of after the training



## REFERENCES

- The Training Log Book.
- Bootstrap 4.4 offline documentation
- <https://www.altexsoft.com/blog/engineering/what-is-api-definition-types-specifications-documentation/>
- [www.w3school.com](http://www.w3school.com)
- <https://maps.google.com>