



KWARA STATE POLYTECHNIC, ILORIN
INSTITUTION OF INFORMATION COMMUNICATION TECHNOLOGY
A TECHNICAL REPORT ON STUDENT INDUSTRIAL WORK EXPERIENCE
SCHEME (SIWES)

Undertaken at

ROBUST TECHNOLOGY
ARA VILLAGE, ILORIN KWARA STATE

Submitted to

THE DEPARTMENT OF COMPUTER SCIENCE

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Matric Number: ND/23/COM/PT/0303

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF
ORDINARY NATIONAL DIPLOMA IN COMPTER SCIENCE(OND).

PERIOD OF ATTACHMENT:

AUGUST - NOVEMBER 2024

ACKNOWLEDGEMENT

I thank Almighty ALLAH, the creator of Heaven and Earth for granting me the grace and privilege to be able to complete this SIWES program successfully and on schedule.

I also acknowledge the effort of my parent (Mr. and Mrs. **OLAOSEBIKAN**) for their moral and financial support during the industrial training. I also acknowledge the effort of my industrial based supervisor (**Mr, Robust**) for his full support and motivation in computer hardware website design and development during the industrial training.

DEDICATION

The Student Industrial work experience scheme (SIWES) is dedicated to Almighty God who has being the alpha and omega starting from the beginning to the end of the training and also to my parent for their financial support during the course of the industrial training.

ABSTRACT

This report is a summary of all work experience I have been able to gather during my SIWES training programme at **ROBUST TECHNOLOGY**.

The report contains my all my experience in front-end development in relation to HTML, CSS, Java Script and Bootstrap.

In conclusion is a summary of what I learnt in my four months SIWES programme.

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CHAPTER ONE

INTRODUCTION

1.0 HISTORY OF SIWES

The Student Industrial Work Experience Scheme (SIWES) is a program which forms part of the academic standards in the degree program for Nigerian Universities. The Federal Government of Nigeria introduced the policy on Industrial training, called the Student Industrial Work Experience Scheme (SIWES) IN 1974. The Industrial Training Fund (ITF) is in charge of this program which is under the umbrella of the Ministry of Education. SIWES was designed to help students acquire the necessary practical education/experience in their fields of study and other related professions.

This is an effort which was created in order to compliment the theory taught in the classrooms of the Nigerian tertiary institutions. This objective of the program is exposing students to the use of various machines and equipment's, professional work methods and ways of safeguarding the work areas in industries as well as other organizations. SIWES was established to impart practical knowledge to students with respect to their various disciplines.

This training is funded by the Federal Government of Nigeria and coordinated by the Industrial Training Fund (ITF) and the National Universities Commission (NUC). The SIWES program involves the student, the Universities and the industries.

1.1. OBJECTIVES OF SIWES

The objective of SIWES among others include to:

- provide an avenue for students in institutions of higher learning to acquire industrial skills and experience in their approved course of study;
- Prepare students for the industrial work situation which they are likely to meet after graduation. Expose students to work methods and techniques in handling equipment and machinery in their institutions.
- Provide students with an opportunity to apply their knowledge in real work situation thereby bridging the gap between theory and practices.
- Enlist and strengthen employers' involvement in the entire education process and prepare students for employment in industry and commerce.

1.2 ROLES OF STUDENT

- Attend SIWES orientation program before going on attachment.
- Comply with the establishment's rule and regulation.
- Arrange living accommodation during the period of attachment.
- Record all training activity done and other assignment in the log book.
- Complete SPEI from ITF, FORM 8 and get it endorsed by the employer for submission to the ITF.

1.3 OBJECTIVES OF THE REPORT

The objectives of the SIWES report are;

- To make through explanation of the work done during my four month industrial training.
- To fulfill the requirement for national diploma in computer science.
- To contribute to the body of knowledge and to enhance the understanding of the writer about a similar or same job.

1.4 THE LOGBOOK

The **logbook** issued to student on attachment by the institution was used to record all daily activities that took place during the period of attachment, and it was checked and endorse by the industry based/institution based supervisors and ITF during supervision.

CHAPTER TWO

2.0 DESCRIPTION OF THE ESTABLISHMENT OF ATTACHMENT

ROBUST TECHNOLOGY is a fully indigenous and non-governmental company that provides clients with quality, cost effective and innovative IT and security solutions, Located at Ara Village, Ilorin, Kwara State. **ROBUST TECHNOLOGY** focuses on total client satisfaction. The Company has built reputable standard over the years from her vast technical knowledge and competence, in project management and execution.

2.1 OBJECTIVES OF ESTABLISHMENT

To be a first choice Information and Communication Technology (ICT) company with the idea of rendering unmatched excellent professional solution to our clients in line with emerging technology.

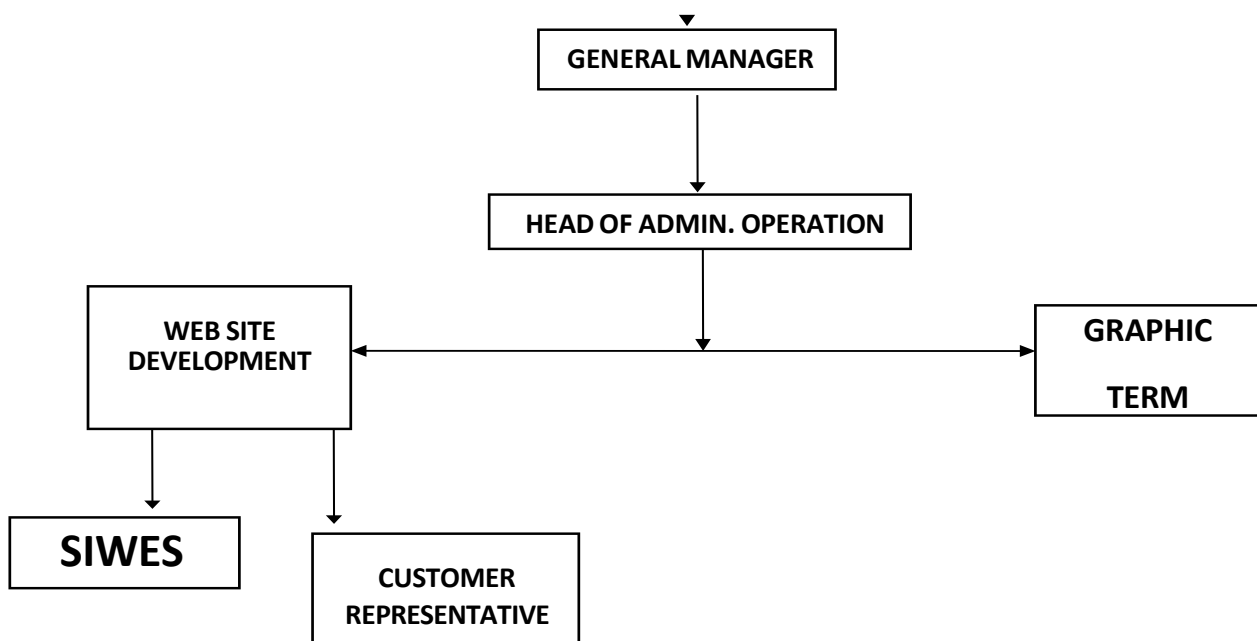
✓ **MISSION OF THE COMPANY**

Our reason for existing as a company is to provide unbeatable first choice consistent professional service solution.

✓ **CORE VALUES**

- Integrity
- Services
- Commitment
- Excellence
- Professionalism

2.2 ORGANIZATION STRUCTURE OF ROBUST TECHNOLOGY



2.3 VARIOUS DEPARTMENTS ESTABLISH

With a team of professional Computer programmers, Graphic designers and , the Company has a reputable recognition in the following areas:

● **Software Development**

Their customer-centered approach enables their developers to capture your business requirements and develop a fully customized software solution that solves your unique business needs. If you are looking for a reliable software development company to enhance your business performance, that differentiates you from your competitors and helps you become more cost efficient, they are in a better position to do that. Their software services have helped their clients achieve the following:

- High quality solutions that tailor fit the business requirements
- Scalable solution that grows with client requirement
- Streamlining customer business work-flow
- Productivity Improvement
- Reduction in overheads and increase in return on investment (ROI)

● **Website Design**

They are set to work as a professional that helps both individuals and companies create and manage their online presence in a dynamic, efficient and unique way which makes you, your product or company stand tall in this virtual world. Your website is the vehicle that targets, attracts, and qualifies your visitors before turning those visitors into monetized customers. The pages and applications that make up your web presence are critical to your web strategy, and **ROBUST TECHNOLOGY** can help you create a solution that accomplishes your goals. From site redesigns to end to end custom applications, they can put together a solution that you can be confident in from all sides of your web marketing strategy.

CHAPTER THREE

WORK DONE

During my Students Industrial Work Experience Scheme I learnt so much as a Computer Students, courses related to my field are basically what I undergo in the process, such as Intro To Computer, Web Development using Notepad Editor, Dream Weaver, ASP.net and PHP, JavaScript, Bootstrap, React JS and Animation using Adobe and Micro-media Fireworks.

3.0 INTRODUCTION TO COMPUTER

A computer system is a micro, a mainframe or super computer consist of both hardware and software. It is an electronic machine capable of accepting data, process the data into meaningful information as output. A computer is a machine or tool, which is capable of:

1. Taking input data
2. Storing the input data.
3. Processing the input data.
4. Producing the output report on paper or computer store for human being to use

The term computer is obtained from the word compute. A computer is an electronics device that inputs (take in) facts (known as data) and then processes (does something to or with it). Afterwards

3.1 INTRODUCTION TECHNOLOGY

In simple language, information technology (I.T) is the overall technical where withal required for an efficient gathering, storage, processing utilizing computers, the internet and other electronic tools like camcorders, mobile or cell phone etc.

3.2 INPUT AND OUTPUT DEVICES

Some of the Input Devices include:

1. Keyboard
2. Joystick
3. Mouse
4. Electronic pen
5. Track ball etc.

Output Devices Include:

1. Printer
2. Monitor (VDU)
3. Plotters

3.3 PART OF A COMPUTER

There are two main parts of computers, hardware and software.

- ✓ **HARDWARE** are all part of computer the computer you can see and touch or visible part of a computer which means is the physical device one can see and touch the range from the smallest of chips to the total unit called computer system.
- ✓ **SOFTWARE** is list of instructions needed by a computer to perform specific tasks. Software is often called a programs, most times they are compilation of codes written in specific language i.e. jargon and conventions developed by man to achieve certain ends. There are types of software such as utility software, application software etc.

3.4 APPLICATION OF COMPUTER

Computer has varying applications ranging from the most mundane and simple tasks to the highly sophisticated and seemly complicated. Computers can be applied to basic office jobs like typing memos, letters, graphic design, photo imaging and massive data analysis in different fields such as communication, engineering, crime control, medicine and other technology based field to mention but few.

Computer has made it possible to keep reliable records, to manage large files to conduct near impossible searches, to manage and protect databases and promote secure and efficient payment system.

CHAPTER FOUR

4.0 WEB DESIGN DEPARTMENT

This department was where my Industrial Training took place where i was grounded and expose to the website world especially the creation of websites taking me step by step with practical all through the process.

4.1 DEFINITION OF TERMS

The following are terms that were made use of, in this department

✓ WEBSITE:

A website is a set of related webpages containing content such as texts, images, videos, audios, etc. A website is hosted on at least one web server, accessible via a network such as the internet or a private LAN through an internet address known as a URL (Universal Resource Locator). A publicly accessible websites collectively constitutes the World Wide Web (WWW).

✓ WEBPAGE:

A webpage is a document, typically written in plain text interspersed with formatting instructions of hypertext mark up 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 instructions into a display terminal.

✓ HTTP:

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

✓ URL:

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

4.2 FRONT-END

When visiting or opening a website, the visual image present on the desktop or mobile screen is called Front-End. It is also known as Client-Side. Front-End is the practice of producing HTML, CSS and JavaScript for a website or Web Application so that a user can see and interact with the device directly.

The objective of designing a site is to ensure that when the users open up the site they see the information in a format that is easy to read and relevant. This is further complicated by the fact that users now use a large variety of devices with varying screen sizes and resolutions thus forcing the designer to take into consideration these aspects when designing the site. They need to ensure that their site comes up correctly in different browsers (cross-browser), different operating systems (cross-platform) and different devices (cross-device), which requires careful planning on the side of the developer.

➤ Hyper Text Markup Language (HTML)

Hypertext markup language (HTML) is the backbone of any website development process, without which a web page doesn't exist. Hypertext means that text has links, termed hyperlinks, embedded in it. When a user clicks on a word or a phrase that has a hyperlink, it will bring another web-page. A markup language indicates text can be turned into images, tables, links, and other representations. It is the HTML code that provides an overall framework of how the site will look.

Below is an example of HTML used to define a basic webpage with a title and a single paragraph of text

```
<!DOCTYPE html>
<html>
<head>
  <meta charset = "UTF – 8"
<title></title>
</head>
<body>

  <p>This Is a Report Written By Olaosebikan Jumoke Shola </p>

</body>
</html>
```

➤ Cascading Style Sheets (CSS)

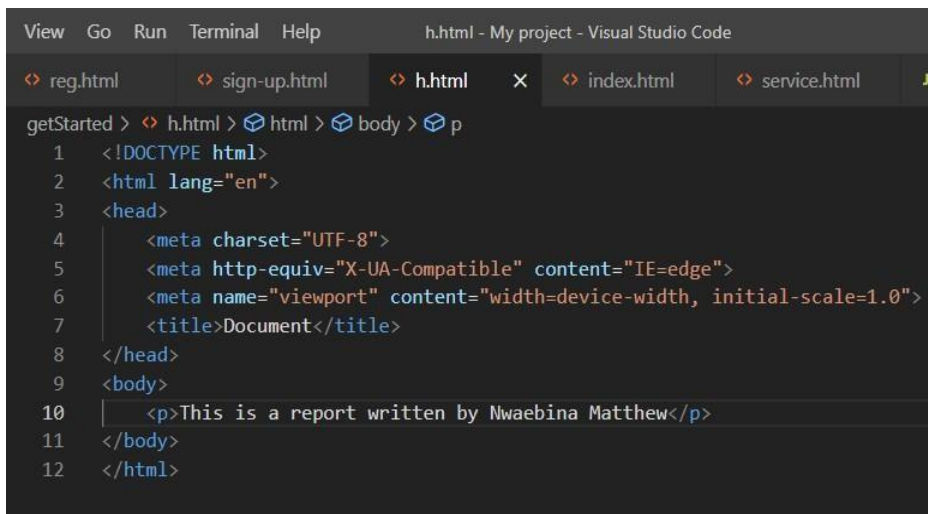
CSS controls the presentation aspect of a website and allows a website to have its own unique look. It does this by maintaining style sheets which sit on top of other style rules and are triggered based on other inputs, such as device screen size and resolution. In simple words, it's a tool that defines/control colors, text and its size (content) etc.

➤ JavaScript

JavaScript is an event-based imperative programming language (as opposed to HTML's declarative language model) that is used to transform a static HTML page into a dynamic interface. JavaScript code can use the Document Object Model (DOM), provided by the HTML standard, to manipulate a web page in response to events, like user input. Using a technique called AJAX, JavaScript code can also actively retrieve content from the web (independent of the original HTML page retrieval), and also react to server-side events as well, adding a truly dynamic nature to the web page experience.

Below is an example of HTML used to define a basic webpage with a title and a single paragraph of text

The Code-view of Basic HTML webpage is depicted

A screenshot of the Visual Studio Code editor interface. The top bar shows 'View', 'Go', 'Run', 'Terminal', and 'Help'. The title bar reads 'h.html - My project - Visual Studio Code'. The Explorer sidebar on the left shows a file tree with 'reg.html', 'sign-up.html', 'h.html' (selected), 'index.html', and 'service.html'. The main editor area displays the code for 'h.html'. The code is as follows:

```
getStarted > h.html > html > body > p
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     <p>This is a report written by Nwaebina Matthew</p>
11 </body>
12 </html>
```

4.3 HTML AND ITS PROPERTIES

HTML stands for **H**ypertext **M**ark-up **L**anguage, and it is the most widely used language to write Web Pages.

- ✧ **Hypertext** refers to the way in which Web pages (HTML documents) are linked together. Thus, the link available on a webpage is called Hypertext.
- ✧ As its name suggests, HTML is a **Markup Language** which means you use HTML to simply "mark-up" a text document with tags that tell a Web browser how to structure it to display.

Originally, HTML was developed with the intent of defining the structure of documents like

headings, paragraphs, lists, and so forth to facilitate the sharing of scientific information between researchers.

Now, HTML is being widely used to format web pages with the help of different tags available in HTML language.

4.4 HTML TAGS:

As told earlier, HTML is a markup language and makes use of various tags to format the content.

These tags are enclosed within angle braces **<Tag Name>**. Except few tags, most of the tags have their corresponding closing tags. For example, **<html>** has its closing tag **</html>** and **<body>** tag has its closing tag **</body>** tag etc

Tag	Description
<html>	This tag encloses the complete HTML document and mainly comprises of document header which is represented by <head>...</head> and document body which is represented by <body>...</body> tags.
<head>	This tag represents the document's header which can keep other HTML tags like <title>, <link>, <script language =”javascript”> etc.
<title>	The <title> tag is used inside the <head> tag to mention the document title.
<body>	This tag represents the document's body which keeps other HTML tags like <h1>, <div>, <p>, <table> etc.
<h1>	This tag represents a heading
<p>	This tag represents a paragraph.
, <i>, , 	Bold, italic, list, unordered list

The following are the names of tags and their description

4.5 BOOTSTRAP

Bootstrap is a framework to help you design websites faster and easier. It includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels, etc. It also gives you support for JavaScript plugins.

The Bootstrap structure is pretty simple and self-explanatory. It includes precompiled files that enable quick usage in any web project. Besides compiled and minified CSS and JS files, it also includes fonts from Glyphicons, and the optional starting Bootstrap theme.

Bootstrap basic file structure

bootstrap/

|— ***css/***

| |— ***bootstrap.css***

| |— ***bootstrap.css.map***

| |— ***bootstrap.min.css***

| |— ***bootstrap-theme.css***

| |— ***bootstrap-theme.css.map***

| |— ***bootstrap-theme.min.css***

|— ***js/***

| |— ***bootstrap.js***

| |— ***bootstrap.min.js***

|— ***fonts/***

| |— ***glyphicons-halflings-regular.eot***

| |— ***glyphicons-halflings-regular.svg***

| |— ***glyphicons-halflings-regular.ttf***

| |— ***glyphicons-halflings-regular.woff***

| |— ***glyphicons-halflings-regular.woff2***

CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATION

7.0 SUMMARY

The 4 months student industrial work experience scheme undergone at **ROBUST TECHNOLOGY** is world class which is web development and training, to mention a few exposed me to know gain more practical knowledge of programming. I was opportune to have learnt and experience lot in this field in so little time. It has also improved my curiosity to the field of computer science and ICT generally. This has gone a long way in equipping me in merging what was actually learnt on the field. The programme has been highly enlightening, beneficial, interesting and successful

7.1 CONCLUSION

My SIWES was a very successful one, I had an insight of the Information Technology world. I have now known the power of programming and graphics designing. With this, I will be able set a goal for myself to build a complete website and write codes for different programs. SIWES as a course has truly exposed me to the challenges faced in a growing I.T world that is dependent on computers.

7.2 RECOMMENDATION

- i. The school management should consider the fact that students find it difficult to be admitted to a particular organization for attachment and urge these organizations to accept students.
- ii. The SIWES body should try as much as they can to assist students financially when carrying out this very industrial attachment.
- iii. Place of attachment should try as much as possible to employ educated workers to avoid code-switching while lecturing.
- iv. A mass enlightenment campaign should be carried out, to enable industries and establishments to know the importance of SIWES to the future of students and the society at large.