**ADELEKE UNIVERSITY**

**P.M.B. 5080, NKPOLU-OROWOROKWO, PORT HARCOURT**

**DEPARTMENT OF COMPUTER SCIENCE**

**SIX MONTHS REPORT ON STUDENTS INDUSTRIAL WORK**

**EXPERIENCE SCHEME (SIWES)**

**AT**

**MATT O’BELL LIMITED**

**73, ALLEN AVENUE, IKEJA, LAGOS STATE**

**OREGUNWA SEGUN**

**15/0384**

**SIWES SUPERVISOR:**

**DR. OLATUNJI ALAO**

**SEPTEMBER, 2018**

**DEDICATION**

This report is dedicated foremost to God Almighty for his favour, mercy and grace upon my life especially during my six (6) months SIWES programme at Matt O’Bell Limited.

I would also like to dedicate it to my Mother, Siblings, and Uncle for their love and support and everyone else that contribute towards making my SIWES training a fun and successful one.

**AKNOWLEDGEMENT**

My appreciation goes to the industrial Training Fund for their foresight in putting this program in place.

I am grateful to Matt O’Bell Ltd for providing me with the necessary skills to be exposed in my field.

I also want to say a big thank you to my industry based supervisors Mr. Ojomo Bamidele and Mr. Lekan and my able colleague for making my stay at Matt O’Bell Limited an exciting and blissful one.

To my parents, siblings and uncle thank you all for your moral and financial support. I cannot wish for a better family.

I am deeply indebted to God almighty, the giver of all wisdom, knowledge and understanding, without whom I would have achieved nothing at all.

Finally to my Institution based supervisor for his support and to my other friends and colleagues. Thank you all, I am highly grateful.

**ABSTRACT**

This industrial report presents the experience gained during my six (6) months of industrial training undertaken at Matt O’Bell Limited, 73, Allien Avenue, Ikeja, Lagos State.

My training was on Web and Software Development.

I acquired practical knowledge on how to design a web site, software and how to add and manage records in a database.

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

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**CHAPTER 1**

**INTRODUCTION**

**1.0 PURPOSE OF TRAINING:**

The student industrial work experience scheme (SIWES) popularly called Industrial Training (IT) by Nigerian students is a yearly program design by the institution in collaboration with the industries to give students the opportunity to gain practical working experience in their various field of study or area of specialization. It is an effort to bridge the existing gap between classroom theories and practical’s in engineering, management and other professional programs in the Nigerian tertiary institutions.

Training is a key factor in changing expertise of a workforce. The world is passing through one of the worst economic crisis in recent time. Both the developed and developing economics are experiencing serious economic downturns.

Globalization has turned the world into one big village and whatever happens in one economy will have effects in other economics, and the growing concern among our industrialist is that graduates of our institutions of higher learning, lack adequate practical background studies, so as to help in the industries led to the formation of Student Industrial Work Experience Scheme (SIWES) by ITF 1993/1994.

It is through this Industrial Training that the educational systems aims at helping students acquire appropriate skills, abilities and competencies, both mental and physical, as well as equip the individuals to live in society. The focus of the Industrial Training Fund (ITF) is for the industries of our countries to succeed in the face of the current economic meltdown.

No society can achieve meaningful progress without encouraging its youth to acquire necessary practical skills. Such skills enable them to harness available resources to meet the needs of the society. It was against this background that SIWES, otherwise referred to as industrial Training (IT), was introduced in Nigerian tertiary institution.

**1.1 SIWES: (Student Industrial Work Experience Scheme)**

Since the aim of our national policy in education is to build a strong and self- reliant nation, from the government’s decree No.47 of 8th October, 1971 as amended in1990, which led to the establishment of Industrial Training Fund (ITF) in 1973/1974 and through the formation of this body (ITF), in the year 1993/1994 and through the formation of this body (ITF), in the year 1993/1974 SIWES was formed. In Nigeria, the current form of Cooperative Education is known as the Students Industrial Work Experience Scheme (SIWES).

The Students Industrial Work Experience Scheme (SIWES) is a planned and supervised training intervention based on stated and specific learning and career objectives and geared towards developing the occupational competencies of the participants. The aim is make education more relevance and also to bridge the science-related disciplines in tertiary institutions in Nigeria.

SIWES forms part of the approved minimum academic standards in the institutions, and is a core academic requirement carrying fifteen (15) credit units. This requirement must be met by all students in various disciplines before graduation.

**1.2 BODIES INVOLVED IN SIWES:**

The main bodies involved in Student Industrial Work Experience Scheme are;

The tertiary institutions and the Federal Government through the Industrial Training Fund (ITF).

Other supervising agencies include:

1. National University Commission (NUC)
2. National Board for Technical Education (NBTE)
3. National Council for colleges for Education (NCCE)
4. Industry/Employers (NECA, NACCIMA, MAN, Government Establishments)
5. Tertiary Institutions (Universities, Polytechnics, Colleges of Education)
6. Student Trainees (Engineering, Science, Technology, NCE Technical).

The functions of these agencies above are to:

1. Ensure adequate funding of the scheme
2. Establish SIWES and accredit SIWES unit in the approved institutions
3. Formulate policies and guideline for participating bodies and institutions as well as appointing SIWES coordinators and supporting staff
4. Supervise students at their places of attachment and sign their log book and ITF forms.
5. Vet and process students Log books and forward same to ITF area office
6. Ensure payment of all allowances for the students and supervisors.

**1.3 NATURE AND SCOPE OF SIWES:**

This is based on the number of weeks or months that student is expected to stay for its attachment. The minimum duration for SIWES should normally be six months, twenty-four weeks (24) weeks for University Engineers and Technologist. The cumulative total duration of attachment over the entire period of the course should preferably be not shorter than 240hrs full time which will take place during term-time or long vocation.

Induction sessions which is conducted by teaching departments to install the concepts of key skills (skills for learning, employment and life), work place safety and professional expectations, legalities and ethics.

**1.4 AIMS AND OBJECTIVES OF SIWES:**

The specific objectives of SIWES were summarized by the federal government as follows:

1. To provide students with an opportunity to apply their knowledge in real work and actual practice.
2. To make the transition from school to the world of work easier and to enhance students contacts for later job placement.
3. Advanced countries, with over 100 years of sustained industrial development and requisite technical and human infrastructure, have been able to adequately implement industrial training for their students.
4. They also include providing a structural attachment program with emphasis applications, management and hands-on experience for students to apply knowledge acquired.
5. It also aids students to acquire practical skill in other to strengthen their work value.
6. Moreover it helps them to gain interpersonal and entrepreneurial skills and also instill in them the right kind of work attitudes and professionalism through interactions with peoples in the organizations and observations of their future role in the tertiary.

**1.5 BENEFITS OF INDUSTRIAL TRAINING:**

Experts identified industrial experience as necessity for proper job preparation. This is because productivity is enhanced by experience 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 experiences young graduates are not properly trained on work, norms and role behaviour among others, these components will ensure success at the job place.

Today Information and Communication Technology (ICT) is changing the way many jobs are performed, thus altering the knowledge and 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 institutions and industrial sector.

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

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

**1.6 DESCRIPTION OF THE ESTABLISHMENT OF THE ATTACHMENT**

The establishment is called Matt O’Bell Ltd; Matt O’Bell Ltd is a Nigerian based software development and consulting services company, which was established in the year 2012 and emerge as the first and leading Odoo Gold Partner in Nigeria. They provide industry expertise for implementation of ERP applications including integration and migration of data. Through the collaborative efforts of global partners, they deploy cutting edge ERP solutions to meet the demands of clients’ specific and unique requirements. They take time to map clients business processes and through experience, help them achieve the best practices in their areas of business.

**1.7 OBJECTIVES AND VISION OF MATT O’BELL**

1. Increase operational efficiency in their business
2. Protect valuable assets such as human capital, physical assets, cash, receivables etc
3. Improve internal control systems
4. Deliver value and confidence to stake holders
   1. **COMPANY’S AREA OF SPECIALIZATION**

The company is specialized in the following core services;

1. Odoo Implementation & Customization
2. Support Services: Technical / Functional
3. Data Integration
4. Migration Services
5. Odoo Training
6. Software Development
7. Website Development
   1. **DEPARTMENTS IN THE COMPANY**
8. Functional Department
9. Technical Department: Software and Web Developer
10. Business Analyst Deopartment.

**CHAPTER 2**

**INDUSTRIAL EXPERIENCE**

**2.0 Technical Department**

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

**2.1 DEFINITION OF TERMS**

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

**WEBSITE:**

A website is a set of related web pages 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 WideWeb (WWW).

**WEB PAGE:**

A web page is a document (containing text, graphics, links, etc.) described in a text file that can be displayed by a web browser. A web page has no fixed width or length like a paper page. The information and formatting of the web page is stored in text file that contains the text of the page and HTML (HyperText Markup Language) codes (called tags) that determine the layout of the page in the web browser.

**WEB PAGE ELEMENTS**

Web pages consist of various elements (objects) that are placed on the page (screen window) as specified by the HTML tags. Some of the things that can be found on web pages which are paragraphs, formatted text, Headings, Lists, Rules (horizontal lines), Links, Background , Images, Image Maps.

**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.

**2.2 HTML AND ITS PROPERTIES**

HTML stands for Hypertext Mark-up Language, and it is the most widely used language to create Web documents.

* **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.

**2.2.1 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.

The following are the names of tags and their description.

|  |  |
| --- | --- |
| **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. |
| **<b>, <i>, <li>, <ul>** | Bold, italic, list, unordered list |

**2.2.2 HTML TABLE**

The HTML Table model allows the web designer to be able to arrange text, preformatted text, images, video, links, other table, etc. in rows and columns of cells. It is defined with a <table> tag.

Table is divided into table rows with the <tr> tag. Table rows are divided into table data with the <td> tag. A table row can also be divided into table headings with the <th> tag. Table data <td> are the data containers of the table. They can contain all sorts of HTML elements like text, images, lists, other tables.

**2.3 CSS AND ITS PROPERTIES**

CSS stands for **C**ascading Style Sheet used for formatting html document. It is a style sheet language used for describing the presentation of a document written in a mark-up language.

**2.3.1 REASONS FOR CSS**

The following are reasons why CSS is better

1. It saves time

2. It eradicate the idea of using repeating codes

3. It provides efficiency in design and updates

4. It can lead to faster page downloads

**2.3.2 METHOD 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 uses the style attribute of an HTML elements.
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 an 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 is saved with a “.css” file extension. This CSS is then referenced in your HTML using the <link> instead of <style> as earlier stated
   * 1. **CSS SELECTORS AND HOW THEY CAN BE USED**

CSS selectors are used to find or select HTML elements based on their element name, id or class.

1. **Element Selector:** The element selector selects elements based on the element name.
2. **Id Selector:** The id selector uses the id attribute of an HTML element to select a specific element. The id of an element should be unique within a page, so the id selector is used to select one unique element. e.g. id=”hello” css #hello { color; red;}
3. **Class Selector:** The class selector selects elements with specific class attribute. To select elements with a specific class, write a period (.) character followed by the name of the class. e.g. .center {text-align: center;}.
   1. **JAVASCRIPT AND ITS PROPERTIES**

JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allows client side script to interact with the user and make dynamic pages. It is an interpreted programming language with object oriented capabilities. It was developed by Brenan Eich 1995-1996; it is an implementation of ECMA Script (European Computer Manufacturers Association). It was also known as livescript later change to javascript. It is use for client side web form validation. Javascript cannot run with been embedded in the HTML.

2.4.1 **FUNCTIONS OF JAVASCRIPT**

1. It is most commonly used as a client side scripting language, which implies that javascript is written into an HTML page and when a user request an HTML page with javascript in it, the script is sent to the browser.
2. It used for form validation.
   * 1. **ADVANTAGE OF JAVASCRIPT**
3. **Client-Side execution**: No matter where you host JavaScript, Execute always on client environment to save a bandwidth and make execution process fast.
4. **User Interface Interactivity**: JavaScript used to fill web page data dynamically such as drop-down list for a Country and State.
5. **Rapid Development**: JavaScript syntax's are easy and flexible for the developers. JavaScript small bit of code you can test easily on Console Panel (inside Developer Tools) at a time browser interpret return output result.
6. **Browser Compatible**: The biggest advantages to a JavaScript having ability to support all modern browsers and produce the same result.
   * 1. **JAVASCRIPT DEVELOPMENT TOOLS**

One of the major strengths of javascript is that it does not require expensivedevelopment tools. One can begin with a simple text editor such as notepad or notepad++.Since it is an interpreted language inside the context of a web browser, you don’t even needto buy a compiler.

However to make life simpler, various vendors have come up with very nice

JavaScript editing tools, they are Class Editor, Sublime etc.

**2.4.4** **JAVASCRIPT SYNTAX**

JavaScript can be implemented using javascript statements that are placed within the <script>…………..</script> HTML tags in a web page. You can place the <script> tags, containing your javascript, anywhere within your web page, but it is normally recommended that we should keep it within the <head> tags

The script tag takes two important attributes:

**1. Language:** This attribute specifies what scripting language i am using.

**2. Type:** This attribute is what is now recommended to indicate the scripting language in use and its value should be set to “text/javascript”.

**2.4.5 COMMENTS IN JAVASCRIPT**

JavaScript supports both c-style and c++ style comments. Thus:

**1.** Any text between a // and the end of a line is treated as a comment and is ignored by JavaScript.

**2.** Any text between the characters /\* and \*/ is treated as a comment. This may span multiple lines.

**3.** JavaScript also recognizes the HTML comment opening sequence <!--. JavaScript treats this as a single- line comment, just as it does the //comment.

**4.** The HTML comment closing sequence --!> is not recognized by JavaScript so it should be written as //-->