KWARA STATE POLYTECHNIC, ILORIN

INSTITUTION OF INFORMATION COMMUNICATION TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE

**A TECHNICAL REPORT OF THE STUDENTS INDUSTRIAL
WORK EXPERIENCE SCHEME
(SIWES)**

UNDERTAKEN AT:

MIOX INTERNATIONAL COMPANY

ILORIN KWARA STATE

SUBMITTED BY:

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Matric No: **ND/23/COM/PT/0391**

SUBMITTED TO:

THE DEPARTMENT OF COMPUTER SCIENCE

PERIOD OF ATTACHMENT:

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CERTIFICATION

This is to certify that **MUDSTHIR MUHAMMED ABOLAJI** with matriculation number **ND/23/COM/PT/0391** of the department of **COMPUTER SCIENCE, KWARA STATE POLYTECHNIC, ILORIN** has completed his four months industrial training at **MIOX INTERNATIONAL COMPANY** and this report covers the experience obtain by the student during his four months Student Industrial Work Experience Scheme (SIWES).

MR, OYEDEPO FEMI SAMSON

HEAD OF DEPARTMENT,   _____

Department of Computer Science   **Sign and Date**

MR ABIODUN E.T

The SIWES Director,   _____

Department Of Computer Science   **Sign and Date**

DEDICATION

I dedicate my industrial training report to almighty god, who has given me the grace to participate in the SIWES program, to my parents and as many that have contributed greatly to the success of my industrial training.

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 send out my appreciation to my industrial based supervisors Mr, Ismail Olamide. And my lecturers, friends and Co-workers for their moral support thorough supervision and useful advice which helped and also contributed to the success of the SIWES program.

My special thanks to my wonderful and lovely parents Mr. and Mrs. **MUDSTHIR** who were there for me in terms of care, prayers, financial support and others.

Thanks and Allah bless you all.

ABSTRACT

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

The report report covered the experience acquired outside the institution as a challenge to be exposed to industrial sector after graduate as a basic knowledge acquired in admire computer institute for four (4) months. Having acquired Knowledge on Computer and its maintenance, and some application like, Microsoft Power point, CorelDraw, Microsoft Word and Web Development, given me the privilege to participate in the practical aspect of what i have learn during the program.

TABLE OF CONTENT

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMEDATION

CHAPTER ONE

1.0   INTRODUCTION

The Student Industrial Work Experience Scheme (SIWES) is 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 impact 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   AIM AND OBJECTIVES OF SIWES:

- The program teaches the student on how to interact effectively with other workers and supervisors under various conditions in the organization.
- It will help students to gain increased maturity and understanding of the workplace.
- The students will have chance to evaluate companies for which they might wish to work.
- It exposes students to work methods and techniques in handling equipment and machines that may not be available in educational institution.
- The program provides students with an opportunity to apply their knowledge in real work and actual practice.
- SIWES increases a student sense of responsibility.
- SIWES provides students the opportunity to test their interest in a particular career before permanent commitments are made.

2.0   DESCRIPTION OF THE ESTABLISHMENT OF ATTACHMENT

Miox International Company is a fully indigenous Nigerian company that provides clients with high-quality, cost-effective, and innovative IT. **Miox International Company** prioritizes ultimate client satisfaction. The Company has established a respected standard over the years due to her extensive technical knowledge and ability in project management and implementation.

2.1   VISION OF THE COMPANY

To be a leading institution in technology education, empowering individuals with the skills, knowledge, and confidence to innovate and excel in a rapidly evolving digital landscape. We envision a future where our graduates are at the forefront of technological advancement, contributing to sustainable development and impactful solutions for global challenges.

2.2   THE OBJECTIVES OF THE COMPANY

1. To offer a comprehensive and up-to-date curriculum that encompasses the latest technologies and industry trends to ensure our students acquire relevant competencies.
2. To provide practical, hands-on training experiences through labs, workshops, and projects that enable students to apply theoretical knowledge in real-world scenarios.
3. To promote accessibility in technology education by offering diverse programs that cater to individuals from various backgrounds, ensuring an inclusive learning environment.

2.3   CORE VALUES

- Honesty
- Services
- Commitment
- Excellence
- Professionalism

2.4   COMPANY AREA OF SPECIALIZATION

With a team of professional in Computer maintance, Computer programmers, web development, Graphic designers, and UI/UX, the Company has a reputable recognition in the following areas:

1. **Software Development:** Software development involves the process of designing, coding, testing, and maintaining software applications. This field encompasses a variety of programming languages, frameworks, and methodologies. Software developers work on applications that run on various platforms, including desktop, mobile, and cloud

environments. Key concepts include software engineering principles, version control, agile methodologies, and user experience design. Developers may specialize in different areas, such as front-end development (user interface) or back-end development (server-side logic).

2. Web Development

Web development focuses specifically on the creation and maintenance of websites and web applications. It includes both front-end development, which involves the design and interactivity of the website that users see, and back-end development, which deals with server-side logic, databases, and application integration. Technologies such as HTML, CSS, JavaScript, and various frameworks (e.g., React, Angular, and Node.js) are commonly used.

3. Graphic Design

Graphic Design is a field of computer science that involves the visual communication of ideas and messages through the use of typography, color, and images. It involves the creation of visual elements such as logos, graphics, icons, and graphics for websites, magazines, newspapers, and other media.

4. UI/UX DESIGN

Our company specializes in creating intuitive and engaging User Interface (UI) and User Experience (UX) designs that enhance digital interactions. We focus on understanding user behavior, preferences, and needs to develop solutions that are not only aesthetically pleasing but also highly functional.

2.5   STRUCTURE CHART OF MIOX INTERNATIONAL COMPANY TRAINING INSTITUTE
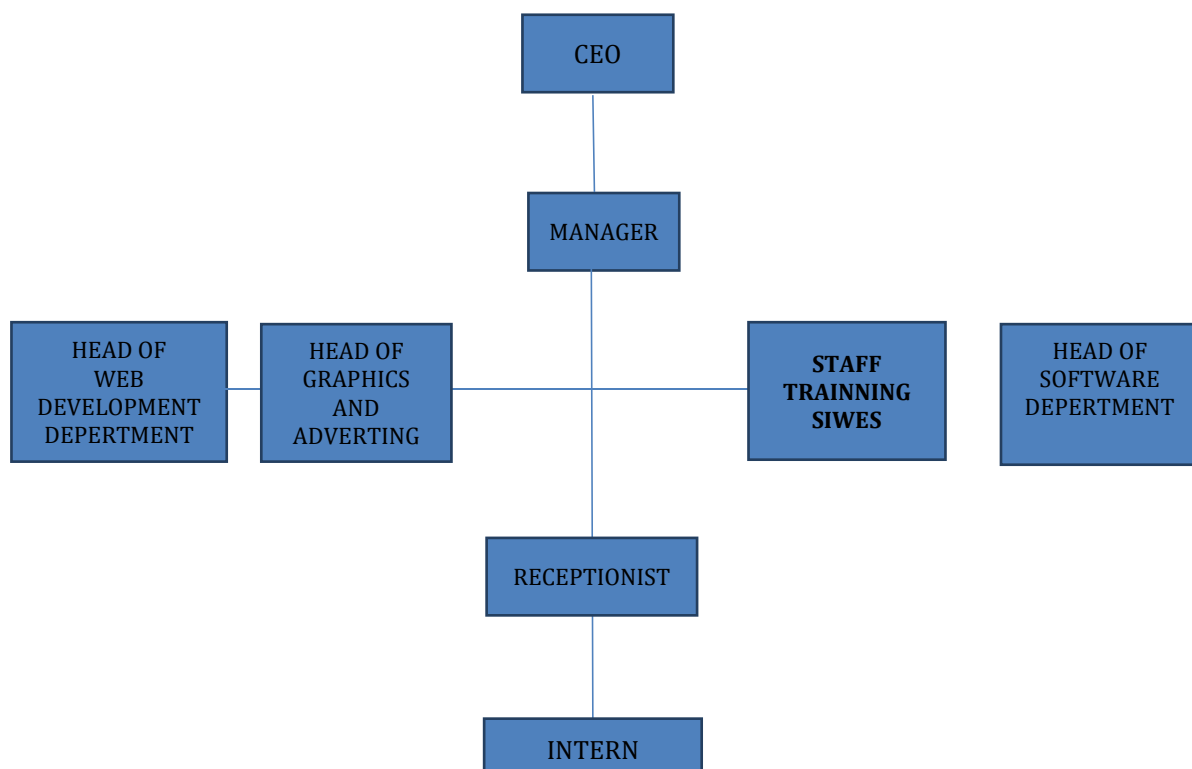
<div align="center">**CHAPTER THREE**</div>

3.0 INDUSTRIAL EXPERIENCE

During my four-month SIWES training at **Miox International Company**], I worked as a web development, Graphic Design and knowledge about some computer applications , My responsibilities are to assisting in the design and development of web application using [HTML, CSS and JAVASCRIPT] in web development.

3.1 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

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.

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

3.2 PART OF A COMPUTER

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

HARDWARE are all part of computer he 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.

3.3 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.

3.4 INTRODUCTION TO MICROSOFT OFFICE

Microsoft Office is suite of productivity software that includes a range of applications for creating, editing and managing documents, spreadsheets, presentations, and more.

MICROSOFT OFFICE IS CATEGORIZE INTO DIFFERENT PATH WHICH ARE;

- **Microsoft word, Microsoft Excel, Microsoft Power point, Microsoft Outlook, Microsoft publisher, Microsoft Access, Microsoft One Note, Microsoft Visio and Microsoft Project, Microsoft Picture Manager, Microsoft Info Path**

3.5 MICROSOFT WORD.

Microsoft word is the typing, editing, storing, and printing of texts through an electrochemical device called computer. It can also be define as the act of manipulation characters to create a professional looking document through the computer.

A word processor is a computer program used to create and print text documents that might otherwise be prepared on a typewriter. The key advantage of a word processor is its ability to make changes easily, such as correcting spelling, adding.

STEPS IN LAUNCHING MICROSOFT WORD

Before you get started with Microsoft Word (commonly referred to as MS Word), you will need to locate and open it from the computer. It may be on your desktop.

From the computer desktop:

1. Double-click on the MS Word icon

Go to the Start menu if the MS Word icon is not on the desktop:

1. Click **Start Programs Microsoft Word***

*Occasionally, Microsoft Word will be in a folder called "Microsoft Office" or similar this will make one more step between "Programs" and "Microsoft Word" in the diagram above.

MS Word will open a blank page called "Document 1."

SCREEN ELEMENT OF MICROSOFT WORD

1. **Title Bar:** A place where application name of the user appears.
2. **Menu Bar:** A place where all news name that is use to perform different task appear e.g. File, Edit, Format. e.t.c.
3. **Formatting Bar:** A place where icon that is used to change the attribute of our text e.g. B for bold, I for italic, U for underline e.t.c.
4. **Standard Tool Bar:** This bar show operation symbols that represent a command like new, open, save, print, print preview, copy, cut and so on.
5. **Scroll Bar:** it is denoted by the triangle icon and it is used to move page up and down, left and right.

THE MENU BAR

The Menu Bar is a common sight in almost all Microsoft Windows programs. It features text-based menus, on which are listed virtually every option. Each menu expands when clicked (with the left mouse button), offering many options categorized by specific tasks.

You can click on each of the words to see a menu of the tasks you can perform.

To see a menu:

1. Point with your mouse to a menu option

2. Click the left mouse button once to open a drop-down menu

3. Point with your mouse to a particular item

4. Click once with the left mouse button to select the item.

Toolbars provide "Shortcuts" to commands also found in the Menu Bar. Toolbars are usually located just below the Menu Bar, and exist to offer another way to perform the same task. As with all Microsoft Windows programs, there are usually three ways to perform every task in order to suit the user's preferences.

Remember, if you can't remember what an icon stands for, hover your mouse over it and a box will pop up with the explanation!

The most commonly used commands in MS Word are also the most accessible.

PRINTING OF FILE

To print your MS Word document: Click **File Print** from the Menu Bar and a **Print** window will pop up on the screen.Click **OK** for your document to start printing. As with all commands in MS Word, you can make changes along the way. From the Print menu, you can alter how many copies will be made, in what order the pages will be and much more.

Another useful tool is the **Print Preview** function found alongside the **Print** command. This will allow you to look over an exact copy of what will come out of the printer before actually executing the print command. It is especially useful when experimenting with altered margins and page dimensions, and can help to conserve paper.

3.6 INTRODUCTION TO MICROSOFT EXCEL ENVIRONMENT

Microsoft Excel is spreadsheet program for creating, editing,and analysing data,such as budgets, charts and graphs. When Microsoft Excel is fully loaded into the computer memory, the following will be seen.

- The spreadsheet/worksheet
- Rows, Columns and cells
- The mouse pointer and cursor
- Working menu and bars

PLOTTING OF CHART

Charts are graphical representation of the data in a worksheet. They are appealing and makes it easy for users to set comparisons patterns and trends in data. For instance, rather than having to analyse several columns of worksheet you can see at a glance whatever the student in a given class actually make the required average to pass.

Steps in plotting chart:

1. Select the whole data you want to produce it's chart/graph.
2. Click on insert on the menu bar
3. On the sub-menu that appear, click on chart
4. Another dialogue box will appear where you have to select the type of chart you want
5. Locate and click on finish to complete the process. So the chart will be displayed.

HOW TO CALCULATE SUM

We use sum when calculating addition in excel. And before spreadsheet can respond to any mathematical command. It must be entered as an equation. Therefore, to enter a function as an equation. We must firstly start with "equals to " (=) sign.

Steps in calculating sum:

1. Firstly, the data must be entered correctly as shown below
2. Then keep your cursor on the location you want sum to be displayed by clicking the mouse there
3. Type =sum and open bracket "(" then, click the mouse on the fist cell you want to sum now type ":" click mouse on the last cell containing the data to be sum
4. Then close the bracket ")"
5. Press enter on the keyboard.

FONT FORMATTING

Font refers to every typed letter in the computer, while the formatting simply implies beautifying e.g. coloring, bolding, italic, underlining etc.

Steps in formatting text:

1. Select the data by simply clicking on the cell
2. Click on format on the menu bar
3. Click on the cells on the sub menu displayed
4. On another box that appears, locate and click on font
5. Use the mouse to scroll through the fonts dialogue box and click the mouse on the desired fonts size, colour, type etc.

INSERTING PERCENTAGE

One can choose insert percentage to replace a given data.

Steps in inserting percentage:

1. Select the data to be replaced
2. Click on format from the menu bar
3. Click on cell on the sub-menu displayed
4. On the dialogue box that appears, click on Number
5. Then, locate and click on percentage
6. Click OK

INSERTING ROWS AND COLUMN

In case you need to type a given line of data in a given rows and column, but discover it has been occupied by another data not worry, you can simply insert another row or column in the same place.

Steps in inserting rows and column:

1. Keep your cursor where you want the row or column
2. Click on insert on the menu bar
3. On the sub-menu displayed, click on either row or column depending on your choice.
4.

TEXT ALIGNMENT

One can choose to rotate their text to a given angle when working in MS-Excel.

Steps in apply text alignment:

1. Select/highlight the text to be aligned
2. Click on format on the menu bar
3. On the sub-menu displayed, click on cells
4. Locate and click on alignment on the dialogue box displayed
5. Locate degree under orientation, click on the degree type in the rotating angle you want e.g. $15^0, 30^0, 50^0, 90^0$
6. Click on OK.

SHADING THE CELLS

You can choose to add pattern or color to your worksheet to emphasize some certain point or to enhance it appearance.

Steps in shading the cells:

1. Select the cells to be shaded
2. Click on format on the menu bar

3. Click on cells on the sub-menu displayed

4. On another dialogue box displayed, click on patterns

5. Then, click on the color you want

6. Locate the arrow in front of pattern and click on it, where you will choose the pattern

7. Click on OK.

SORTING

Sorting means arrangement of data either in ascending or descending order. When ascending it implies that the data will be arrange alphabetically while descending start with the last alphabet coming first.

Steps in sorting:

1. Select all the data to be sorted

2. Click on start on the menu bar

3. Click on sort on the sub-menu displayed

4. On another dialogue box that appears, select the heading field you want to sort from the available one under sort by

5. Select either ascending or descending depending on your operation

6. Click on OK.

AUTO FILL

If you have lines of text that need to be numbered, you don't actually need to waste much time numbering it one after the other while you can use automatic filling to fill the numbering to any destination of your choice in the worksheet.

Steps to auto fill:

1. Keep your cursor on the cell numbering will start

2. Click on edit on the main menu

3. Select fill from the sub-menu displayed

4. On another sub-menu that appear, click on series

5. On another dialogue box that appears, click inside the step value box to type where numbering should start

6. Click inside the stop value box, type where the numbering should stop

7. Select where it should be filled in row or columns under series in box

8. Click on OK to complete the process.

3.7 MICROSOFT POWER POINT

Microsoft Power point is a presentation program for creating, editing and displaying slide shows, presentation and lectures. Sometimes abbreviated as PP or PPT, Power Point is a presentation program developed by Microsoft that creates a slide show important information, charts, and images for a presentation. It is most often used for business and school presentations.

Power Point slides may contain only text, or they can include pictures, videos, or animated text and images. Text may be formatted in the same ways as in Microsoft Word, with custom color, size, and font type.

LAUNCHING POWER POINT

Use the following steps to launch Power Point manually from a windows system:

1. Open **My Computer.**

2. Click or select the **C: drive**. If Microsoft Office is installed on a drive other than the **C: drive**, select that drive instead.

3. Navigate to the **Program Files (x86)** folder, then the Microsoft Office folder.

4. In the Microsoft Office folder, if there is a root folder, open that folder. Then open the **Office XX** folder, where **XX** is the version of Office (e.g.,Office16 for Microsoft Office 2016). If there is no root folder, look for and open a folder with "Office" in the name.

5. Look for a file named POWERPNT.EXE and double-click that file to start Microsoft Power Point.

BENEFITS OF POWER POINT

● Power Point provides multiple benefits to users, including:

● It is widely used, and considered the "standard" for presentation software. If you create a Power Point presentation, it's more likely it will be easier for others to open and view.

● It includes many optional presentation features, including slide transitions, animations, layouts, templates, and more.

● It offers the option to export its slides to alternative file formats, including GIF and JPG images, MPEG-4 video, PDF, RTF (rich text format), WMV (Windows Media Video), and Power Point XML.

MICROSOFT OUTLOOK

Microsoft Outlook is an email client program for managing email, calenders, contacts and tasks

MICROSOFT ACCESS

Microsoft Access is a database management program for creating, editing and managing databases, such as inventory tracking, customer management and more.

INTRODUCTION TO GRAPHICS

3.8 GRAPHICS DESIGN

Graphics design is the art of communicating ideas and messages through visual and creative elements such as;

- Typography
- Images
- Colors
- Shapes
- Textures

It involves designing visual content to convey information, express ideals, and capture audiences, attention, typically for;

- Print media (brochures, posters, business cards)
- Digital media (websites, social media, advertisements)
- Branding and identity (logos, icons, packaging)

LIST OF SOFTWARE USED FOR GRAPHIC DESIGN;

- **Adobe Photoshop**
- **Adobe InDesign**
- **Figma**
- **CorelDRAW**
- **GIMP**
- **Canva**

ROLES OF GRAPHIC DESIGN

1. Visual Communication

2. Branding and identity

3. Advertising and Marketing

4. Information Design

5. Entertainment and Education

BENEFITS OF GRAPHICS DESIGN

1. Enhances Visual Appeal

2. Communicates Message Effectively

3. Build Brand Recognition

4. Supports Marketing Sharing

5. Facilitates Information Sharing

6. Creates Emotional Connections

7. Improves User Experience

3.9 CORELDRAW

DEFINITION

CorelDraw is a vector graphics editor developed and marketed by Corel Corporation. It is also the name of the Corel graphics suite, which includes the bitmap-image editor Corel Photo-Paint as well as other graphics-related programs.

BASIC CORELDRAW TOOLS

(i) **Pick Tool:** This tool allows you to pick or select the object and transform it.You can position the object too.

(ii) **Shape Tool:** If you want to edit the shape of objects chosen by the pick tool then you can use this tool.

(iii) **Free Transform Tools:** This tool allows you to alter the image objects with the help of rotation angle, rotation free, and resize. It also lets you bend the image structure.

- **Smudge Brush:** This tool will help you to change as well as distort the picture in general with engaging shorelines.

- **Roughen Brush:** This tool will let you change as well as distort the outline shape of the sketch in general with engaging shorelines.

(iv) **Crop Tool:** This tool can be used in clipping the region of an image that is not needed.

- **Virtual Segment Delete:** If you want to remove an object which is a part of an intersection then you can use this tool.
- **Erase:** It helps to get rid of some areas of the image.

(v) **Zoom Tool:** It helps you in changing the level of magnification in the illustration window in order to look at the object more intently. In simple words, it is used as a magnifying glass.

- **Hand:** It helps in balancing the images that materialize in the image window

(vi) **Freehand Tool:** This tool with the help of a mouse lets you sketch curves and lines. Essentially it is used for sketching.

- **Bezier**: It helps to draw curves in the shape of a solitary line per point.
- **Pen**: It helps in sketching curves in the form of a node.
- **Three-Point Curve:** It helps you in drawing a curve first by identifying the start and the end point, then it's center.
- **Poly-line**: It lets you sketch curves and lines in preview mode.
- **Dimension:** It helps you sketch a horizontal, vertical, oblique and angular line.
- **Interactive Connector:** It lets you combine the two objects accompanied by a line.

(vii) **Artistic Media Tool**: It helps in accessing the sprayer, brush, calligraphic, pre-set and pressure tools.

- **Rectangle Tool:** This tool helps you in drawing squares and rectangles to initiate boxes and terms.
- **Three-Point Rectangle:** If you want to arrange boxes and create terms from one point to another point then this is the tool.

(viii) **Ellipse Tool:** This tool helps you sketch circles and ellipses.

(ix) **Polygon Tool:** If you want to sketch stars and polygons in a symmetric manner then you can use the polygon tool.

- **Star**: This tool can be used to draw stars.
- **Complex Star:** This tool allows you to create stars that have intersection angles and complex shapes.

(x) **Basic Shapes Tool:** This tool helps you to select from a complete set of forms such as a right-angle triangle, smiley face, and a hexagram. You can draw arrows and slanted rectangles.

- **Arrow Shapes:** You can draw arrows ranging from diverse shapes such as arrowheads, direction, etc.
- **Flowchart Shapes:** You can create a flowchart with this tool.

(xi) **Text and Table Tool:** This tool helps you in typing words straight on the screen as a paragraph text or a creative text. The table tool helps you in creating and editing tables.

(xii) **Dimension Tools:** This tool allows you to draw numerous lines like segment, slanted, horizontal, vertical, and three-point dimensions.

(xiii) **Connector Tools:** This tool helps you in drawing a straight line, right-angle, edits anchor connector line and rounded right-angle connector lines.

(xiv) **Interactive Tools:** Interactive Blend: Boxes and terms can be created using this tool.

- **Interactive Distortion:** It helps you in applying a pull or push distortion and a zipper distortion to an object.
- **Interactive Drop Shadow:** It helps you to put an object into the shadow.
- Interactive Fill: It helps you to apply numerous amount of fills to an object.
- **Interactive Mesh:** If you want to apply network lines to an object then you can use this tool.

<div align="center">**CHAPTER FIVE**</div>

4.0 INTRODUCTION TO WEB DEVELOPMENT

Web development is the process of building and maintaining websites and web applications for the internet or an intranet. It involves a combination of various tasks and skills to create a functional and visually appealing online presence. It is divided into (3) which involve:

Frontend development

1.   Backend development

2.   Full – stack development

WEB DEVELOPMENT INVOLVES VARIOUS ASPECTS SUCH AS:

1.   Web design

2.   User experience (ux) design

3.   Web security

4.   Mobile application development

5.   Web assembly

6.   Search engine optimization (SEO)

7.   E-commerce development

DEFINITION WEB DEVELOPER

Web Developer: (web programmer or web coder) is a person who builds and maintains website, web application and mobile application using various programming language, framework and tools.

WEB DEVELOPER USES VARIOUS TOOLS SUCH AS:

1.   Text editor (e.g. visual studio code)

2.   Integrated development environment (IDE)

3.   Database management system

4.   Testing framework

5.   Version control system

4.1 STATUS CODE

A status code is a three- digit number that a web server user to communicate the outcome of a request to a client (usually a web browser). It's a way for the server to say "here's what happened with your request ".

FIVE CATEGORIES OF STATUS CODES

1. **1xx :** informational (request received, processing)
2. **2xx:** success (request successful data returned)
3. **3xx:** redirection (resource moved, redirect to another URL)
4. **4xx:** client error (request invalid, access denied)
5. **5xx:** server error (server-side error, request failed)

SOME COMMON STATUS CODE INCLUDES:

- **200:** ok (request successful)
- **404:** not found (resource not found)
- **500:** internal server error (server-side error)
- **301:** moves permanently (resource moved, new URL)
- **400:** bad request (invalid request error in syntax)

4.2 FRONTEND DEVELOPMENT

➢ HTML (HYPERTEXT MARKUP LANGUAGE)

Html (Hypertext Markup Language): is the standard markup language used to create web page it's the backbone of a website, providing the structure and content that the web browser render the user. It defines the structure and layout of a web page, html consists of series of element, represented tags (< >), these elements include:

1. Heading (h1 – h6)
2. Image (img)
3. Span (span)
4. Title (title)
5. Paragraph (p)
6. Form (form input, select) etc.

HTML LISTS

HTML lists : are used to group related items together and can be presented in various formats.

There are three main types of lists in HTML:

1. **Ordered Lists (<ol>):** These lists display items in a specific order, usually numbered. Each item in an ordered list is wrapped in a <li> (list item) tag. The numbering is automatically generated by the browser.

Example:

```
<ol>
   <li>First item</li>
   <li>Second item</li>
   <li>Third item</li>
</ol>
```

2.   **Unordered Lists (<ul>):** These lists display items without a specific order, typically using bullet points. Like ordered lists, each item is wrapped in a <li> tag.

Example:

```
<ul>
   <li>Item A</li>
   <li>Item B</li>
   <li>Item C</li>
</ul>
```

3.   **Description Lists (<dl>):** These lists are used for terms and their descriptions. A description list consists of <dt> (description term) and <dd> (description definition) tags.

Example:

```
<dl>
   <dt>HTML</dt>
   <dd>A markup language for creating web pages.</dd>
   <dt>CSS</dt>
   <dd>A style sheet language used for describing the presentation of a document written in
HTML.</dd>
</dl>
```

BLOCK AND INLINE ELEMENT

Block Elements

Block elements occupy the full width available (from left to right) and create a new line (or block) before and after the element. They are typically used for larger structural components of a webpage.

Characteristics of block element

- Start on a new line.
- Take up the full width of their parent container by default.
- Can contain other block elements and inline elements.

COMMON BLOCK ELEMENTS

- <div>: A generic container for grouping elements.
- <h1>, <h2>, ..., <h6>: Headers of different importance levels.
- <p>: Paragraphs.
- and <ol>: Unordered and ordered lists, respectively.
- <blockquote>: For quoting sections of text.

Example:

```
<div>
   <h1>This is a heading</h1>
   <p>This is a paragraph.</p>
</div>
```

Inline Elements

Inline elements do not start on a new line and only occupy the width necessary to contain their content. These elements are typically used for smaller parts of content within a block element.

Characteristics of inline element

- Do not start on a new line.
- Only take up as much width as they need.
- Cannot contain block elements (but can contain other inline elements).

Common Inline Elements

- <span>: A generic inline container for text.
- <a>: Anchor or hyperlink tags.
- <img>: For embedding images.
- <strong>: For important text (usually bold).
- <em>: For emphasized text (usually italicized).

Example:

```
<p>This is a <strong>bold</strong> word in a paragraph.</p>
<a href="https://www.example.com">This is a link</a>
```

CODE INSPECTION

Code Inspect: typically refers to the ability to view and interact with the underlying code of a webpage directly within a web browser. This is most commonly done through a feature known as the "Developer Tools" or "DevTools", which is available in most modern web browsers such as Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari.

CHARACTER OF DEVELOPER TOOLS:

1. **Inspect Elements:** You can right-click on any element on a webpage and select "Inspect" (or "Inspect Element") to view its HTML structure, CSS styles, and other attributes. This allows developers and designers to see how various elements of a page are structured.

2. **Debug JavaScript:** The console allows you to run JavaScript code directly on the page and debug scripts. You can set breakpoints, step through code, and inspect variables.

3. **Network Monitoring:** You can view all network requests made by the webpage, including the time taken to load resources, independent of whether they are images, scripts, or styles. This is particularly useful for performance tuning.

4. **Storage Inspection:** Developers can view and manipulate cookies, local storage, indexedDB, and session storage to debug issues related to client-side storage.

5. **Accessibility Audit:** Tools available in DevTools can help you analyze a webpage's accessibility and check for any common accessibility issues.

6. **CSS Editing:** You can directly modify HTML and CSS in the browser to see how changes affect the appearance and behavior of the page in real-time.

To access Developer Tools, you can usually right-click on a webpage and select "Inspect" or press F12 or Ctrl + Shift + I (or Cmd + Option + I on Mac) depending on the browser you are using.
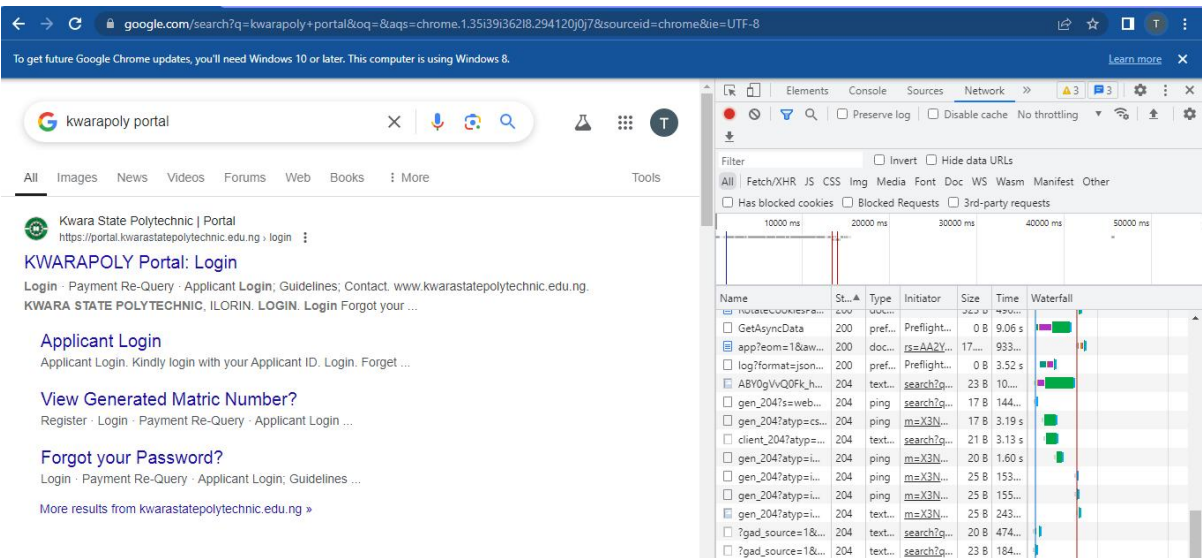
4.3   CSS (CASCADING STYLE SHEETS)

CSS (Cascading Style Sheets): is a styling language used to control the layout and visual appearance of web page written in html. It also, used in target specific html element to apply style and consist of properties and value example (color: red; padding: 10px ;,) etc.

HOW TO CONNECT YOUR CSS TO YOUR HTML

We can connect CSS to html in 3 ways:

1.   Inline CSS

2.   Internal CSS

3.   External CS

1.   **Inline CSS:** written directly within an html element using the style attribute.

Example; <p style = "color: blue ;"> this is inline CSS </p>

2.   **Internal CSS:** written within an html file using the <style> tag in the <head> section.
Example: <style> /* style here */ </style>

3.   **External CSS**: is separate from html while internal and inline CSS are embedded within html. It generally preferred for maintainability and scalability.

CSS SELECTOR

CSS (Cascading Style Sheets) selectors are patterns used to select elements in an HTML document that you want to style.

TYPE OF CSS SELECTOR

1.   Type Selector: Targets all elements with a specific tag name (e.g., h1, p).

2.   Class Selector: Targets all elements with a specific class (e.g., .nav, .header).

3.   ID Selector: Targets a single element with a specific ID (e.g., #header, #footer).

CSS POSITION

In CSS (Cascading Style Sheets), the position property is used to control the positioning of an element in the document. It defines how an element is positioned in relation to its normal position, its parent element, or the viewport. There are several values that the position property can take, each affecting layout in different ways:

1.   **Static:** This is the default value. Elements are positioned according to the normal flow of the document. Setting the top, right, bottom, or left properties will have no effect on a statically positioned element.

.element {

    Position: static;

}

2.   **Relative:** The element is positioned relative to its normal position. Setting top, right, bottom, or left will move the element from where it would normally be in the document flow without affecting other elements.

```css
.element {
    Position: relative;
    Top: 10px; /* Moves the element down 10 pixels */
```

3. **Absolute:** The element is positioned relative to the nearest positioned ancestor (an ancestor with a position value of anything other than static). If there is no such ancestor, it is positioned relative to the initial containing block (usually the viewport). The element is removed from the normal document flow.

```css
.element {
    Position: absolute;
    Top: 50px; /* 50 pixels from the top of the nearest positioned ancestor */
}
```

4. **Fixed:** The element is positioned relative to the viewport, which means it stays in the same position even when the page is scrolled. It is also removed from the normal document flow.

```css
.element {
    Position: fixed;
    Top: 0; /* Sticks to the top of the viewport */
}
```

5. **Sticky:** The element toggles between relative and fixed positioning depending on the user's scroll position. It is treated as relative until it crosses a specified threshold (like top, right, bottom, or left), at which point it becomes fixed.

```css
.element {
    Position: sticky;
    Top: 10px; /* Becomes fixed when scrolled to 10px from the top */
}
```

4.4 JAVASCRIPT

JavaScript: is a high-level dynamic and interpreted programming language used for client-side scripting on the web. It allows developer to create interactive web page, web application and mobile application. It is used for:

1. Client – side scripting
2. Server – side programming
3. Game development
4. Mobile development

WAY TO DECLARE A VARIABLE IN JAVASCRIPT

1. Var.
2. Let.
3. Const.
1. **Var.:** is a global object that can be access anywhere. It didn't have a scope.

Example: var. name: "mercy";

Console.log (name)

2. **Let :** is a block scope ,

Anything inside curly bracket define scope

Example: {

Let name = "john";

}

Console.log (name);

CONCATENATION

Concatenation: mean joining two things together to become one. Using template string to concatenate:

1. Back tick
2. Dollar sign
3. Curly bracket

Example:

Let first name = "jerry"

Let second name = "Akanke"

let full name = $`{first name}${second name}`

Console.log (full name);

• **Console:** this is a feature in almost all browser it work with java Script to output a value to the console.

• **Alert [ ] method:** is a built in function that display a message box with a specified message and an ok button. it is often used to alert or notify the user of something important

COMMENT IN JAVASCRIPT

Comments in JavaScript are used to provide insights, explanations, or annotations within the code. They are ignored by the JavaScript engine when the code is executed, allowing developers to leave notes for themselves or others without affecting the program's functionality.

THERE ARE TWO TYPES OF COMMENTS IN JAVASCRIPT:

1.   **Single-line comments:** These comments are created using two forward slashes (//). Everything following // on that line will be treated as a comment.

 For example:

// this is a single-line comment

Let x = 5; // Assigns 5 to x

2.   **Multi-line comments:** These comments can span multiple lines and are created by enclosing the comment text between /* and */.

 For example:

/* this is a multi-line comment

   That can span multiple lines */

Let y = 10; /* this is an inline comment */

DATA TYPE IN JAVASCRIPT PROGRAMMING

Data type is a classification of data based on its format, size, and set of values, it can hold. JavaScript

Is a dynamically-typed language, which means that you don't need to declare the data type of a variable before using it?

TYPE DATA TYPE IN JAVASCRIPT

1.   **Number:** represents a numeric value e.g., 42,3.14

2.   **String:** represent a sequence of character e.g., "hello"

3.   **Boolean:** represent a true or false value.

4.   **Null:** represent the absence of any value.

5.   **Variable:** Are containers that hold a value think of it like a labeled box where you can store value. E.g.,

Age =20,

console.log (age)

 TYPE OF VARIABLE

- **Local variable:** is anything that inside the curly bracket

- **Global variable:** is outside the curly bracket.

      Array: represent a collection of value, e.g., [1,2,3,4,5,6]

METHOD OF ARRAY

1.   **Push:** it is use to push information into array

Example:

Let user = [

"Samuel",

"Jade",

]

ser. Push ("favor")

Console.log (user)

2.   **Pop :** is used for delete item from the back

Example:

Let user = [ ]

User. push ("Tom")

User. push ("Sunday")

User.pop ("favor")

Console.log (user)

3.   **Shift () method:** is used to remove the first element from an array and return that element. It change the length of the array and shift all the element down by one position

/*

Let color = ["red", "green", "blue", "yellow",]

Console.log (color. shift ()); // output: "red",

Output ["green", "blue", "yellow",]   */

4.   **Un-shift () method**: is a built-in JavaScript array method that adds one or more elements to the beginning of an array. It modifies the original array and returns the new length of the array after the elements have been added.

Example:

Let fruits = ['banana', 'orange', 'apple'];

Fruits. Un-shift ('mango'); // Adding a single element

console.log (fruits); // Output: ['mango', 'banana', 'orange', 'apple'].

5.   **Object:** is a complex data type that allows you to store collections of data and more complex entities. Objects can hold multiple values in the form of key-value pairs, where each key (also known as a property) is a string (or a Symbol) that map to a value, which can be of any data type, including another object or even a function.

6.   Function: is a reusable block of code that performs a specific task. Functions allow you to encapsulate logic, making it easier to write, manage, and reuse code. Functions can take inputs (called parameters), perform operations, and return outputs (values).

2 COMMON WAY TO DECLARE A FUNCTION

1.   Function Declaration: is a way to define a named function using the function keyword. This is one of the most common ways to create functions in JavaScript. Function declarations are hoisted, meaning they can be called before they are defined in the code, making them flexible for organizing code.

Example:

Function functionName (parameter1, parameter2) {

   // Code to be executed

   Return result; // Optional

}

Example:

```
Functions add (a, b) {
   Return a + b;
}
console.log (add (3, 5)); // Output: 8
```

2.   An arrow function: is a feature in JavaScript introduced with ECMAScript 6 (ES6) that provides a more concise syntax for writing function expressions.

```
Const function Name = (parameter1, parameter2) => {
   // Code to be executed

   Return result; // Optional

};
```

Example:

Const subtract = (a, b) => a - b; // Single expression, implicit return

console.log (subtract (10, 4)); // Output: 6

CONDITIONALS/DECISION MAKING IN JAVASCRIPT

Condition or decision-making in JavaScript allows you to execute different blocks of code based on certain conditions. This is a fundamental aspect of programming that enables dynamic and flexible application behavior. JavaScript provides several statements for decision-making, including if, else, switch, and the ternary operator.

1.   if Statement

 If statement: evaluates a condition and executes a block of code if the condition is true.

Example:

```
Let temperature = 30;
If (temperature > 25) {
    console.log ("It's a hot day.");
}
```

2.   if...else Statement

You can provide an alternative block of code to execute if the condition is false using else.

Example:
```
Let temperature = 20;
If (temperature > 25) {
    console.log ("It's a hot day.");
} else {
    console.log ("It's not a hot day.");
}
```

3.   else if Statement

For multiple conditions, you can use else if to test additional conditions.

Example:
```
Let temperature = 10;
If (temperature > 25) {
    console.log ("It's a hot day.");
} else if (temperature < 15) {
    console.log ("It's a cold day.");
} else {
    console.log ("It's a mild day.");
}
```

CHAPTER FIVE

SUMMARY, CONCLUTION AND RECOMMENDATION

5.0 SUMMARY

The four months student industrial work experience scheme undergone at **Miox International Company** 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. The programme has been highly enlightening, beneficial, interesting and successful.

5.1 CONCLUSION

My SIWES was a very successful one, I had an insight of the information technology world. I have now known the basic knowledge of Computer system, and some application like, Microsoft Power point, CorelDraw, Microsoft Word and Web Development. With this, I will be able set a goal for myself to build a complete a Design, Create 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.

5.2 CHALLENGES

There are challenges that were encountered during the industrial training. These challenges are time demanding and thereby consume a lot of time and effort but to my optimum satisfaction I was able to overcome those challenges which really exposed me to some technical problems that can occur and how to tackle or solve these problems.

- The first challenge I encountered during the industrial training was the use of new programming languages and concepts in the course of completing the web project and other activities that required programming ideas.
- The problem of time management was inevitable, a lot of activities needed to be completed in a limited time.

RECOMMENDATION

I urge the Federal Government to take the SIWES program more seriously especially for I.T students and Applied Sciences because the world is drifting towards I.T. The Government should ensure a proper supervision of SIWES students so that the purpose of the program will be archived. The Federal Government should also make adequate provision in the annual budget for proper funding of SIWES in view of the potential of the program to contribute to enhancing the quality of the pool I.T skills available to the country. A comprehensive and detailed directory of who accepts students for SIWES is urgently required to facilitate placement for SIWES student in industry. The ITF also should ensure that the payment of the student allowance is paid on time in other to keep the SIWES students zealous and motivated. I recommend that the Nigerian educational system should be reviewed as what is taught in the classroom totally contradicts with what is needed the in the actual work place.