IT-SIWES REPORT ON WEB DEVELOPMENT AND GRAPHICS DESIGN

STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME [SIWES]

HELD AT

PRINTFOREST LIMITED, LAGOS STATE

By

Olaleye Abdullahi Opeyemi

ND/23/COM/FT/0004

A SIWES REPORT SUBMITED TO KWARASTATE POLYTECHNIC IN PARTIAL FUFILMENT OF THE REQUIREMENT FOR THE AWARD OF NATIONAL DIPLOMA [ND] IN THE DEPARTMENT OF COMPUTER SCIENCE

CERTIFICATION

This is to certify that **OLALEYE ABDULLAHI OPEYEMI** with matriculation number **ND/23/COM/FT/0004** successfully underwent industrial training **(SIWES)** at **PRINTFOREST LIMITED, LAGOS STATE** In partial fulfillment of the award of national diploma (**ND**) in computer science, Kwara State polytechnic, undersigned by the following people:

_____ _____

SIWES SUPERVISOR **DATE & SIGN**

_____ _____

SIWES CO-ORDINATOR **DATE & SIGN**

DEDICATION

This report is dedicated to Almighty Allah, for his mercies and blessing shown on me before, during and after my SIWES program. I will also like to dedicate this report to my parents who stood by me and also help me in many ways during this period of preparing this report.

ACKNOWLEDGEMENT

My appreciation first goes to God Almighty, 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 am also grateful to my industrial based supervisor Mr. Olarenwaju Yusuf. For his thorough supervision and useful advice which helped and also contributed to the success of the SIWES program. May the Almighty God make his days on earth longer to reap the fruit of their labour to the fullest

I wish to express my thanks to my beloved parents for their moral and

support toward the completion of this program.

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CHAPTER ONE

1.0 INTRODUCTION

The student industrial training is the training program which forms part of the academic standards for degree programs in Nigerian tertiary institutions. It seeks to bridge the gap existing between technology and other professional education programs in Nigerian Tertiary Institutions.

1.1 ABOUT STUDENTS INDUSTRIAL WORK EXPERIENCE SCHEME

The student work experience scheme (SIWES) is a worldwide program practiced in countries like Japan, Australia, USA, Europe, and in African countries too. It is popularly known as co-operative education and referred to as sandwich in Europe. It is a four (4) months students industrial work experience scheme (SIWES) taken in the third year of the degree program, where the students go to various establishments related to their course of study.

The program was initially introduced in Nigeria by the Industrial Training Fund (I.T.F.) which was established under Decree 47 of 1972 by the Supreme Military Council, headed by General Yakubu Gowon. The Decree was billed to take effect from 31st March, 1974 and had as its core objective, the gradual reduction of the percentage of foreign participation in most of Nigeria's economic activities, accompanied by a systematic cooperation of locally oriented skilled manpower into the vast economic sector.

One of the key functions of the ITF is to work as cooperative body with industry and commerce where students in institutions of higher learning can undertake mid-career work experience attachment in industries which are compatible with student's area of study. The students Industrial Work Experience Scheme (SIWES) is a skill Training program designed to expose and prepare students for the Industrial work situation which they are likely to meet after graduation. Participation in SIWES has become a necessary pre-condition for the award of diploma and degree certificate in specific disciplines

in most institutions of higher learning in the country in accordance with the education policy of government.

1.2 BRIEF HISTORY OF SIWES

The word SIWES (Student Industrial Work Experience Scheme) was introduced by the federal government in the year 1973 to develop the technological, physical and social skill of our nation, through this, adequate and intelligent student are provide the department involved the actual challenge various discipline before they can be awarded as an National Diploma (ND) graduate .SIWES not only equips students with technical skills but also builds essential professional attributes such as teamwork, communication, and problem-solving."

1.3 AIMS AND OBJECTIVES OF SIWES

- Provide an avenue for students in institutions of higher learning to acquire industrial skills and experience in their approved course of study and also by interacting with people with more experience in the field under consideration.
- 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 that are mostly not available in their various institutions.
- Provide students with an opportunity to apply their knowledge in real world situation thereby reducing the gap between theoretical knowledge and practical work.
- Enlist and strengthen employers' involvement in the entire educational process and prepare students for employment in Industry and Commerce.

1.4 ROLES OF STUDENT

- Attend SIWES orientation programs 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.

1.5 OBJECTIVES OF THE REPORT

i. To develop technical skills in web development and graphic design.

ii. To understand industry standards and workflows.

iii. To apply theoretical knowledge from academic coursework to practical tasks.

iv. To build communication and teamwork skills in a professional setting.

1.6 BRIEF HISTORY OF THE ORGANIZATION

Printforest Limited, was private organization, established in the year 2012. It owned and manage by **Mr. Olarenwaju Yusuf**

It is a non-governmental organization in Lagos State.

It provides science academic training and skill acquisitions in aspect web development ux/ui designs and graphic design, e.t.c.

The company presently has two sectors, the sector for web development and the sector of graphics design

Chapter 2: Web Development Experience

2.1 Overview of Web Development

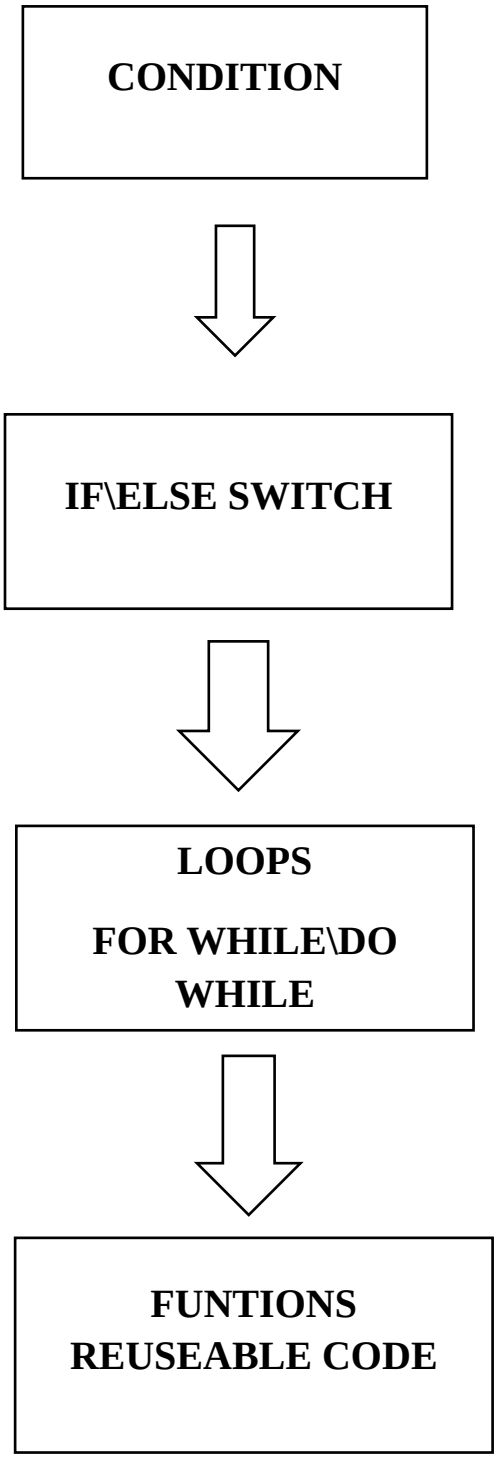
Web development is a field that focuses on the creation and maintenance of websites and web applications. It involves both front-end and back-end development to ensure that websites are user-friendly, visually appealing, and function seamlessly. During my SIWES experience, I had the opportunity to gain hands-on experience in various aspects of web development, including coding, design integration, and database management. I gained hands-on experience working on HTML, CSS, JavaScript, and other web technologies, using VS Code as the integrated development environment (IDE).
This report focuses on my experience in web development, where I utilized Visual Studio Code (VS Code) as the primary development environment.

2.2 Tools and Technologies Used

HTML & CSS: HTML (HyperText Markup Language) and CSS (Cascading Style Sheets) were essential in creating the structure and styling of web pages. HTML was used to define content layout, while CSS allowed me to customize colors, fonts, and other design elements to create visually appealing and responsive web pages.
Under html I was also able to look into sub division like the linking, link bookmarking, heading, creation of ID tags, iframe tags, styling and so on.
I was also able to run codes written on the vs code with an extension called live server.

JavaScript: JavaScript enabled interactive elements on web pages, such as animations, form validations, and dropdown menus. I also used JavaScript frameworks, particularly React.js, to manage complex user interfaces. Where i focused on java script basics, the use of data types, variables and operations Proceeds to learn about the control structures in javascript like the conditional statement and so on.

JAVASCRIPT CONTROL STRUCTURE



React.js: React.js is a popular JavaScript library used for building dynamic and interactive user interfaces, particularly for single-page applications."

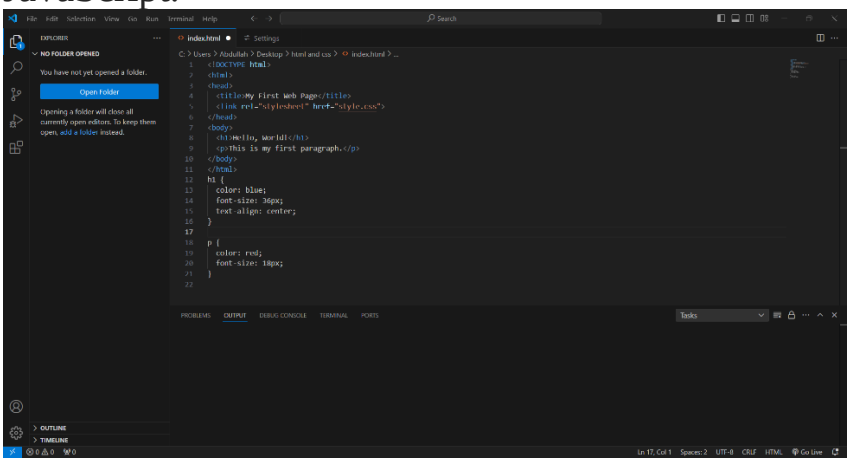
WORDPRESS: I learnt a little about wordpress which only includes the basic of wordpress including (installation, configuration and dashboard navigations). Moved on to worpress themes and plugins as well as understanding heading post, pages categories, tags and so on

2.3 Activities and Experiences

1. Setting Up the Development Environment
Installed VS Code and configured extensions like Live Server, Prettier, and Emmet.
Organized project files into folders for efficient project management.

2. **Website Design and Development**
Created static web pages using HTML and styled them with CSS.
Implemented responsive designs using media queries.
Added interactivity to web pages using JavaScript.

3. **Using VS Code Features**
Intelligence: VS Code's intelligent code suggestions enhanced my productivity.
Integrated Terminal: Used to run commands like npm install and git commit.
Debugging: Utilized VS Code's debugging tools to identify and fix errors in JavaScript.



Explanation:
HTML:
<!DOCTYPE html>: Declares the document type as HTML5.
<html>: Root element of an HTML page.
<head>: Contains meta-information about the page, like the title.
<title>: Sets the title of the page, displayed in the browser's tab.
<link>: Links an external stylesheet (style.css) to the HTML document.
<body>: Contains the visible content of the page.
<h1>: Defines a heading level 1.
<p>: Defines a paragraph.
CSS:
h1 { ... }: Styles the <h1> element.
color: blue;: Sets the text color to blue.
font-size: 36px;: Sets the font size to 36 pixels.
text-align: center;: Aligns the text to the center.
p { ... }: Styles the <p> element.
color: red;: Sets the text color to red.
font-size: 18px;: Sets the font size to 18 pixels.
When you open this HTML file in a web browser, you'll see a simple page with the text "Hello, World!" in blue and a paragraph in red, styled according to the CSS rules.

4. **Version Control**
Learned to use Git for version control directly within VS Code.
Pushed changes to GitHub for collaborative projects.

5. **Testing and Deployment**
Tested websites locally using Live Server.
Deployed projects to hosting platforms like Netlify and GitHub Pages.

2.3 Responsibilities and Tasks

Website Layouts and Prototypes: My initial task was to create website layouts using HTML and CSS. I worked on creating prototypes for landing pages, using tools like Figma and Adobe XD to present the initial design concepts to the team.

Responsive Design Implementation: I worked on ensuring that websites were responsive and mobile-friendly. Using CSS media queries, I modified layouts to adapt to different screen sizes, which improved the user experience across devices.

2.4 Key Learning Outcomes

Understanding Full-Stack Development: I gained a comprehensive view of web development, understanding the integration of front-end and back-end components. This experience taught me how to build a complete web application, from setting up a database to creating interactive user interfaces.

Problem Solving and Debugging: I developed problem-solving skills by identifying and fixing bugs. I learned debugging techniques and strategies to handle errors, which enhanced my ability to troubleshoot issues independently.

User Experience (UX) Principles: Working with front-end technologies exposed me to UX principles, teaching me to prioritize user-friendly designs, smooth navigation, and responsive elements that enhance the overall user experience.

Chapter 3: Graphics Design Experience

3.1 Overview of Graphic Design

Graphic design is the art of creating visual content to communicate ideas and messages effectively. It involves a blend of typography, color theory, and layout design to capture attention and convey meaning. During my SIWES

experience, I was involved in a range of graphic design tasks, including branding, digital marketing content, and website graphics. This experience gave me insight into the role of graphic design in establishing brand identity and enhancing user engagement.

3.2 Tools and Technologies Used

- **Adobe Photoshop:** Photoshop was essential for image editing, manipulation, and creating custom graphics. I used it to enhance images, apply filters, and design banners for digital marketing campaigns.

- **Adobe Illustrator**: Adobe Illustrator is a vector-based graphic design tool that ensures designs remain scalable without losing quality. It is widely used for creating logos, icons, and other detailed graphics. I worked on several branding projects where I created logos and scalable icons that maintained quality at any size.

- **Canva:** Canva was a convenient tool for quickly creating social media graphics and marketing visuals. It allowed me to produce professional-quality designs with ready-made templates and design assets.

- **Figma:** I used Figma for interface design and collaboration with web developers. Figma was particularly useful for creating wireframes and prototypes that could be shared and reviewed by the entire team.

3.3 Responsibilities and Tasks

Logo and Branding Design: I was tasked with creating logos and brand identity elements for clients. This involved brainstorming design concepts, selecting color schemes, and finalizing logo designs that conveyed the brand's personality. For one client, I created a logo that aligned with their mission,

ensuring the color scheme and typography were both memorable and professional.

Social Media Graphics: I developed graphics for social media campaigns, including posts, stories, and promotional banners. Using Photoshop and Canva, I designed visuals with eye-catching text, engaging imagery, and consistent branding that improved audience interaction on platforms like Instagram and Facebook.

Website UI/UX Design: I worked on creating wireframes and mockups for websites, focusing on intuitive layout and user-friendly navigation. Figma was instrumental in prototyping these layouts, which I presented to web developers as a visual guide for implementing the final design.

Print Design (Brochures, Flyers, and Posters): I contributed to designing printed materials for events and marketing purposes. This involved creating layouts in Illustrator that were optimized for high-quality printing, ensuring that colors, fonts, and images met print specifications.
Typography and Color Theory Application: Throughout my projects, I applied typography and color theory principles to create visually cohesive designs that conveyed the intended message. I experimented with different font styles and color combinations to align with each project's tone and objectives.

3.4 Key Learning Outcomes

Understanding of Color Theory and Typography: Through hands-on experience, I deepened my knowledge of color theory and typography. I learned how different color schemes and font choices can influence the perception of a brand or message. For example, I used vibrant colors and bold fonts for a youth-oriented brand, while using neutral tones and serif fonts for a more formal project.

Proficiency with Design Software: I became proficient with Adobe Photoshop, Illustrator, Canva, and Figma. These tools allowed me to create high-quality graphics, edit images, and design layouts. I also learned

shortcuts and best practices for efficient workflow, which helped me complete projects faster and with higher quality.

Attention to Detail and Consistency: Graphic design requires attention to detail, especially when working on branding projects. I learned to maintain consistency in design elements, such as color, font, and spacing, to ensure that each graphic matched the brand's identity and communicated a unified message.

Effective Collaboration and Feedback Management: Working closely with web developers and marketing teams improved my collaboration skills. I learned how to accept and implement feedback constructively, ensuring that the final designs aligned with the client's vision and project goals.

Creative Problem-Solving: Graphic design often involves solving visual problems creatively, such as finding ways to make a message stand out or ensuring readability. I learned to experiment with different layouts, font sizes, and visual hierarchy to create designs that were both functional and visually engaging.

Chapter 4: Challenges and Solutions

4.1 Challenges Encountered

Time Management: Managing multiple projects with tight deadlines was a significant challenge. Balancing tasks in web development and graphic design required careful planning to ensure that each project was completed on time without compromising quality. At times, switching between the different skill sets for each project made it hard to stay focused and efficient.
I created a Gantt chart to visualize project timelines and used tools like Trello to prioritize tasks. These strategies helped me manage overlapping deadlines efficiently.

Learning Curve with New Tools and Technologies: Adapting to advanced tools like React for web development and Adobe Illustrator for graphic design required time and effort. Although I had some foundational knowledge, certain tasks required more advanced skills, which initially slowed down my productivity.

Debugging and Problem Solving: Encountering bugs in code, particularly when integrating APIs or handling database connections, was another challenge. Some issues were difficult to resolve and required a lot of troubleshooting, which sometimes delayed project completion.

Browser Compatibility: To address browser compatibility issues, I tested web pages on multiple browsers (Chrome, Firefox, and Edge) and used browser-specific CSS prefixes to ensure consistent rendering. I also relied on debugging tools like Chrome DevTools to identify discrepancies

Debugging Complex Code: Required time and patience to debug JavaScript functions.

Learning Curve: Adapting to advanced VS Code features took some practice.

4.2 Solutions and Strategies

Effective Time Management Techniques: To manage my time better, I prioritized tasks by creating a daily to-do list, organized by deadlines and importance. I also set specific time blocks for web development and graphic design tasks, which helped me stay focused on one area at a time. This approach allowed me to balance multiple projects more effectively and reduce stress.

Continuous Learning and Skill Development: To address the learning curve, I used online tutorials and documentation to quickly familiarize myself with unfamiliar tools and technologies. I practiced using React components for dynamic web pages and watched tutorials to improve my Adobe Illustrator skills. Explored online tutorials and documentation to better

understand VS Code functionalities. By dedicating extra time to learning, I was able to improve my efficiency with these tools.

Troubleshooting and Debugging Techniques: When facing bugs in my code, I employed debugging techniques, such as breaking down code into smaller parts and testing each component individually. I also used online resources and collaborated with team members to resolve issues more efficiently. This experience taught me valuable problem-solving skills that improved my coding abilities. I also used VS Code debugging tools and browser developer tools for error resolution.

Maintaining Design Consistency Through Collaboration: To maintain consistency across designs, I established a style guide for each project, outlining font choices, colors, and layout principles. I also held regular check-ins with team members to ensure we were aligned on design standards. This strategy helped create a unified look across all project elements and improved the overall visual appeal of the designs.

Chapter 5: Conclusion

5.1 Summary of Experience

My SIWES experience has been invaluable in helping me transition from theoretical knowledge to practical application in the fields of web development and graphic design. I gained hands-on experience with front-end and back-end web development using HTML, CSS, JavaScript. Additionally, I honed my design skills by working on branding, social media graphics, and UI/UX layouts using tools like Adobe Photoshop, Illustrator, and Figma. This experience not only enhanced my technical skills in web development and graphic design but also provided valuable exposure to real-world project workflows, improved my problem-solving abilities, and strengthened my interpersonal skills essential for professional growth

5.2 Recommendations for Future Interns

For future interns, I recommend starting with a foundational knowledge of key tools and programming languages, such as HTML, CSS, JavaScript, and

Adobe Creative Suite, as these are commonly used in the field. Embracing a mindset of continuous learning is crucial since both web development and graphic design are rapidly evolving fields. I also encourage future interns to stay organized and manage their time effectively to handle multiple tasks. Collaboration and communication with team members are key to success, so it’s important to seek feedback, ask questions, and engage actively in project discussions to ensure a better understanding of each task.
Interns should also explore free online resources such as W3Schools for web development and Adobe's official tutorials for graphic design. Additionally, platforms like LinkedIn Learning and Udemy can provide structured courses for beginners

5.3 Personal Development and Future Goals

My SIWES experience has solidified my interest in pursuing a career that integrates web development and graphic design. Moving forward, I plan to deepen my knowledge of full-stack development by focusing on frameworks such as React and Node.js, which I found intriguing. In graphic design, I aim to improve my skills in user interface (UI) and user experience (UX) design to create more engaging and functional digital products. Additionally, I will continue to develop my teamwork and communication skills, which I have learned are essential in achieving project goals. Overall, this experience has motivated me to continue learning, practice regularly, and strive for excellence in both web development and graphic design.