STUDENTS INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

REPORT BY

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ND/23/COM/FT/0015

AT COMPUTER SERVICES AND INFORMATION TECHNOLOGY (COMSIT)

SUBMITTED TO THE:

DEPARTMENT OF INFORMATION TECHNOLOGY,

FACULTY OF COMMUNICATION AND INFORMATION

SCIENCES, UNIVERSITY OF ILORIN, ILORIN, KWARA

STATE

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE

AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE INFORMATION

TECHNOLOGY

DECEMBER, 2024

REPORT OVERVIEW

This report gives a detailed representation of the Students Industrial Work Experience Scheme (SIWES) program which I participated in from 22nd April 2024 and completed successfully on 4th October 2024 at Computer Services and Information Technology (COMSIT) situated at the University of Ilorin, Ilorin, Kwara state.

The full details of the activities carried out, the knowledge I gained and also the experience I got while working at COMSIT are contained here in this report. During my stay in the organization, I developed skills in Web Development and COMSIT base works which are relevant to the Information Technology field of study.

CERTIFICATION

This is to certify that **YUSUF SHAIBU** with matriculation number **ND/23/COM/FT/0015** of the Department of Information Technology, carried out his Student Industrial Work Experience Scheme (SIWES) at Computer Services and Information Technology (COMSIT), University of Ilorin, Ilorin, Kwara state from April 2024 to October 2024 and submitted to the Department of Information Technology University of Ilorin, Ilorin, Nigeria.

_____   _____

 Supervisor   Sign/Date

_____   _____

 Head of Department   Sign/Date

_____   _____

SIWES Coordinator   Sign/Date

DEDICATION

First and foremost, I dedicate this report to Almighty Allah for seeing me through and giving me strength and good health to successfully complete my SIWES program. I thank Him for His protection over me, His support and all HIS numerous blessings that are beyond enumeration. I would also like to dedicate this report to my family, my SIWES coordinator (Mr. Abubakar Musa) and the entire staffs at Computer Services and Information Technology (COMSIT), for their tremendous help and support during my period, providing knowledge and opportunity to get hands-on experience in my field of academic learning.

ACKNOWLEDGEMENT

I am grateful to Almighty Allah who has made it possible for me to successfully complete my Student Industrial Work Experience Scheme (SIWES) and to Industrial Training Fund (ITF) for their foresight in putting this program in place for students.

My special appreciation goes to my family especially my parent Prof. Abdulrazaq Oniye and Alhaja D.A Oniye for their financial support and moral encouragement to push through and have a successful completion.

My profound gratitude also goes staffs of COMSIT for their relentless effort and encouragement in passing knowledge to me.

- ➤ Professor Jimoh
- ➤ Mr. Suleiman Yekeen
- ➤ Mr. Abubakar Musa
- ➤ Mr. Abdulrahman
- ➤ Mr. Atoyibo Abdullahi
- ➤ Mr. Mubarak
- ➤ Mr. Ridwan
- ➤ Mr. Zayn

I am so grateful for your contributions.

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INTRODUCTION

1.1 Background

The Student Industrial Work Experience Scheme (SIWES), also known as the Industrial Training (IT) is a skill-oriented training program, designed to expose and prepare students of tertiary institutions in Nigeria, ahead of industrial work situations they are most likely to encounter after graduation.

SIWES offers students the opportunity to be exposed to the needed experience in handling equipment and machinery that are usually not readily available in their institution of learning. Thus, it aims to bridge the gap between theoretical knowledge gained in classrooms and practical skills required in the workplace.

Before the establishment of the scheme, there was a rising concern among industrialists that graduates of higher institutions lacked the needed practical experience for employment. As a result, employers believed that theoretical education in higher institutions was not responsive to the needs of employers of labour.

Thus, SIWES was introduced by the Industrial Training Fund (ITF) in 1973 to acquaint students with the skills of handling employers' equipment and machinery but the scheme was officially approved and presented by the Federal Government of Nigeria in 1974.

During its early years, ITF solely funded the scheme, however, due to financial constraints, the ITF withdrew from the scheme in 1978. The National Universities Commission (NUC) and the National Board for Technical Education (NBTE) were then given control of the scheme in 1979.

However, in November 1984, the management and implementation of the scheme were reverted to ITF by the Federal Government and the administration was effectively taken over by ITF in July 1985, with the funding solely borne by the Federal Government.

The duration for SIWES varies but it is usually 24 weeks (6 months) for most programmes and it is usually conducted at the end of the 1st or 2nd semester examination of either 300, 400 or 500 level.

Participation in SIWES has become a requirement for the award of degree certificates for specific disciplines in most tertiary institutions in Nigeria.

1.2 Objectives of SIWES

- To provide an avenue for students in higher institutions to acquire industrial skills and experience in their course of study.
- To expose students to work methods and techniques in the handling of equipment and machinery that may not be available in their institutions.
- To equip students with the right skills and experience to make the transition from school to the world of work easier, and improve students' networks for possible future work placements.
- To provide students an opportunity to apply their theoretical knowledge in real work situations thereby bridging the gap between theory and practice.
- To enlist and strengthen employers' involvement in the entire educational process of preparing students for employment after graduation.

1.3 Location and Brief History of Place Attachment

Historical Development

The Computer Services and Information Technology (COMSIT) Directorate at the University of Ilorin was established to streamline and enhance the university's technological infrastructure. It resulted from merging three units: the Computer Centre, Management Information System (MIS), and the Unilorin Nigeria Universities Network Office (NUNet), in alignment with the institution's ICT Policy and Strategic Plan in 2001/2002.

Initially, the Computer Centre focused on technical support and training, MIS on deploying the university's portal system, and NUNet on network services, including the creation of the university's web presence. The merger allowed these units to consolidate their efforts, enhancing the delivery of ICT services and establishing the university as a leader in digital innovation. By 2007/2008, the university's portal system and web services were recognized nationally and globally, earning accolades for their impact.

Over the years, the addition of units such as the Network Operations Centre (NOC) and the Helpdesk Unit has strengthened the directorate's capacity to provide wireless connectivity, intranet services, and user support. COMSIT has also facilitated the expansion of the university's network to offsite locations and established a reputation for maintaining a robust online presence.

1.4 Objectives of COMSIT

COMSIT is dedicated to deploying cutting-edge ICT infrastructure and services to support administration, teaching, research, and learning. Its key objectives include:

- Ensuring secure, seamless IT operations across the university.
- Managing an efficient and user-friendly school portal.
- Providing reliable internet and intranet connectivity.
- Delivering targeted IT training programs for the university community.
- Developing and maintaining customized software solutions for administrative and academic purposes.
- Offering frontline IT support and effective resolution of technical issues.

Vision

COMSIT aims to be a pioneer in ICT development within the academic sector, equipping the university with world-class digital tools to enhance administration, research, and learning.

Mission

The directorate is committed to advancing the digital landscape of the university through sustainable ICT growth, efficient management systems, and robust support services that promote academic excellence.

Core Values

COMSIT upholds values such as innovation, excellence, service, collaboration, capacity building, integrity, and sustainability, ensuring its operations align with the university's goals.

1.5 Organizational Structure

COMSIT operates with a robust organizational structure to ensure efficiency and effectiveness. The hierarchy includes:

- **Vice-Chancellor**: Overall head of the university.
- **Director of COMSIT**: Oversees all operations within the directorate.
- **Deputy Directors**: Support the Director in managing specific units.
- **Unit Heads**: Lead individual units and report to the Deputy Directors

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│UNIT   │ │SUPPORT │ │OPERATIONS│ │DEVELOPMENT│ │UNIT     │ │UNIT     │
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1.6 Units and Functions

COMSIT comprises various units, each specializing in key areas of ICT services:

- Portal/Web Unit: Manages the university's website and online student portal, ensuring accessibility and functionality.
- ICT Support Unit: Provides technical assistance and troubleshooting for hardware and software issues.

- Network Operations Centre (NOC): Monitors and maintains the university's network infrastructure.
- Software Development Unit: Develops customized software solutions for academic and administrative purposes.
- Help Desk Unit: Offers frontline support for ICT-related inquiries and issue resolution.
- Training Unit: Conducts IT training programs to enhance the skills of staff and students.

CHAPTER TWO

THE INDUSTRIAL TRAINING PROGRAMME

2.1 Scope of My Duty/Responsibility

The Industrial Training (IT) program offered by the University of Ilorin is a vital component of academic progression for students in Information Technology. It enables practical exposure to professional environments, bridging the gap between theoretical knowledge and real-world applications. My placement at the Computer Services and Information Technology (COMSIT) department provided me with diverse responsibilities, each contributing to my technical growth and organizational effectiveness.

Responsibilities and Their Relevance

1. Web Design and Development

One of my primary responsibilities during the training was developing and maintaining websites that met organizational and institutional needs. I contributed to:

- Designing and deploying a new website for Kwara Sharia Court, ensuring it was user-friendly and met professional standards.

- Using PHP and Bootstrap to create responsive and interactive web interfaces.

- Working with Joomla, a Content Management System (CMS), for content updates and management.

Importance to COMSIT:
The website improved accessibility for users seeking legal information and enhanced the online presence of the Sharia Court, reflecting positively on COMSIT's capacity to deliver modern IT solutions.

Connection to Coursework:

- Web Design: Implementing clean, responsive designs directly utilized principles learned in this course.

- Human-Computer Interaction (HCI): The project emphasized creating intuitive interfaces to ensure accessibility for a broad audience.

2. Database Design and Management

Effective data handling was a critical part of my responsibilities. I:

- Designed databases using phpMyAdmin to manage backend functionalities of web applications.

- Wrote SQL queries to retrieve and manipulate data, ensuring accurate information processing.

- Regularly backed up data to prevent loss and enhance security.3. `Remote IT Support and File Management`

Providing technical support and managing organizational files were essential duties. This included:

- Using tools like TeamViewer and FileZilla to troubleshoot remotely and transfer files securely.

- Assisting COMSIT staff with system errors and file retrieval during critical operations.

Importance to COMSIT:
Quick and efficient resolution of IT issues ensured uninterrupted workflows and increased staff productivity.

Connection to Coursework:

- Principles of system troubleshooting and understanding remote desktop operations were directly applicable to this role.

4. Data Analysis and Processing

Data handling formed another major part of my responsibilities, particularly:

- Generating RRR numbers for student fee payments using Microsoft Excel.

- Sorting the NYSC graduating list, ensuring accurate data for administrative processes.

Importance to COMSIT:
Optimizing data processing workflows significantly reduced manual errors and streamlined reporting.

Connection to Coursework:

- Human-Computer Interaction (HCI): Understanding user-friendly interfaces helped automate data sorting tasks in Excel.

5. Application Development

I also worked on developing and deploying software solutions to solve real-world problems, including:

- A restaurant management system that automated inventory tracking, order processing, and financial reporting.

- A portfolio website showcasing my skills, which served as a testament to COMSIT's training quality.

Importance to COMSIT:
These applications demonstrated the role of IT in addressing specific needs, enhancing the organization's reputation as an IT solutions provider.

Connection to Coursework:

- Application Development: From planning to deployment, this responsibility exemplified concepts covered in class.

General Reflections on Responsibilities

Each of the above responsibilities required meticulous attention to detail, problem-solving, and innovation. For instance:

- Building the Sharia Court website involved overcoming initial challenges with Joomla, such as configuring templates and managing extensions.

- Database management tasks taught me to optimize queries for better performance.

- Remote IT support highlighted the importance of swift troubleshooting and maintaining robust IT infrastructure.

Significance of Responsibilities to COMSIT

The scope of my work at COMSIT extended beyond individual tasks, reflecting a broader vision of leveraging technology to solve organizational challenges. My contributions:

1. Enhanced COMSIT's capacity to offer innovative IT solutions.

2. Streamlined administrative processes, saving time and resources.

3. Reinforced the organization's reputation as a leader in Information Technology.

CHAPTER THREE

Industrial Training Assignments

3.0 OVERVIEW OF JOB DESCRIPTION

During my Industrial Training (IT) at the Centre for Open and Distance Learning and Information Technology Services (COMSIT), University of Ilorin, I undertook various tasks and responsibilities that significantly enhanced my practical skills and knowledge in the field of Information Technology. These tasks encompassed a diverse range of activities including web development, database management, IT support services, and administrative functions.

I actively contributed to web development projects using technologies such as PHP, Bootstrap, and Joomla. This included designing and implementing a new website for the Kwara State Sharia Court and creating a personal portfolio website. I also developed a restaurant web application and linked its database to the application using MySQL and php My Admin through the XAMPP local development environment.

In addition to web development, I engaged in hosting and domain management activities, utilizing cPanel for managing website hosting processes. I was also tasked with cross-checking and updating information on the University of Ilorin's official website, particularly for faculties such as Education, Management Sciences, Social Sciences, Veterinary Medicine, and Agriculture.

I provided IT support services, including assisting students with complaints, managing remote desktop sessions using TeamViewer and FileZilla, and uploading student transcripts using the University T-Xtractor system. Furthermore, I gained hands-on experience with Microsoft Excel for data organization and analysis.

These responsibilities provided a comprehensive understanding of IT processes in a professional environment, enabling me to apply theoretical knowledge to real-world scenarios and develop critical problem-solving and technical skills.

3.1 TRANSCRIPT UPLOAD ON T-XTRACTOR

As part of my industrial training at COMSIT, I participated in several essential administrative processes, one of which was the transcript upload operation using the T-Xtractor platform. This process was integral to the department's mission to facilitate seamless academic and administrative workflows. A transcript, being an official record of a student's academic achievements, plays a vital role in numerous applications, including job placements, further education, and scholarships. The transcript upload task allowed me to develop a deeper understanding of administrative systems and contribute meaningfully to the operations of COMSIT.

Understanding the Role of Transcripts in Academic Administration

During my training, I gained a comprehensive understanding of the importance of academic transcripts. These documents are official representations of a student's academic performance, detailing courses completed, grades received, and cumulative credits earned. They are indispensable for students seeking verification of their academic history for employment, postgraduate admissions, or scholarship opportunities.

At COMSIT, I observed the emphasis placed on accuracy and efficiency in handling transcripts. Any error in the transcript content or format could delay critical processes for students or institutions requiring verification. This understanding made me appreciate the significance of precise data handling in academic administration. I also learned that the T-Xtractor platform was introduced as part of COMSIT's effort to modernize and optimize these processes.

Familiarizing Myself with the T-Xtractor Platform

Before engaging in the upload tasks, I was trained on the functionalities and operations of the T-Xtractor platform. This tool is specifically designed to facilitate the storage and submission of academic transcripts in an organized and efficient manner. During my training, I explored the interface of T-Xtractor, learning how it streamlines the transcript upload process while ensuring compliance with institutional policies.

I also became familiar with the platform's requirements for acceptable document formats, particularly the use of PDF files. PDFs are preferred for their ability to maintain document

integrity and compatibility across various systems. By understanding these specifications, I ensured that transcripts met the technical and quality standards required for submission.

The Transcript Upload Process

The primary task assigned to me was to assist in the uploading of student transcripts onto the T-Xtractor system. This process began with verifying the format and completeness of the transcripts provided. I ensured that each document was appropriately named, free from errors, and prepared for upload.

Once the documents were ready, I proceeded to link them with the corresponding student records in the system. This task required precision, as mismatches or incomplete uploads could lead to complications in student applications. I carefully cross-checked each upload to confirm that the correct transcript was associated with the correct student profile.

Additionally, I contributed to troubleshooting issues that arose during the process. For example, I resolved problems with improperly formatted files and addressed errors flagged by the platform. By maintaining meticulous attention to detail, I ensured that the uploads were accurate and error-free, enhancing the efficiency of COMSIT's transcript management process.

Practical Contributions and Observations

My involvement extended beyond the technical aspects of transcript uploading. I provided support to students who encountered challenges with their transcript submissions. This included clarifying formatting requirements, guiding them through the process, and offering technical assistance when issues arose. Through these interactions, I developed strong communication skills and the ability to simplify complex processes for non-technical users.

From a broader perspective, this experience gave me valuable insights into the operational structure of academic administration at COMSIT. The task highlighted the importance of accuracy, timeliness, and teamwork in managing institutional workflows. It also reinforced my understanding of the role of technology in modernizing administrative systems.

Observation

Participating in the transcript upload process at COMSIT was a significant aspect of my industrial training. This task enabled me to develop technical skills related to data management and platform operations while also contributing to the efficiency of the department. By ensuring accurate and seamless uploads, I played a role in enhancing the

reliability of COMSIT's academic record-keeping systems. Furthermore, the experience underscored the importance of precision, problem-solving, and effective communication in administrative settings. This assignment not only deepened my technical expertise but also provided me with a clearer perspective on the critical role of academic records in shaping students' academic and professional journeys.
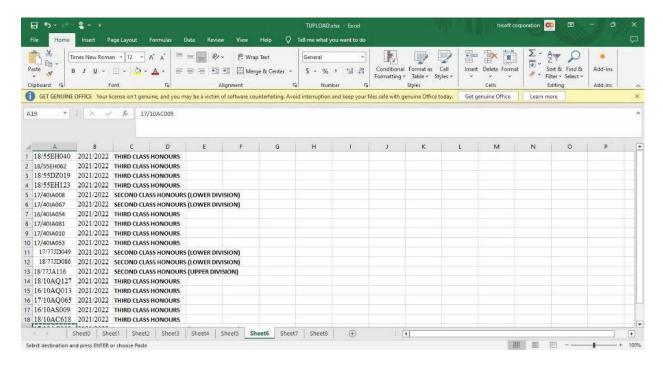

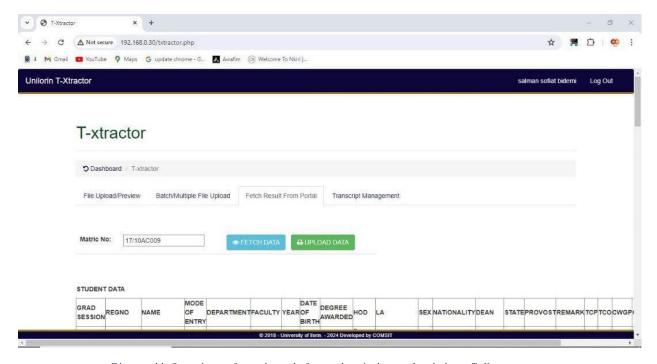Figure i Snapshot of student information on excel sheet

Figure ii Snapshot of student information being uploaded on T-Xtractor

Reporting and Recommendations

After identifying these issues, I moved on to the next critical phase: reporting my findings. I carefully documented all errors, providing detailed descriptions and, where applicable, examples of the problems encountered. Each issue was categorized for clarity, with recommendations for corrective actions. For instance, broken links were listed alongside their corresponding URLs and suggestions for the correct or updated links to replace them. Missing images were documented with notes on the specific profiles affected, and I recommended coordinating with the relevant departments to gather and upload the necessary media files.

In the case of incomplete biographies, I proposed that the information be collected from staff members or departmental offices. I also suggested implementing a standard template for staff profiles to ensure uniformity and completeness across the website. Furthermore, I emphasized the need for regular website audits to prevent such issues from recurring. Regular checks would help identify and resolve broken links, outdated content, and other technical problems promptly.

Challenges and Learning Outcomes

Participating in the website review process was not without its challenges. One of the primary difficulties was ensuring thoroughness within the limited time frame available for the review. The website comprised numerous pages, each containing a wealth of information that needed to be scrutinized. Balancing the depth of my review with the need to meet deadlines required effective time management and prioritization skills.

Additionally, communicating the identified issues to the relevant stakeholders required clarity and diplomacy. Providing constructive feedback in a way that encouraged action without sounding overly critical was an essential part of the process. This experience helped me develop strong communication and interpersonal skills, which are invaluable in any professional setting.

Through this task, I gained practical insights into the complexities of managing and maintaining a large-scale website for an institution. I learned the importance of attention to detail, as even minor errors, such as a broken link or a missing image, could significantly impact user perception. The exercise also reinforced my understanding of the role that websites play in shaping the image of an organization.

Reflection and Impact

Looking back, my involvement in the website review process was a rewarding experience. It allowed me to contribute meaningfully to a project that has a lasting impact on the university's digital presence. By identifying errors and recommending improvements, I played a role in enhancing the website's functionality and reliability. This task also provided me with a platform to apply my training in Information Technology to a real-world scenario, bridging the gap between theory and practice.

In conclusion, the website review task was not just an opportunity to showcase my technical skills but also a chance to grow as a professional. The experience highlighted the value of

teamwork, meticulousness, and effective communication in achieving a shared goal. I am confident that the skills and knowledge gained from this experience will continue to benefit me in my future endeavours.

3.3 WEB DEVELOPMENT WITH PHP AND LOCALHOST DURING SIWES AT COMSIT, UNIVERSITY OF ILORIN

The Students Industrial Work Experience Scheme (SIWES) stands as a bridge between academic learning and the practical demands of the professional world. For me, this bridge was built during my placement at the Centre for Open and Distance Learning Services and Information Technology (COMSIT), University of Ilorin. Over six months, I immersed myself in web development projects that demanded technical precision, creativity, and adaptability. Central to my learning journey was mastering the use of PHP as a full-stack development tool and leveraging the localhost environment through XAMPP.

During this period, I developed and refined two major projects: a personal portfolio website and a login/signup system. These projects were not only technical milestones but also reflective of my growth as a problem solver and team player. In this essay, I delve deeply into these projects, emphasizing the role of PHP in shaping their functionality, and reflect on the broader impact of my experience on my personal and professional development.

Project 2: Login and Signup System

The Concept

A login and signup system are fundamental to any web application, serving as the gateway to personalized user experiences. My goal was to build a secure and efficient system that demonstrated my understanding of authentication processes.

Front-End Development

The front-end was developed using HTML and CSS, with an emphasis on simplicity and usability. JavaScript handled client-side validation, ensuring users submitted valid input before the data reached the server. This reduced the load on the back-end and improved performance.

Back-End Development with PHP

The back-end, built entirely with PHP, was the project's core. Key features included:

1. **User Registration**
   The signup form allowed users to create accounts by entering their username, email, and password. Passwords were hashed using PHP's password_hash() function to enhance security.

2. **Login Authentication**
   The login system compared user credentials against database records. Invalid credentials triggered detailed error messages, guiding users to resolve the issue.

3. **Session Management**
   Successful logins initiated a PHP session, maintaining user authentication across pages until logout.

4. **Logout Functionality**
   A logout script destroyed the session, ensuring the user's data remained secure after leaving the application.

Database Integration

The system's database schema, designed using MySQL and managed via phpMyAdmin, included tables for user information and session logs. Writing optimized SQL queries was crucial to maintaining system performance, especially as the user base grew.

Security Enhancements

To protect user data, I implemented:

- **Input Validation**: Preventing malicious data from entering the database.

- **SQL Injection Prevention**: Using prepared statements in PHP to secure database queries.

- **Cross-Site Scripting (XSS) Protection**: Sanitizing user inputs before displaying them.

The project was a success, showcasing my ability to build secure, full-stack applications.
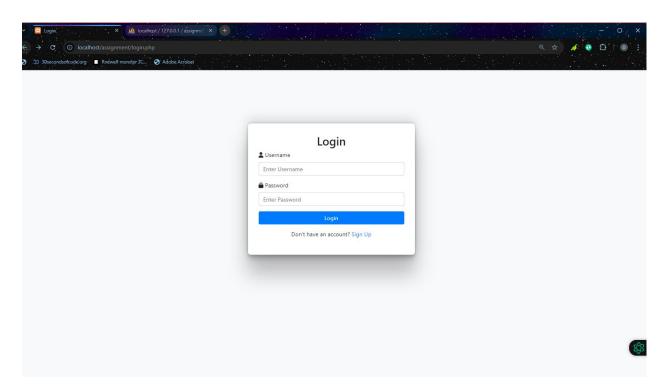

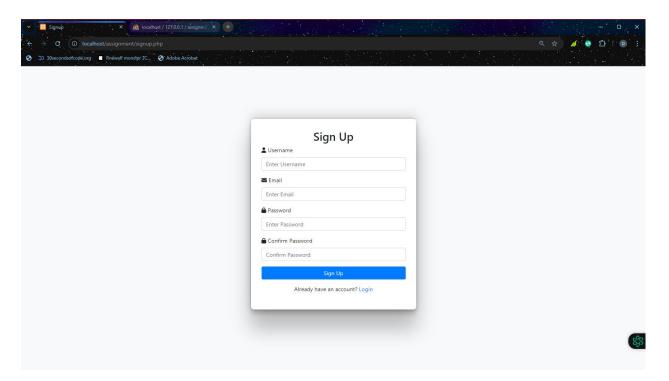*Figure iii Snapshot of login page that I built with PHP*

Figure iv Snapshot of Sign up page that I built with PHP

Personal and Professional Growth

Technical Skills

During my SIWES, I became proficient in:

- **PHP and MySQL**: Building dynamic web applications and managing relational databases.

- **Responsive Design**: Creating mobile-first websites using Bootstrap.

- **Debugging**: Identifying and resolving issues efficiently with tools like PHP error logs.

- **Version Control**: Using Git to manage project versions and collaborate with others.

Soft Skills

- **Problem-Solving**: I learned to approach challenges analytically, breaking them into smaller, manageable tasks.

- **Communication**: Regular interactions with my supervisor and team improved my ability to articulate ideas clearly.

- **Adaptability**: Feedback from my portfolio project taught me to embrace constructive criticism and refine my work.

CHAPTER FOUR

Innovative Suggestions to Overcome Problems/Weaknesses Detected

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4.1 Problem 1: Inefficient Management of Student Data

Observation:

During my Industrial Training (IT) at COMSIT, I encountered challenges in the management of large volumes of student data. The existing processes for sorting, storing, and retrieving records relied heavily on manual operations, which introduced inefficiencies and heightened the likelihood of errors. For example, searching for specific student records often required significant time and effort, occasionally causing delays in operational workflows. Moreover, the lack of automation made it difficult to maintain data consistency and security, further complicating the process.

This issue is not unique to COMSIT but is a common challenge across educational institutions in Nigeria, where traditional methods of data management persist due to limited technological adoption.

Innovative Suggestions for Problem 1:

To address this issue, I propose the development and implementation of an Automated Student Information Management System (ASIMS). The system should include the following features:

1. Real-Time Data Updates:

   o Data entries and updates should occur in real-time to ensure the accuracy and currency of information.

2. Automated Sorting and Error Detection:

   o Advanced algorithms can automate the sorting of student records based on predefined criteria such as matriculation numbers, departments, or academic standings. Built-in error-checking mechanisms can further ensure data consistency and minimize inaccuracies.

3. Cloud-Based Storage Integration:

   o Integrating the system with a cloud-based storage solution enhances data accessibility from multiple locations and ensures data backup and recovery capabilities in case of hardware failures.

4. Search Functionality:

   o Implementing an intuitive and robust search feature can significantly reduce the time required to locate specific records, thereby improving operational efficiency.

5. Data Security Protocols:

- o To address concerns about data privacy and security, the system should include multi-factor authentication, encryption, and role-based access controls.

Broader Implications for Nigeria:

In the context of Nigeria, the adoption of such a system could revolutionize data management practices in educational institutions. By transitioning from manual processes to automated systems, institutions can improve productivity, reduce operational costs, and enhance service delivery. However, addressing challenges such as inadequate funding, lack of infrastructure, and resistance to technological change will be essential for successful implementation.

4.2 Problem 2: Limited Access to Remote Desktop Tools

Observation:

During my training, remote desktop tools like FileZilla and TeamViewer proved indispensable for managing IT systems and providing technical support. However, the limited access to licensed versions of these tools posed significant challenges, particularly during periods of high demand. The inability to fully leverage these tools often led to delays in completing tasks and resolving technical issues.

This problem reflects a broader issue in Nigeria, where many organizations struggle to afford enterprise-level software due to financial constraints. As a result, reliance on free or limited versions of tools often compromises efficiency.

Innovative Suggestions for Problem 2:

To overcome this challenge, I recommend the following strategies:

1. Investment in Enterprise-Level Licenses:

   - o Organizations should allocate budgets for acquiring enterprise-level licenses of critical remote desktop tools to ensure uninterrupted access and full functionality.

2. Adoption of Open-Source Alternatives:

   - o Open-source tools like AnyDesk can serve as cost-effective alternatives to proprietary software, offering similar functionalities without the financial burden.

3. Centralized Software Management:

   - o Implementing a centralized system for managing software licenses can help optimize resource allocation and prevent wastage.

4. Staff Training Programs:

   o Regular training sessions can equip staff with the skills to utilize these tools efficiently, maximizing their potential and reducing dependency on external support.

Broader Implications for Nigeria:

By addressing the issue of limited access to essential tools, organizations across Nigeria can enhance their operational efficiency and competitiveness. However, this will require a concerted effort to address systemic challenges such as inadequate IT funding, lack of awareness about open-source alternatives, and insufficient training opportunities.

4.3 Problem 3: Addressing Student Complaints

Observation:

One of the most pressing challenges during my SIWES was managing student complaints in the absence of key COMSIT staff members. The lack of a structured system for logging and resolving complaints often resulted in delayed responses and, in some cases, the oversight of critical issues.

This problem underscores the need for a streamlined approach to handling complaints, a challenge that is prevalent in many Nigerian institutions where manual complaint management systems remain the norm.

Innovative Suggestions for Problem 3:

To address this issue, I propose the development of a Dedicated Online Complaint Management Portal (DOCMP) with the following features:

1. Automated Categorization:

   o The system should automatically categorize complaints based on their nature (e.g., technical issues, academic grievances) and assign them to the relevant departments for resolution.

2. Real-Time Status Updates:

   o Students should be able to track the status of their complaints in real-time, enhancing transparency and trust.

3. Feedback Mechanism:

   o A feedback mechanism can allow students to rate the resolution process, providing valuable insights for continuous improvement.

4. Analytics and Reporting:

   o Built-in analytics can identify recurring issues, enabling proactive measures to address systemic problems.

CHAPTER FIVE

CONCLUSION AND SUGGESTION FOR BACHELOR DEGREE DISSERTATIO

5.1 CONCLUSION

The Industrial Training program at COMSIT, University of Ilorin, served as a transformative phase in my academic journey, bridging the gap between theoretical knowledge and practical application. Engaging in diverse IT tasks during my SIWES provided me with hands-on experience, fostering a deeper understanding of technical and administrative aspects of Information Technology.

One significant achievement during the training was enhancing my proficiency in web development technologies such as PHP, Joomla, and Bootstrap, which I used to build and manage dynamic websites. This included the development of the website for Kwara Sharia Court and contributing to content management for other organizational projects. In addition, database management using MySQL and phpMyAdmin enabled me to manage large datasets effectively, ensuring data integrity and usability.

I also acquired advanced Microsoft Excel skills, which were pivotal in tasks like generating student RRR numbers and sorting senate graduating lists for NYSC mobilization. This experience underscored the importance of automation in handling extensive datasets. The exposure to remote desktop tools, such as TeamViewer and FileZilla, demonstrated the significance of remote IT operations, enabling seamless communication and collaboration.

Moreover, assisting with student complaints and updating the University of Ilorin's website offered insights into the organizational workflow and the critical role of communication in resolving user issues. Each task contributed to building a professional mindset, emphasizing problem-solving, teamwork, and adaptability, which are essential in the dynamic field of Information Technology.

Overall, the SIWES experience has been instrumental in equipping me with the requisite technical expertise and professional acumen to contribute meaningfully to any organization in the IT domain.

5.2 SUGGESTION FOR BACHELOR DEGREE DISSERTATION

Topic: *The Role of ICT in Enhancing the Efficiency of Nigerian Law Enforcement Agencies in Relation to My IT Experience*

Drawing from my experiences during the Industrial Training program, I propose a study that explores how Information and Communication Technology (ICT) can significantly enhance the operational efficiency of Nigerian law enforcement agencies. The dissertation will aim to address the challenges faced by law enforcement in data management, communication, and operational effectiveness.

My work at COMSIT, particularly in web development, database management, and content organization, directly relates to the proposed dissertation topic. Below is an outline of how my IT experiences connect with the study:

1. Web Development for Law Enforcement Portals:
   During my training, I built and managed websites that supported efficient access to information. In the context of law enforcement, similar portals can be used for citizen engagement, case tracking, and resource management. By analyzing the success of web development projects at COMSIT, the study can propose frameworks for developing secure and user-friendly platforms for law enforcement agencies.

2. Database Management and Crime Data Analysis:
   My experience with MySQL and phpMyAdmin highlighted the importance of robust database systems for storing and retrieving data. Law enforcement agencies require efficient database management systems for handling case files, criminal records, and operational data. The study will investigate the adoption of such technologies to improve accuracy and accessibility in crime data management.

3. Use of Remote Desktop Tools for Collaborative Operations:
   Tools like FileZilla and TeamViewer, which I used for remote IT operations, can be leveraged by law enforcement for real-time collaboration across multiple locations. This can be especially useful in coordinating operations and managing resources effectively.

4. Automation and Microsoft Excel in Law Enforcement:
   My proficiency in Microsoft Excel during IT demonstrated the potential of automation in managing extensive data. The dissertation will explore how tools like Excel and advanced analytics can support law enforcement in generating reports, identifying trends, and making data-driven decisions.

5. Complaint Management and Communication Systems:
   The insights gained from assisting with student complaints can be applied to the development of integrated communication systems for law enforcement. These systems could enhance citizen engagement, streamline complaint resolution, and improve public trust.

Objectives of the Study:

- To examine the role of ICT tools in addressing inefficiencies in Nigerian law enforcement.

- To evaluate the benefits of adopting ICT solutions for communication, data management, and resource allocation.

- To propose an ICT-driven framework for enhancing transparency, accountability, and operational efficiency in law enforcement agencies.

Expected Contributions:

- The study aims to contribute to the academic discourse on ICT adoption in public sector management, with a focus on law enforcement.

- It seeks to provide practical recommendations for the Nigerian government and relevant stakeholders to implement ICT solutions that can transform law enforcement operations.

Relation to my IT experience:

The dissertation will draw extensively on the practical skills and insights gained during my IT experience at COMSIT, particularly in designing scalable systems, managing databases, and leveraging automation tools. These experiences provide a strong foundation for exploring how similar technologies can be applied to law enforcement agencies.

In conclusion, this proposed dissertation topic not only aligns with my academic background and professional interests but also addresses a critical societal need. By leveraging the lessons learned during SIWES, I hope to contribute innovative ideas and practical solutions to enhance the efficiency and effectiveness of Nigerian law enforcement agencies through ICT.

Reference