THE UNIVERSITY OF DODOMA

THE COLLEGE OF INFORMATICS AND VIRTUAL EDUCATION

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (CSE)

INDUSTRIAL TRAINING REPORT

At the Department of UBX Company Ltd.

Kinondoni, Dar es Salaam.

By

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LIST OF ABBREVIATION

ASD – Application and Software Development

BCX – Business Connexion

BOA - Bank of Africa

DCB - Dar es Salaam Commercial Bank

ICT – Information and Communication Technology

IPT - Industrial Practical Training

ITT - Intrinsic Technology Tanzania

PBZ - Peoples Bank of Zanzibar

TPB - Tanzania Postal Bank

UAT – User Acceptance Testing

USC - UmojaSwitch Company

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ACKNOWLEDGEMENT

I would like to commence this expression of gratitude by acknowledging the divine grace that has enlightened my path throughout my Industrial Practical Training for without His divine guidance, this journey would not have been possible.

Next, I extend my sincere appreciation to the remarkable team at UBX Tanzania Ltd. They gave us the valuable opportunity to partake in fieldwork, demonstrating support and cooperation throughout the course of our practical training. Their exceptional assistance ensured a wonderful experience, and for this, I am most grateful.

I must also recognize the dedicated individuals within the ASD department, Mr. Peter Paul and Mr. Victor Massawe. Their generous sharing of knowledge, constant availability to address my inquiries, and valuable guidance rendered them the true Most Valuable Players during my Industrial Practical Training.

Last but by no means least, my mentor, Mr. Mangerere. His guidance, support, and wisdom made the successful development of the UBX-Soft-Catering-System during my practical training. His mentorship not only elevated my coding skills but also enriched my overall learning experience.

In conclusion, I extend my heartfelt thanks to every individual who played a role in the realization of my successful Industrial Practical Training. Your contributions have been valuable, and I am heartily appreciative of your support.

SUMMARY

My Industrial Practical Training at UBX Tanzania Ltd, in the Department of Application and Software Development (ASD), took place from August 31, 2023, to September 22, 2023. The training involved activities focused on software development.

During this period, I was actively involved in various essential aspects of software development, including:

Documentation: I participated in the preparation of key documents such as User Requirements Document, System Requirement Specifications, and System Design Document, which served as foundational components in the software development process.

Software Development: A significant portion of my training revolved around the practical implementation of the UBX-Soft-Catering-System, involving coding and testing to ensure the software's functionality and integrity.

User Acceptance Testing (UAT) Preparation: As a part of the training, I assisted in preparing for UAT, ensuring the software met user expectations and requirements.

Deployment: The final phase of my training involved the deployment of the UBX-Soft-Catering-System onto the UBX server, making it accessible for the intended users.

The Industrial Practical Training at UBX Tanzania Ltd has provided educational experience in the field of software development. The practical exposure and participation in various phases of the software development life cycle have significantly enriched my knowledge and skills in this domain.

CHAPTER ONE
INTRODUCTION

1.1 Historical background of UBX Tanzania Ltd

UBX was originally registered as Intrinsic Technology Tanzania Ltd (ITT). In 2004, ITT was acquired by Business Connexion (Pty) Ltd of South Africa and changed its name to Business Connexion Tanzania (BCX). UmojaSwitch (USC) acquired BCX majority shareholding in 2021 and changed the name of the Company to UBX.
65% of UBX's stake is owned by UmojaSwitch Company Limited (USC), a company whose ultimate majority ownership is by commercial banks namely:

- Peoples Bank of Zanzibar (PBZ).
- Tanzania Postal Bank (TPB).
- Azania Bank Ltd.
- Dar es Salaam Commercial Bank (DCB).
- Tanzania Investment Bank.
- Mkombozi Commercial Bank.
- Uchumi Commercial Bank.
- Letshego Bank, and
- Bank of Africa (BOA) Bank.

35% stake is owned by Tanzanian individuals. UBX Tanzania operates across various sectors countrywide, delivering ICT services and related products. The driving force behind the service provision is "partnership" rather than being just a vendor to its customers.

1.2 Tasks performed and knowledge attained

During my Industrial Practical Training at UBX Tanzania Ltd, my tasks and the knowledge I acquired can be divided into various sections, as follows:

Developing UBX-Soft-Catering-System:

Laravel Framework: I began by familiarizing myself with the Laravel framework, which served as the foundation for the software development process.

User Requirements Document: I participated in the preparation of the User Requirements Document, which outlined the features and functionalities expected by the system's users.

System Design Document: I was involved in the preparation of the System Design Document, specifying the architectural and functional details of the software.

Project Plan Preparation: I contributed to the creation of a project plan, which stated the timeline and stages for the software development project.

User Acceptance Testing (UAT): I played a role in preparing for the UAT phase, ensuring the software met user expectations and requirements.

Implementation Phase:

I was centered in the implementation of the Order History Component and Report Management Component of the system.

Order History Component:

In this component, I developed the logic and functionality necessary for tracking orders throughout the system. This involved creating processes to record, store, and retrieve information about orders placed within the system.

Report Management Component:

In this component, I as well developed the logic and functionality for generating reports based on user-specified parameters. This included creating mechanisms to extract and process relevant data as needed to be displayed.

Deployment Phase:

The final stage of the project involved deploying the UBX-Soft-Catering-System onto UBX servers. This ensured that the system was accessible and operational for its intended users.

As a result of these tasks, the UBX-Soft-Catering-System is now in active use and continues to benefit the organization.

CHAPTER TWO

TASK PERFORMED AND SKILLS DEVELOPED AT UBX

My primary area of focus was the implementation of the Order History Component and Report Management Component. These components played a major role in tracking and managing the history of orders within the UBX-Soft-Catering-System and generating the reports needed.

2.1 Order History Component

The Order History Component is a crucial component within a software system that is designed to manage and maintain a detailed record of all orders placed by users. It serves several important purposes.

My key responsibilities on this component of the system included;

Historical Data Storage: I set up systems for securely storing historical order data, enabling users to access their order history and allowing administrators to analyze past orders for various purposes.

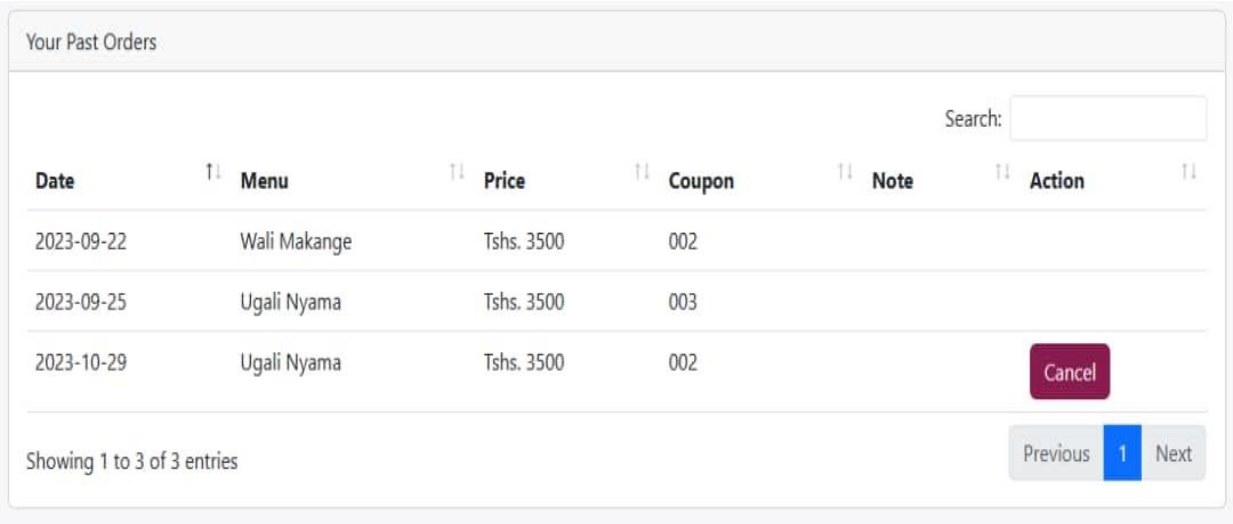

Figure 01: User's Order History

User Notifications: I added logic to notify users about orders placed ensuring they remained informed about the status of their orders as well as their coupon numbers in real-time.

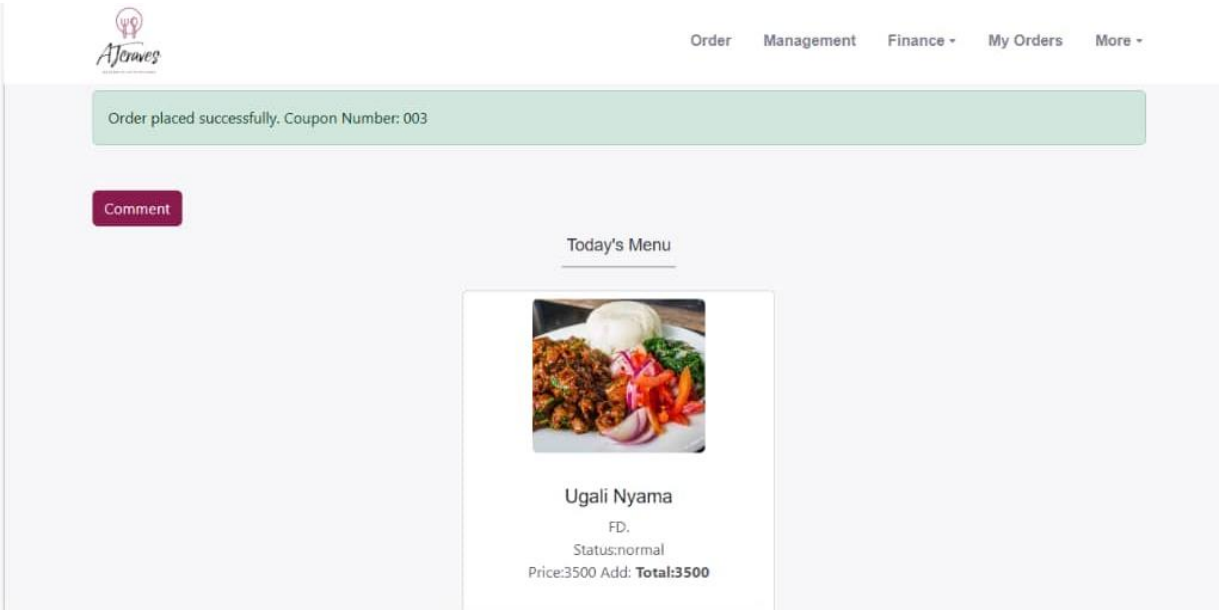

Figure 02: Order Placed Successfully Message

Order Tracking Logic: I developed the logic and functionality necessary for tracking orders throughout the system. This involved creating processes to record, store, and retrieve information about orders placed within the system.

2.2 Report Management Component

The Report Management Component is responsible for creating, organizing, and presenting data in a report format. This component serves various purposes within a software system.

My focus on this component of the system included;

Report Generation Logic: I developed the logic and functionality for generating reports based on user-specified parameters. This included creating mechanisms to extract and process relevant data.

For the case of customer report in our system, once a user places an order, the report automatically updates the total to sum up the balance of all orders placed by the particular user to the current order placed.

The report can be filtered from the start and end dates to view customer orders with their respective prices for the type of meal ordered either standard or vip menu and additional price for customers who need a special serving.

The report as well can be printed and individual customers can write their signatures as a prove of non-repudiation.

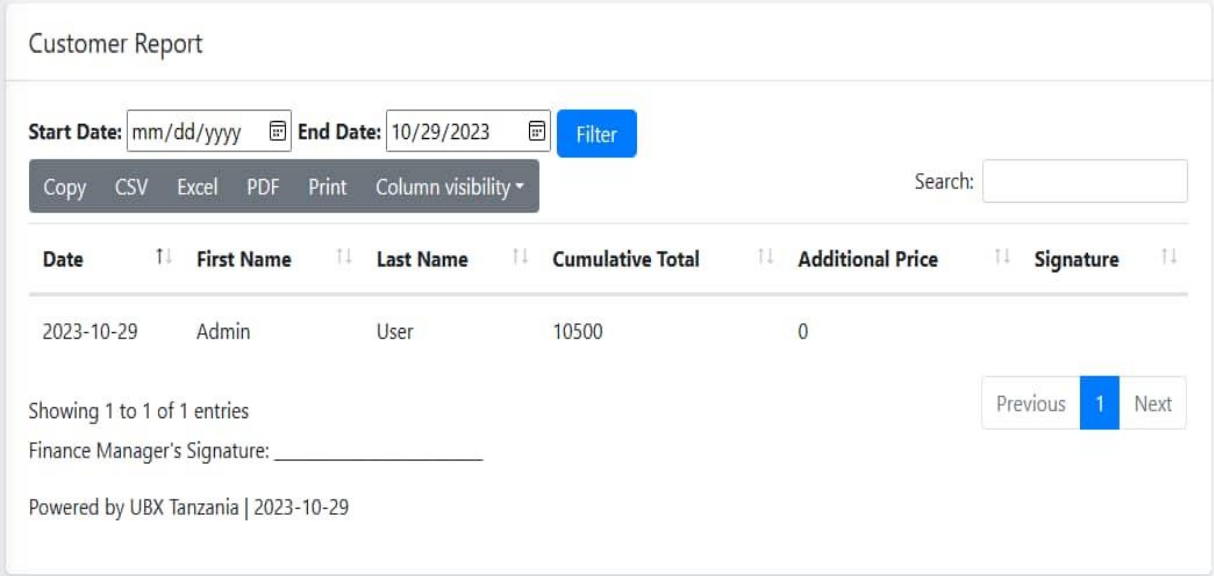

Figure 03: Customer Report

Report Organization: I designed the system for categorizing and organizing generated reports e.g. the order report can be filtered to sort orders daily, weekly, monthly or all orders. This makes it easier for users i.e. the Catering Admin to locate and access the information they needed.

Order Report

Select Date Range: All Filter

Copy CSV Excel PDF Print Column visibility

Search:

Date	First Name	Last Name	Menu	Side Dish	Price	Additional
2023-09-22	Admin	User	Wali Makange	ashbdsh	3500	
2023-09-25	Admin	User	Ugali Nyama	ashg	3500	
2023-10-29	Admin	User	Ugali Nyama	FD	3500	

Showing 1 to 3 of 3 entries

Previous 1 Next

Finance Manager's Signature: _____

Powered by UBX Tanzania | 2023-10-29

Figure 04: Order Report

User-Friendly Interface: The interface I created was user-friendly and allowed for easy report generation, and retrieval.

CHAPTER THREE

CONCLUSION

The Industrial Practical Training (IPT) has made a great contribution to my academic journey. This experience has been a bridge between theoretical classroom learning and practical application, allowing me to connect and apply the knowledge I gained in my academic studies.

The opportunity to work directly with the Laravel framework during my IPT has been particularly enriching. It has not only allowed me to put into practice the theoretical foundations I acquired in the classroom but has also equipped me with a practical understanding of how this framework operates in real-world scenarios.

The journey did present certain challenges that pushed me to adapt, problem-solve, and grow in ways that have deepened my understanding of the subject matter.

This IPT has positively expanded my knowledge, providing me with practical insights that will undoubtedly enhance my academic and professional career.

RECOMMENDATIONS

Due to challenges faced before and during IPT training, I recommend the following to the University of Dodoma Industrial Practical Training coordinator;

- I recommend the use of frameworks for IPT 1 students, for example front-end technology like React JS, Angular, Vue JS and back-end technology like Laravel, Django, node JS and Springboot.
- I recommend that specifications of the required courses on cive ipt website be made, for example the area of field should specify what programs are required.
- I recommend the increase of time for IPT at least 10 weeks for second year students because it will be enough to get overall knowledge needed.
- I recommend that there should be an absolute increase in time for students holiday before going to their selected field areas.

REFERENCES