# 

# **United States International University-Africa**

**Fall Semester 2022**

##### APT/IST 4900 FINAL-TERM PROJECT

## ONLINE COURIER SERVICE SYSTEM

**BY**

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**November 2022**

This final project report is submitted in partial fulfillment of the requirements of the IST /Applied Information Technology (APT)

## Declaration

I declare that this is my original work through my own effort and that it has not been presented in any form for academic or any other reason, to the best of my knowledge. Contributions to this work by any other person or literature have been duly cited.

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Signature………………… Date…………………

Signature………………… Date…………………

**Supervisor**

I confirm that this research project report was carried out by the student under my supervision

Signature……………………. Date…………………

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## 

## Acknowledgment

First and foremost, I would like to thank God for giving me the gift of life, and health for and being with me every step of the way throughout this academic journey, my parents for being there when I needed them, for giving me spiritual, moral and financial support, my friends for their academic and also moral support and all my lecturers especially Dr. Collins Oduor PhD for guiding us through this unit.

## **Abstract**

The ONLINE COURIER SERVICE SYSTEM is a web-based system that is designed primarily for use in the courier’s service industry, especially within the transportation system in Kenya. This system will allow courier services companies to increase the scope of the business by reducing the paperwork cost and accountability of goods involved in this system also allows quick and easy management of transporting parcels from one point to another as they can be easily tracked compared to the use of manual systems of recording information as it includes being able to track the status of the parcel that was sent from the receiver and the sender.

After the parcel being sent has been processed a sent is sent with an estimated time of delivery and the customers will be updated once there is a delay moreover a notification will be issued to the customers for pick up however if the receiver is a distance away, they can also request a delivery thereafter the customer dashboard is updated that the meal is sent out and the estimated time of delivery once the parcel arrives at the destination then the dashboard is updated to be delivered. Since this will reduce the man required at the front desk it will reduce the loss of goods and services and accountability in terms of credit. This project is developed using PHP, JavaScript, and MYSQL. This system is an online application that can be hosted online and therefore the user needs an internet connection or the company’s local area network

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

The increase in sending parcels from one point to another has led to the development of sophisticated systems to ease accountability and transport. In recent times we have seen the registration of couriers, and cargo companies in the country spanning from ground to air. Many constituents in sending and receiving parcels include caring for and safely delivering people’s belongings as requested at a fee.

* 1. Background of the study

With the growth of the internet, it has made it easier for customers and sellers to interact with each other daily in which the interaction has even grown on a global scale where someone living here in Kenya can buy items that can be found in another country. As this trend continues the courier companies need to adapt and grow in retrospect to other developed countries such as Germany, China, and Japan and this can also prove to be useful in developing countries such as Kenya and South Africa.

Despite society’s increased shift to digital communications, the courier and parcel services industry has greatly developed positively over the past 5 years. This was greatly facilitated by the booming online trading platforms, which also translates that more and more parcels are being sent in a single shipment or express shipments. Especially during the years 2020 and 2021 which has greatly contributed both positive and negative aspect of it leading to the closure of some business and during lockdowns many consumers would purchase a wide variety of goods and the courier industry would largely benefit from it.

Most goods that are imported and exported originate from China where there is a rapid rise in e-commerce and its surge has led to the rapid growth of the express delivery industry. With that, the volume of China’s express delivery business has greatly increased from 31.3 billion in 2016 to 83.4 billion in 2020.

Despite online shopping for product sales being inextricably linked to home delivery, online shopping for product sales grew by 21.7% in 2020, while parcel delivery (trucks) grew by 11.5%. According to an announcement by the Ministry of Land, Infrastructure, Transport, and Tourism of Japan, the number of parcel delivery services (trucks) handled in the Financial Year 2020 was 4.78 billion, an increase of 494.31 million over the previous year.

E-commerce is one of the primary drivers of the Japanese CEP market's expansion. Due to increasing internet user penetration, the e-commerce industry's revenue is expected to reach USD 128 billion by 2024. The domestic CEP market is likely to witness the growth and hold the major share during the forecast period in line with the B2C e-commerce boom.

Within South Africa, although the courier, express, and parcel services sector faces weak economic conditions it still gets benefits from the growth in e-commerce sales, increasing demand for just-in-time deliveries, and also from the poor services that are being provided by the post office. With the increasing customer demand for speedy and flexible deliveries and the growth of disruptive startups and innovative delivery options are forcing traditional operators to review their distribution strategies and in some cases partner with or invest in new disruptive on-demand delivery companies to provide innovative and alternative delivery options.

For a long time in Kenya, B2B business transactions have been the major drivers of this sector. Therefore, the pricing model of having blanket rates for deliveries based on zoning was used across the grid and commonly accepted. Also, there was not too much pressure on delivery time, with most players having a next-day delivery or 24-hour timeline.

However, with the advent of the increasing mobile & internet penetration coupled with Kenya’s high upsurge of mobile payments, online consumer spending has now become the second driver of this sector. This trend both locally & internationally coupled with newer delivery models is proving to be very disruptive.

The Nigeria freight and logistics market has been on a slow growth trend for the past many years but is expected to grow at a compound annual growth rate (CAGR) of around four percent (4%) in the coming years. Over the past few years, Nigeria has experienced a slowdown due to poor infrastructure and logistical issues along with delayed customs procedures and congestion on the roads.

As a result, the country was ranked one hundred and forty-five (145) out of one hundred and ninety (190) economies in 2018 in the ease of doing business index and ranks one hundred and twelve (112) in the logistics performance index (2018). The current growth in Nigeria’s logistics Market has been due to the infrastructural developments in Railways and Airways, improvement in foreign ties with other countries, development manufacturing and export sector, and the rising e-commerce sector.

1.2 Problem Statement

Inability to manage multiple customers – It is necessary to have a system that has the capability to handle orders from multiple e-commerce businesses and startup businesses.

Dependency on human resources – the courier system will eliminate the need for human dependency in terms of keeping records about parcels or cargo.

Keeping Track of your parcel – with the current parcel or courier systems in place a customer does not know if the parcel has reached its destination.

1.3 Project Objectives

1.3.1 Overal Goal

To design and develop an online system that enables parcels have been delivered on time ensuring there is customer satisfaction.

1.3.2 Systems design and development objectives

* Parcel tracking.
* Report generation.
* List of all parcels within the system.
* Status changes.

1.3.3 Specific Research Objectives

* To find out the traditional challenges with existing courier and parcel services that are currently in place
* To determine the benefits of an Online Courier System

1.4 Project Questions

* What are the traditional challenges with existing courier services?
* What are the benefits of the Online Courier system?

1.5 Scope of the Project

Online Courier System is a web-based application. To automate parceling systems in different areas of parcel and cargo transportation. Due to many parcels being sent to many counties and some cases of a parcel not arriving in time or not arriving at all. This will help cargo and parcel handlers in the simplicity of operations.

1.6 Limitations of the study

The system may end up facing the following challenges made from manually operating the courier services to online operating it.

1.7 Significance of the study

* **This paper is relevant to Sustainable Development Goal (SDG) 2, specifically, to**
* **“Substantially end hunger and achieve food security within the country and improve nutrition and promote sustainable agriculture”**
* **This can be achieved through a generous donation to areas that are heavily affected by famine, eating food lacking nutrition.**

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

(Brief Introduction 3-4 lines)

2.1 Analysis, comparison and criticism of existing projects with an assessment of strengths and weaknesses of existing projects

2.1.1 System One Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ country\_\_\_\_\_\_\_\_\_

2.1.2 System Two Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ country\_\_\_\_\_\_\_\_\_

2.1.3 System Three Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ country\_\_\_\_\_\_\_\_\_

2.1.4 Summary of comparison of the systems

|  |  |  |  |
| --- | --- | --- | --- |
| **Features** | **Name and country of systems 1** | **Name and country of systems 2** | **Name and country of systems 3** |
| Cost | X | X | X |
| Easy to Install | X | X | X |
| Easy to use | X | X | X |
| Efficient Database | X | X | X |
| Good Security | Tick | Tick | Tick |
| Vulnerability assessment | tick | tick | tick |

2.2 Literraure revew on based on the specific research objectives

2.2.1 challenges of the old sytems

(State and explain (8))

2.2.2 Benefits of the new systems(Title)

State and explain (8)

2.3 Conclusion

CHAPTER THREE:

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

3.1 Locality of the project and Beneficiaries to the project

3.2 Research Design approach –DESCRIPTIVE

3.3 Population of the study(Target group) and Sampling method

3.4 Data collection methods and Primary Data collection methods

3.5 Data analysis methods

3.6 Testing plan for the system

3.7 Ethical clearance considerations

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4.0 Introduction

4.1 System Requirements

4.1.1 Functional Requirements

4.1.2 Non - Functional Requirements

4.3 Stakeholders

4.4 System Models

4.4.1 Systems Architecture

4.4.2 Use Case Diagram

4.4.3 Flow chart

4.4.4 Class Diagrams

4.4.5 Data Flow Diagram

4.4.5.1 Context Diagram 0

4.4.5.2 Level 1 Diagram

4.4.5.3 Level 2 Diagram

4.4.6 Entity Relationship Diagram

4.4.7 Sequence Diagram

4.4.7.1 Admin Sequence Diagram

4.4.7.2 User Sequence Diagram

**CHAPTER FIVE**

**RESEARCH FINDINGS AND ANALYSIS**

5.1 Response rate

5.2 Demographics results

5.3 Results of Specific Research Objective 1

5.4 Results of Specific Research Objective 2

**CHAPTER SIX**

**DISCUSSION CONCULSION AND RECOMMENDATIONS**

6.1 Discussion

6.2 Conlcusion

6.3 Recommedations

6.4 Furture work

CHAPTER SEVEN

IMPLEMENTATION (PROTOTYPE FRAMEWORK)

[7.1 System Implementation](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168356)

[7.2 Technologies Used](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168357)

[7.2.1 Hardware Platform**.**](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168358)

[7.2.2 Programming Language](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168359)

[7.2.3 Programming Tools](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168360)

[7.2.4 Software Platform](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168361)

[7.3 Features of the Prototype](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168362)

[7.3.1 Technical Manual Screenshots](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168363) 1.3.2

7.3.2 User Manual Screenshots:- main activtoty step by step

[7.4 Database Management System](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168364)

8.0 [References](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168366)

APA Format

9.0 [Appendix**.**](file:///C:\Users\Collins\Desktop\JAN%202020\USIU\APT%203065%20%20MID%20-TERM%20PROJECT\APT%203065%20PROJECT%20DOCUMENTATION%20FORMAT.docx#_Toc384168367)

9.1 Questionnaire/Interview schedule

Section A-Respondents bio data

Gender male [ ] female[ ]

Education level primary [ ] high [ ] university [ ]

SECTION B

2.2.2

9.2 Work plan in Grant Chart format

9.3 Budget