Foreign Parcel Address Recognition & Tracking System

D.R.B. JINASENA 179468C

Declaration

I declare that this thesis is my own work and this does not incorporate without acknowledgement any material previously published submitted for a Degree or Diploma in any other university or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

Name of Candidate	Signature of Student
D. R. B. Jinasena	
	Date:
Supervised by	
Name of Supervisor	Signature of Supervisor
Chaman Wijesiriwardana	
	Date:

Acknowledgement

I would like to convey my special thanks to Mr. Chaman Wijesiriwardana, Senior Lecturer, Faculty of Information Technology University of Moratuwa for the support, guidance and supervision given to me throughout the project, making it a success. My sincere gratitude to Mr. D.K. Withanage, Dr. M.F.M. Ferdhous and Mr. S. Premarathne for their kind advices and support given to me.

I'm grateful to my family for their enormous support given to me at various points in time during the course of this research. Further I'm thankful to all my colleagues in both Msc. IT Batch 11 and work for the support rendered to me.

In addition, I would like to thank all the staff of Department of Post for their insightful comments and encouragement which helped me lot to enhance my knowledge from various perspectives.

Furthermore, I would also like to thank all the batch mates of the M.Sc. in IT degree program who gave their valuable feedbacks to improve the results of the research, my family for the support they provided me throughout my entire life and in particular.

Finally, I thank all the staff members and Faculty members of Faculty of Information Technology University of Moratuwa.

Abstract

A parcel is a simple way to transport anything from one place to another. The high price of the express package delivery services, people move to domestic postal service to send the package to a recipient. Postal service has excellent coverage of post office operated all the rural and non-rural area. Growing the Internet and E-Commerce website in the last 20 years, people buy and sell using e-commerce websites. The popularity of the internet in Sri Lanka people using eBay, Amazon and other websites to buy and sell items. As many people do not select express package because of the high price of the shipment. All normal packages send via the Central Mail Exchange 'CME'. Usage of postal packages going to be increased day by day due to the heavy orders. Problem is 'CME' is difficult to handle manually such number of packages when the demand is high. Resulting delay deliveries of postal packages, therefore people try to claim the money back from the ecommerce sites. Currently, most of the websites are not ship to Sri Lanka. Because the department of post has no tracking system for track postal packages at domestic level. In most cases due to delay delivery of packages, customers claimed money from the suppliers. But it was observed that items were delivered to the customers by the SL post after customers claim money from suppliers. Therefore there is a necessity of introduce effective delivery and tracking system to overcome issues mentioned above.

Table of Contents

Abstract	
List of Figures	vii
CHAPTER 01	1
Introduction	1
1.1 Prolegomena	1
1.2. Background and Motivation	2
1.3 Aim and Objectives	3
1.4 Research Scope	3
1.5 Structure of the Thesis	4
CHAPTER 02	5
Literature Review	5
2.1 Chapter Introduction	5
2.2 Literature Review	5
2.3 Problem Definition	7
2.4 Chapter Summary	7
CHAPTER 03	8
3.1. Selecting Of the Image Processing Methods	8
3.2. MySQL	8
3.3. PHP	8
3.4. JavaScript	9
3.5. Visual Studio Code	9
CHAPTER 04	10
Analysis and Design	10
4.1 Chapter Introduction	10
4.2 Functional Requirements	10
4.3 Non Functional Requirements	11
4.4 User Characteristics	11
4.5 Use case Diagram	12

4.6 Software Development Life Cycle	
4.6.1 Prototype Model	15
4.7 Chapter Summary	
CHAPTER 05	
Implementation	
5.1. Problem identify	17
5.2. Data pre-processing	
5.3. Analysing the Problem	
5.4. Introduction the Process	
5.5. Process of the Central Mail Exchange	
5.6. Testing	
CHAPTER 06	21
User Interface	21
CHAPTER 07	27
Conclusion and Further Works	27
7.1 Introduction	27
7.2 Future Work	28
7.3 Limitations	29
References	30

List of Figures

Figure 1Use Case Diagram	12
Figure 2 Sequence Diagram	13
Figure 3 Class Diagram	14
Figure 4 Software Development Life Cycle	16
Figure 5 Post office match Diagram	17
Figure 6 User Interface – Login Page	21
Figure 7 User Interface – Add Parcel	21
Figure 8 User Interface – Assign Packages	22
Figure 9 User Interface – Accept & Reject Parcels	22
Figure 10 User Interface – Assign Packages to Post Office	23
Figure 11 User Interface – Parcel Accept Form of Postman	23
Figure 12 User Interface – Postman Parcel Accept Report	24
Figure 13 User Interface - Parcel Reject Form of Postman	24
Figure 14 User Interface – Postman Parcel Parcel Delivery Update	25
Figure 15 User Interface – Dashboard	25
Figure 16 User Interface – Customer Search	26