West Visayas State University
COLLEGE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
La Paz, Iloilo City, Philippines

IMPLEMENTATION OF HAVERSINE, DIJKSTRA'S ALGORITHM, AND SARIMAX FOR PHILIPPINE TRANSPORT AND FARE COLLECTION SYSTEM

An Undergraduate Thesis

Presented to the Faculty of the

College of Information and Communications Technology

West Visayas State University

La Paz, Iloilo City

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Science in Computer Science

by

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Approval Sheet

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Abstract

Transportation plays a very big role in developing countries like the Philippines. Based on the proponents' experiences and observations, the manual fare system entail problems such as drivers or conductors not taking into consideration that a passenger is a Senior Citizen or Persons with Disability (PWD), adding certain value to the exact fare, or causing traffic when the drivers stop in the middle of the road to find change, and many more. In this regard, the proponents proposed different systems that aim to solve the problems that manual fare system entails here in Iloilo. The systems that the proponents proposed are the Mobile Application called the EzPay app that which has the ability to generate QR code which the driver will scan in order to collect payment, Fare Management System which allows the administrator to oversee monthly sales and view the sales forecasting with the use of SARIMAX model, and the Top-Up System that have the ability to add load value to the user's account. Based on the results after a series of testing, the proponents concluded that the respondents were satisfied with the system's functionality and the system worked according to what the proponents intended the system to be.

TABLE OF CONTENTS

List of Tables

List of Figures

List of Appendices