



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

**DEVELOPMENT OF DELIVERY MAN LOCATION
TRACKING APPLICATION USING XAMARIN
SOFTWARE**

This report is submitted in accordance with the requirement of the Universiti Teknikal Malaysia Melaka (UTeM) for the Bachelor of Electronics Engineering Technology (Telecommunication) with Honours.



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2021

BORANG PENGESAHAN STATUS LAPORAN PROJEK SARJANA MUDA

Tajuk: Development of delivery man location tracking application using xamarin software

Sesi Pengajian: 2021

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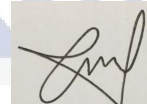
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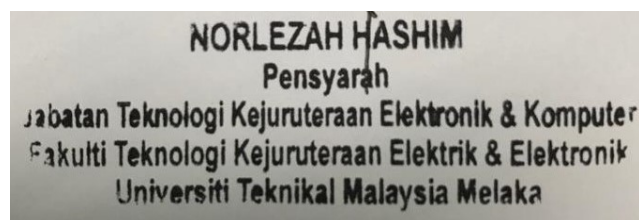
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I hereby, declared this report entitled Development of delivery man location tracking application using xamarin software is the results of my own research except as cited in references.

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This report is submitted to the Faculty of Electrical and Electronic Engineering Technology of Universiti Teknikal Malaysia Melaka (UTeM) as a partial fulfilment of the requirements for the degree of Bachelor of Electronic Engineering Technology (Telecommunication) with Honours. The member of the supervisory is as follow:



ABSTRAK

Pada era globalisasi ini, penghantar barangan adalah yang paling penting bagi semua orang terutama bagi pengguna kerana terdapat pelbagai sumber maklumat dan barangan yang diperlukan untuk pengguna. Dalam penghantaran barangan, terdapat banyak maklumat mengenai setiap aspek yang diperlukan oleh mereka. Bayangkan senario dalam situasi di mana waktu sibuk dan lalu lintas di pusat bandar berada di waktu puncaknya, hampir banyak masa seseorang itu bazir kerana mengambil barangan dengan sendiri. Sebenarnya, ekoran daripada permintaan yang tinggi untuk pengguna menerima penghantaran tepat pada waktunya, sebilangan pengguna hanya mengabaikan penghantaran tersebut dan menyebabkan diri mereka menghadapi masalah. Untuk mengatasi masalah ini, ia memerlukan aplikasi yang dapat membantu pengguna untuk mengetahui tepat lokasi barangan dengan cara mencari lokasi barangan. Oleh itu, tujuan projek ini adalah untuk mengembangkan aplikasi pengesanan lokasi penghantar barangan. Objektif projek ini adalah menganalisis aplikasi pengembangan dari segi fungsinya. Hasil daripada projek pengesanan lokasi penyampaian barangan, aplikasi ini akan dikembangkan dan dibuat dengan menggunakan perisian Xamarin dan aplikasi mudah alih yang merupakan aplikasi Android di mana ia dapat mengesan kedudukan pengirim. Akhir sekali, untuk kesimpulan aplikasi ini dapat membantu pengguna untuk mengesan kedudukan penghantaran barangan oleh manusia dengan mencari tempat dan dapat meningkatkan lagi aplikasi ini untuk kegunaan masa hadapan.

ABSTRACT

Nowadays, delivery man is the most important for everyone especially for users because there are various source of information and item that are required for the user. In delivery, there have a lot collection of information on every aspect what they need. Imagine a scenario in this case where it's rush hour and traffic in the city center is at its height. Almost of the time are been wasted to make a person to pick up the delivery by themselves. In fact, due to high demand for people to receive the delivery on time. To overcome this problem, it needs some of the application that to track the location of their parcel in real time when the parcel is out for delivery by delivery man. Therefore, the purpose of this project is to develop a application of delivery man location tracking application and to analyse the develop applications in term of its functionality. As a result of the project of development delivery man location tracking, this application will develop and create by using Xamarin software and mobile application which is Android application where it can track the position of delivery man. Lastly, for the conclusion of this application can help the users to tracking the position of delivery man by search the place and can be upgrade this application for the future use.

DEDICATION

I dedicate this project to my supportive beloved parents, my supervisor and my BEET classmate. A special thanks to my father Encik Ahmad Ramli Bin Ahmad and my mother Puan Nurul Liyana Binti Abdullah who always give me courage and being support my idea to do this project. Furthermore, I would like to say thank you to my beloved supervisor, Puan Norlezhah Binti Hashim for the guidance, advices, encouragement, inspiration and attention given throughout the day for development of my final project and writing this report. Lastly, I would like to say thank you to all my BEET classmate that who always support me to complete and developed this project.



ACKNOWLEDGEMENTS

Special thanks to Allah S.W.T for the His blessing and gift because giving me the ability to complete my Projek Sarjana Muda (PSM). This report is as a mark of my sincere appreciation to Universiti Teknikal Malaysia Melaka (UTeM) for giving me this chance to further study on Bachelor's Degree in Electronics Engineering Technology (Telecommunication) in Faculty of Electrical and Electronic Engineering Technology (FTKKEE). I would like to express my sincere appreciation and deepest gratitude to my dearest supervisor Puan Norlezhah Binti Hashim for always provide crucial information, guidance, advices, encouragement, inspiration and attention given throughout the day for development of my final project and help for completing the writing report. Without her guidance and assistance, this project would never be completed. My gratitude goes to my beloved parents Encik Ahmad Ramli Bin Ahmad and Puan Nurul Liyana Binti Abdullah, my family, and my BEET classmates that always give courage and support me to complete my project. Deepest thanks and appreciation to my parents for their cooperation, encouragement, constructive suggestion and full support for the project completion from beginning till the end. Thanks to their moral support and care they had given to me up until this project is done. Finally, I would also to say thank you to all lecturer and staff who was involved directly or indirectly in helping me to completing this project. All the kindness and cooperation from all names mentioned above will always be treasured.

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CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter is an overview of the delivery man location tracking application. Furthermore, the background study and the problem statement regarding to the research is defined. Then, it is followed by the useful resource of research objectives and scope which includes the aspect to show the tracking application.

1.1 Research Background

The research of this project is about "Development of delivery man location tracking application using Xamarin Software". This application will help the users to easily tracking the delivery man through the map in applications. Although the map has a large collection of places, finding a delivery man is one of the problems.

To overcome this problem, the method that are used to develop this project is using a mobile application which is Android application. This application includes functionality to track the delivery man location in a real time. This provided the interfaces for the users can quickly get the details information delivery man from interface of the Android applications.

1.2 Problem Statement

In modern times, the advancement of GPS technology is growing rapidly. Pickup and delivery problem is a set of routes has to be constructed in order to satisfy transportation requests. Let us imagine a scenario in this case where it is rush hour and traffic in the city center is at its height. In fact, due to high demand for people to receive the delivery on time, some people just ignore the delivery and make their self in trouble. In some cases, violators have fake documents displayed at the delivery process.

To overcome this problem, the solution that are proposed to develop this project is create an application of delivery man location tracking application by using Android application. This developed project can help the users to find the delivery man more easily through an android application. This application, the user needs smartphone that build in with GPS to connect. Lastly, this system will create and developed by using simulation of Microsoft Visual Studio 2019 (Xamarin Software) and Mobile Xamarin.

1.3 Objectives

Based on the problem statement that had been discussed above, the objectives of this project are:

- a) To develop an application for delivery man tracking system using Android platform.
- b) To analyse the application developed in term of its functionality.

1.4 Scope of Work

The scope of work on this project are established based on the objectives that had been mentioned above. This project is to create an applications of delivery man tracking location application. The development of this project will cover in these areas:

- a) Microsoft Visual Studio 2019 (Xamarin Software).

This project is about software developments that are used to create an android application of the system by using Microsoft Visual Studio 2019 (Xamarin Software). This project will

be cover on the software part only, where it is including about the design interface of projects, coding and develop an application by using mobile application which is android.

b) Android application.

This project is developed by mobile application which is Android application. The researcher will use the software of Microsoft Visual Studio (2019) because this software is very suitable and also great to create an application and design the application.

1.5 Thesis Outlines

This report consists of five chapters which are include of introduction, literature review, methodology, results and discussion and lastly a conclusion and recommendation. Each of this chapter will be elaborated in detail.

Firstly, the chapter one is the introduction about the project or case study. In this chapter, it consists of research projects, problem statements, objectives, and scope of projects. All of the summary information that are related of this projects will be discussed and presented in this chapter.

Next, literature review about the journal or research. In this chapter, it will do the research about the previous studies will be conducted. This chapter is discuss about the methods that are used from other researcher in previous projects. This is important to study the comparison of strength and weakness that can be used as the guidelines to develop a good related projects.

Then, for chapter three that are focused on the methodology and approaches about the related projects. In this chapter, it will be discussed about the flow charts of projects, how the process are work, about how to development and applying the projects. And the software and hardware that are used.

Chapter four presents the results and discussion. This chapter will show the function and output of the projects. The results will be analyzed in this chapter.

Finally, for the chapter five is about conclusion and recommendation. In this chapter, the summary of the projects and recommendation for the future will be presented.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This project is delivery man tracking location application. There are several parts of this chapter. In the first part shows the previous project that is related with the following explanation. There are several literature review that had been read and been conclude.

2.1 Previous Project Study

2.1.1 Real time Google map and Arduino based vehicle tracking system

(Rahman, Mou, Tara, & Sarkar, 2016) discussed a vehicle tracking system is exceptionally valuable for following the development of a vehicle from any area at any time. In this work, genuine time Google outline and Arduino based vehicle tracking system is executed with Worldwide Positioning System (GPS) and Worldwide system for portable communication (GSM) innovation. GPS module gives geographic arranges at normal time intervals. At that point the GSM module transmits the area of vehicle to cell phone of owner/user in terms of scope and longitude. At the same time, area is shown on LCD. Finally, Google outline shows the area and title of the put on cell phone. In this way, owner/user will be able to ceaselessly screen a moving vehicle utilizing the cell phone. In arrange to appear the achievability and effectiveness of the framework, this work presents exploratory result of the vehicle following framework. The proposed framework is client neighborly and guarantees security and observation at low maintenance cost.

2.1.2 College Bus Tracking Android Application using GPS

(Kumar, Aishwarya, & Mounika, 2016) introduced a College Bus Tracking android application enables the client to discover out the transport location information so that the client does not get delayed. The main point of this paper is to gather the information from GPS and delivering it to server from where it'll be brought by android application and the transport genuine time area can be seen on Google map, which is coordinates onto the android application. The clients can log on to the application and can know almost the scheduled courses of the college bus. This application is user-friendly and adaptable to utilize because it may be a time saving application to the client. To achieve automatic Vehicle Location system that can transmit the location data in real time, Active systems are created. Real time vehicular following system incorporates an equipment gadget introduced within the vehicle and a farther Following server. The data is transmitted to the following server using GSM/GPRS modem on GSM organize by using SMS or utilizing coordinate TCP/IP association with Following server through GPRS. Following server also has GSM/GPRS modem that gets vehicle area data by means of GSM network and stores this data in database. This data is accessible to authorized clients of the system through site over the internet.

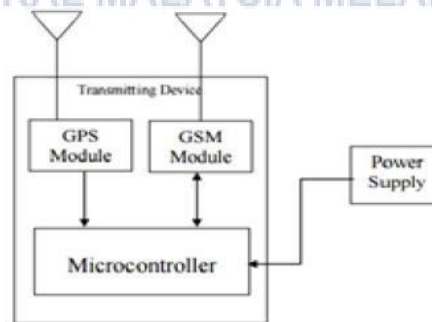
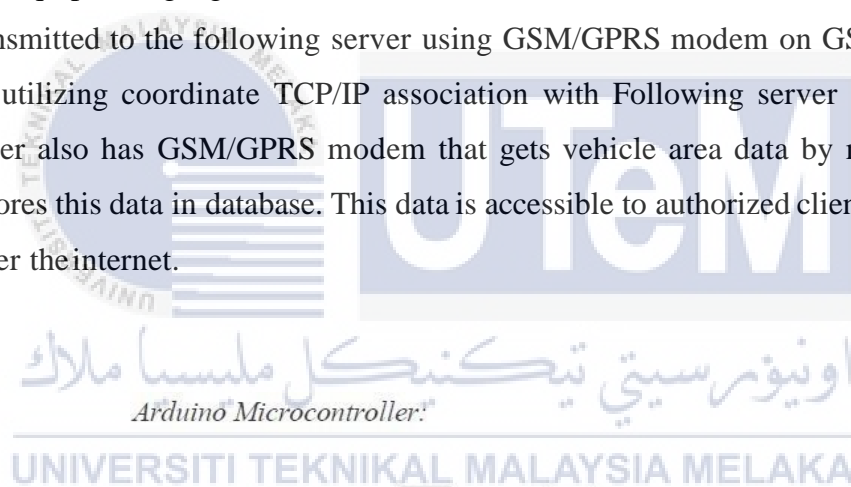


Figure 2.1: Transmitting Unit

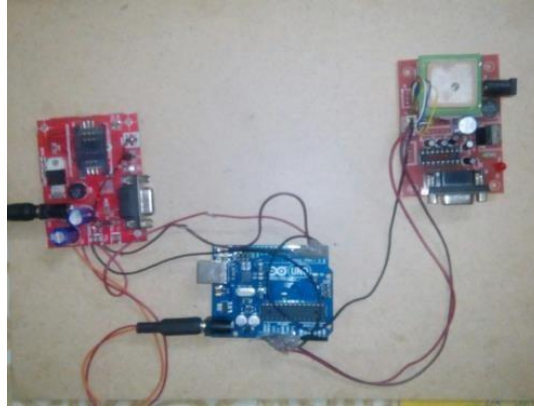


Figure 2.2: Hardware Setup

2.1.3 Access control in location tracking system

(Herrala, S. 2016) stated that a strategy for controlling get to in a area following framework is given. In reaction to discovery of the presence of a portable tag of the area following framework in an area having at slightest one get to control gadget, an area following gadget of the area following framework enacts the access control gadget to start foundation of a communication connection with the versatile tag so as to arrange access rights of the versatile tag. For indoors area tracking, earlier art teaches frameworks that utilize a pico arrange of remote base stations, and the area of a given individual within the coverage area of the pico organize is decided on the premise of which wireless base station right now serves an individual communication gadget of the individual. Earlier craftsmanship too educates location tracking frameworks based on radio frequency identification (RFID) where a RFID readers are arranged to cover an area in which the area following is to be carried out. RFID tags are related with observed subjects, as example human beings and resources such as gear. Wifi is additionally an alternative for carrying out location tracking.

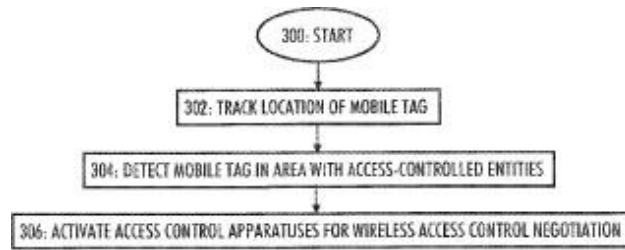


Figure 2.3: Drawing Sheets

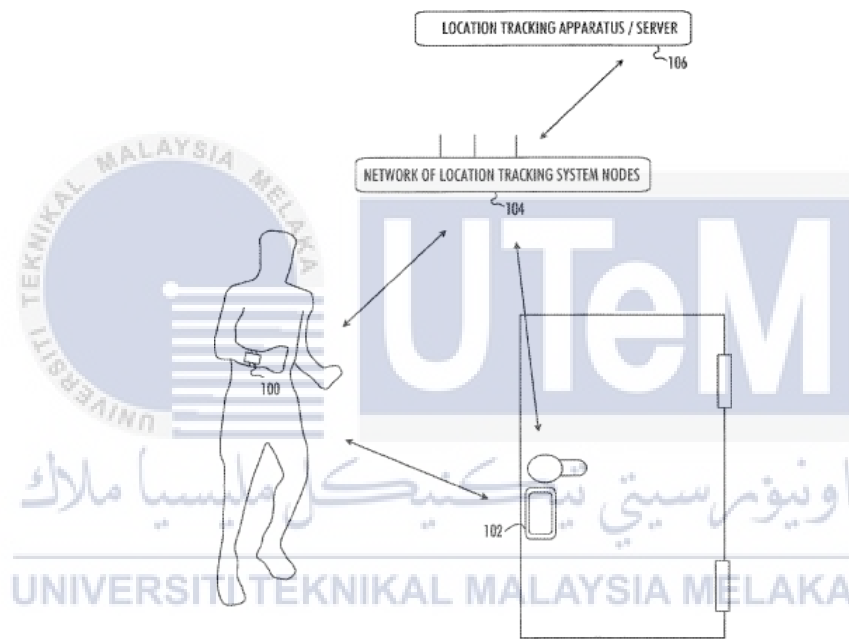


Figure 2.4: Diagram Network Tracking

2.1.4 Real-time and offline location tracking using passive RFID technologies

(Rehman, S. 2017) stated that a system for area following utilizing passive tags incorporates a reader and an area tracker. The reader gets an identifier related with a to begin with inactive tag. The area tracker gets the area of the inactive tag, and maps the area of the primary detached tag to the identifier related with the primary detached tag. The area tracker decides the area of a question based on the area of the primary inactive tag. The area tracker may get the area of a moment detached tag, and outline the area of the moment passive tag to an identifier related

with the moment passive tag. The area tracker may update the area of the object using the area of the moment detached tag in reaction to the readers accepting the identifier related with the moment passive tag. Radio Frequency Identification (RFID) is a programmed identification technique that depends on the remote disposal and recovery of devices that use information, such as RFID labels or transponders. RFID labels or transponders are also known as proximity, proxy, or contactless cards, as information can be retrieved from an RFID tag without physical contact. For the most part, a device such as an RFID reader uses radio waves to remotely recover a special identifier that is put away using the RFID tag when the RFID tag is within the RFID reader's proximity. RFID labels can be connected to or joined to an item, creature or individual because the RFID readers distinguish proof. RFID readers can be installed on entrances, in cars prepared, over freeways, mounted on vehicles, and in portable handheld gadgets can also be epitomised.

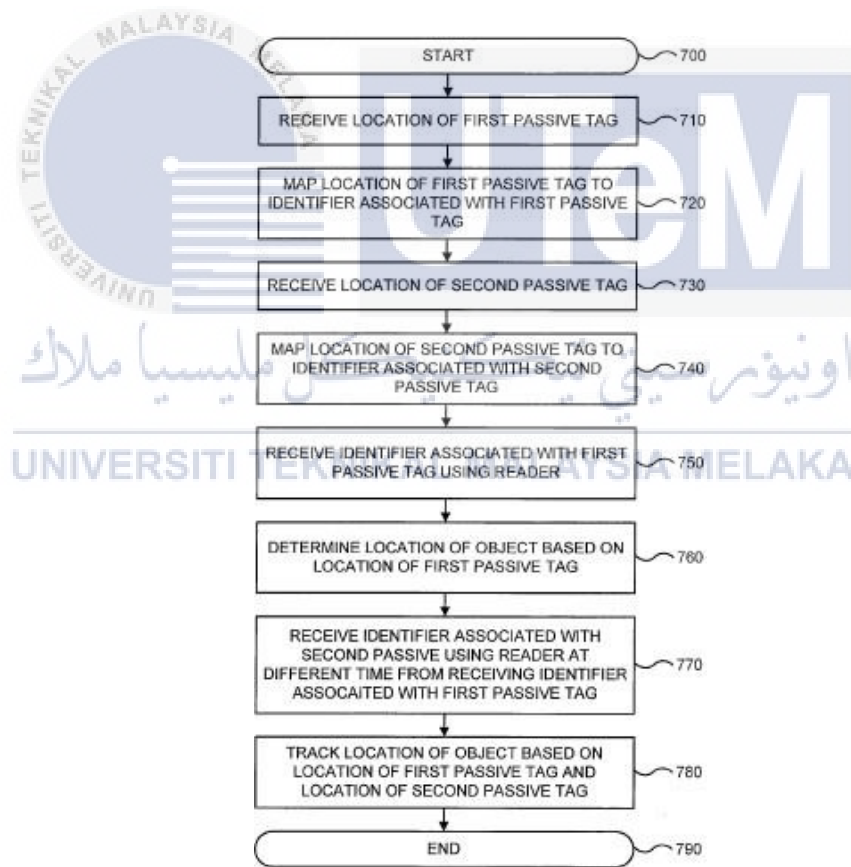


Figure 2.5: Flowchart Structure RFID