

**VEHICLE TRACKING SYSTEM USING GPS AND ANDROID BASED
SMARTPHONE**

NUR SYAZWANI BINTI MUSTAFA

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

ABSTRAK

Sebilangan besar kenderaan dilaporkan hilang setiap tahun. Oleh itu untuk meningkatkan kualiti hidup untuk kes ini, sistem pengesanan berguna dengan lebih dipercayai diperlukan. Tujuan projek ini adalah untuk menggabungkan Sistem Kedudukan Global untuk mengesan kenderaan yang menggunakan Peta Google. Sistem ini terbahagi kepada dua bahagian iaitu bahagian pengesanan dan pemantauan bahagian. Untuk bahagian mengesan, ia terdiri daripada GPS dan telefon bimbit android untuk tujuan navigasi. GPS akan memberikan maklumat mengenai lokasi kenderaan. Selepas menerima data lokasi daripada pelayan web (*thingspeak.com*), data yang dipantau oleh komputer peribadi. Selepas data diproses, lokasi pengguna boleh dilihat di Peta Google. Lokasi kenderaan adalah berdasarkan latitud dan longitud.

ABSTRACT

A huge number of vehicles were reported missing every year. Thus in order to increase the quality of life for this case, a useful tracking system with more reliable is needed. The purpose of this project is to combine the Global Positioning System for tracking the vehicles using Google Maps. This system divided into two parts which are the tracking part and monitoring part. For tracking part, it consist of GPS and android mobile phone for navigation purpose. The GPS will provide information about the location of the vehicle. After receiving the location data from web server (*thingspeak.com*), the data is monitored by personal computer. After the data being process, the location of the user can be viewed on Google Maps. The location of the vehicle is based on latitude and longitude.

KEYWORDS

Tracking system, Global Positioning system, Google Maps, Android mobile phone, web server, thingspeak.com, personal computer, latitude, longitude.

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SMARTPHONE

NUR SYAZWANI BINTI MUSTAFA

A report submitted in partial fulfilment of the requirements for the award of the
degree of Bachelor Degree of Electronic and Computer Engineering
(Telecommunication) with Honour

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA
 FAKULTI KEJURUTERAAN ELEKTRONIK DAN KEJURUTERAAN
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BORANG PENGESAHAN STATUS LAPORAN
 PROJEK SARJANA MUDA II

Tajuk Projek : Vehicle Tracking System Using GPS and Android Based Smartphone

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 Universiti Teknikal Malaysia Melaka (UTeM)
 Hang Tuah Jaya
 76000 Durian Tunggal, Melaka
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Signature : 
Name : MOHD KHANAFIAH B-NOR
Date : 12/6/2015

*Special dedication to my beloved family members and friends for their support,
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LIST OF ABBREVIATIONS

GPS	-	Global Positioning System
MIT	-	Massachusetts Institute of Technology
App	-	Application
Wi-Fi	-	Wireless fidelity
RFID	-	Radio frequency identification
GPRS	-	General packet radio service
3G	-	3 generation
SMS	-	Short message service
2D/3D	-	2 direction/ 3 direction
NAVSTAR	-	Navigation satellite timing and ranging system
AGPS	-	Assisted Global positioning system
GSM	-	Global system for mobile communication
API	-	Application program interface
GUI	-	Graphical user interface
PC	-	Personal computer
CPU	-	Central processing unit

OS	-	Operating system
AOSP	-	Android open source project
APK	-	Android application package
URL	-	Uniform resource locator
HTTP	-	Hypertext transfer protocol
ID	-	identification

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CHAPTER 1

INTRODUCTION

Chapter 1 describes the introduction of the Final Year Project of Degree. It includes explanations of subchapters such as project introduction, problem statement, objectives, and scope of project and thesis outline.

1.1 Project Introduction

Nowadays, they are a lot of varieties application in our life. One of the applications is vehicle tracking system. Vehicle tracking system using GPS and Android based smart phone is a device that can track vehicle at anywhere. Basically, this project aims to develop vehicle tracking system using GPS and Android based smart phone that will be more useful for users and more reliable. To make life more easily, vehicle tracking system is invented. This project uses smart phone and personal computer which is one to monitor the vehicle location and another one act as a tracker. This system uses android mobile phone as mobile terminal because it is more convenient

and flexible. Android mobile phone will link to the web server and write the information. Thus, user can retrieve the information for further action.

GPS is used to provide a very accurate location, time, and date. The satellite will transmit the information to the GPS so that GPS can receive the information. By measuring the distance from satellite, it allows the data to control the location.[1]

1.2 Problem Statement

Problem statement of this project is once the vehicle is being stolen, owner cannot track their vehicle. They do not know where to find the vehicle and the chances to get their vehicle back is very low. It makes so hard to track the vehicle when there is no evidence. So this system will track and monitor the vehicle's location. But how can the location of a vehicle be tracked using Android application?

For this time being, vehicle tracking system has been nominated as one of the best tracking system for the losses of vehicle. Generally GPS tracking uses a system of satellites orbiting earth to find the actual location. So by improving this system, it uses GPS and Android based smart phones.

1.3 Objectives

The aim of this project is to develop tracking system and monitoring the system using GPS and Android based smart phones. The objectives of this project are: