Parkbuddy – Find My Car Android Mobile Application

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Abstract—**As a result of technological progress, smartphones become an excellent choice for the user to make their life easier. This paper discussed how to locate parked vehicle using mobile application. The situation of forgetting where last vehicle location was parked and trying to remember it can become problem to some people especially to those who are having deterioration of memory such as a short term memory and dementia. This mobile application helps these users to locate their vehicle by utilising the global positioning system (GPS) system. This paper presents and critically analyses the system developed to solve the problem.**

Index Terms—**Smartphone; Android; Global Positioning System; GPS; Parking; Vehicle; Mobile Application; Vehicle Location; IoT.**

I. INTRODUCTION

One of the trivial issues faced by some individuals is spending the time to search for their vehicle while trying to remember the last location of their vehicle. Mobile devices such as smartphones had become an excellent choice for the user to make their life easier such as to handle the simple daily task. By taking advantage of this opportunity, a mobile application is developed to enable the user to locate back their vehicle. This application can help the user to locate their vehicle by utilising the global positioning system (GPS) system. It also helps to pinpoint the current location of the vehicle and then mark the location on a map for the vehicle whereabouts. One of the reasons this application is used to solve the problems because mobile devices are portable. The user interface for the application is more user-friendly compared to the typical software systems. Hence, no hardware such as keyboard or mouse needed for the user to interact with the application. Nowadays, users can find many vehicles related applications that can help them to perform almost all of daily tasks and plenty of mobile applications can be used by the users on the go [1].

The main aim of this paper is to present the design and analyse of the mobile application that can pinpoint the location of the vehicle being parked. It is also able to implement a full-fledged Android mobile application which can pinpoint the vehicle location using global positioning system (GPS).

This paper organised as follows, Section I introduces the background study and overview of the system, while Section II explains on the methodology used to build the system. Section III discusses the system and user requirements followed by the system design along with the user interface design. In Section IV-VII, the design, system implementation and user interface are explained. Section VIII summarises the testing and results. Contribution, conclusion and future works are drawn up in Section IX and Section X, respectively.

II. LITERATURE REVIEW

A. Vehicle locator application

The vehicle locator applications come in handy and very suitable for perpetual vehicle seekers. The mobile devices must have global positioning system (GPS), a location sensor and orientation sensor for it to function properly. Three of the components are important for a locator application to provide navigating instruction for the user. The mobile application will retrieve current geographic location on maps from mobile devices GPS and remember that location as the parking spot of the vehicle. The user is given two options to track vehicle location whether using map or compass. Locating vehicle in a big or multilevel parking building can be tricky, but it can be countered by providing an extra functionality to ease the searching session. One of the ways is to providing vehicle details such as vehicle type, plate number, time of last seen or taking a picture and the most important component is to locate the position of the vehicle and provide return route to the location.

B. Evaluation of the existing system

There are three types of existing vehicle locator application that has been evaluate and compare then based on the result of comparison, a proposed application can be design and developed. The three applications that had been review are Car Locator by Developer_Ako [2], Car Finder by Jarvis Lin [3] and Parked Car Locator by Christian Martell [4]. Based on the evaluation table (refer Table 1), proposed application is inspired by implemented some of the strong point and counter the weakness of each application.