UNIVERSITI TEKNOLOGI MARA

I-PARK:
DEVELOPMENT OF SMART PARKING NAVIGATION SYSTEM

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ABSTRACT

Recently the number of vehicle ownership has been increasing, hence it needs a large parking area. The downside is finding parking in a huge parking lot, especially when individuals park their cars in a larger parking lot and the owners have trouble finding their own vehicle. In this project, that proposed the smart parking navigation system (I-PARK) is a mobile application running on a navigation system. This mobile app was created to help Malaysian people locate their car parked in Malaysia. The rise in vehicles in Malaysia makes it difficult for users to recognize where they park their cars in this situation. The navigation system will help users navigate the car to solve this problem. For this project, designing, developing, and testing a mobile application based on its functionality is an objective. This project consists of two hardware and software development elements. Android Studio will use the software development for this project to develop this mobile application and use the Java language. Users can access parking space information using a smartphone via an application. Especially for users who have been registered before, they have to login into the app as the requirement for security system and user parking their car convenience. The system can work with the purpose of the research appropriately. The advantage of this approach makes it easier for them to locate their vehicle without recalling or recording where the vehicle was parked.

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CHAPTER 1

INTRODUCTION

This chapter explains a brief description of the project context and other relevant elements to detail the proposed project.

1.1 Background of Study

A Parking System is a solution consisting of barrier gates, an access control system, and an automatic parking system typically found in public or private buildings. Because of rapid economic growth, the number of vehicles in towns has risen significantly. The number of cars is also growing as the population increases and the demand for parking spaces is increasing (Maulana et al., 2020). The number of vehicles has also risen at the same rate in recent years with the population rise in metropolitan cities (Saleem et al., 2020)

The increase in the number of people using the vehicle has contributed to the problem of the parking system, especially when people park their car in the large area, the owner has difficulty in finding their own car. In many public locations, such as stadiums, market centers, hospitals, shopping malls, and airports, the scarcity of available car spaces is obvious, so governments are looking to develop their current transport networks and facilities (Alsafery et al., 2018). The shortcoming is how to search for the empty parking space in the large parking area and also the amount of unauthorized car parking that does not comply with the parking space unit regulations (Anjari & Budi, 2018)