CHAPTER 1

INTRODUCTION

1.1 Overview

By referring the name of smart parking system, drivers are supposing to get the parking lot easy and without the feeling of frustration but the true story is always not what we expected. The main reason of it is because the system name is smart but the guidance mechanism is not complete and efficient enough. Moreover, there are some parking system do not even have any guidance mechanism it is due to the extra cost that have to bear by the owner. As a consequence of increased the level of difficulty for the driver to seek for car park lot.

Here is some example that normally face by all the Malaysian driver who intended to find a car park. First of all, the ticket is still available for the driver although the car park is full and causes the drivers seek more time to patrolling around. Secondly would be the lack of indication to the free parking lot. Next issue is the drivers simply park their vehicles at any place they like which might block the loading bay and cause the pathway of the car park become narrow. There is many more issue that arises by the driver but the point that listed is the most critical issue that needs to be solved.

In my project, I will be focusing on the security of the car park system, slightly improve of the guidance mechanism. The guidance mechanism is to be built to guide the driver to the empty parking lot in a short time without any feeling of fuss and hassles. Sometime, drivers are confused that the car park bay is just been occupied or the driver is wish to leave the car park slot. Therefore, the slightly improvement of the
car park will be a color of indicator LED will show that the driver is just make payment and leaving the parking slot soon. Besides that, the security system is built to ensure the car is not being steal and CCTV is install in the sectional parking area so that the driver can view the car park condition before they get the car and check the car status while shopping in the mall.

1.2 Problem Statement

There are many car parks available in Malaysia; however the security system and the guidance mechanism of these parking systems are neither smart nor efficient enough to operate the car park. Therefore, these systems are not efficient in terms of both time-to-park and guidance mechanism, that is waste of time and fuel yet increase the crime rate.

1.3 Objective

1. Design a car park modal.
2. Develop a smart car parking system and improve the existing car park guidance mechanism.
3. Develop an android application for the payment and real time monitoring.

1.4 Project Scope

Arduino is chosen as the Microcontroller which is act to communicate with the sensor and PC.

1.5 Thesis Outlines

Smart and security based car parking system final thesis consists of 5 chapters. Each chapter will explain different part of the project in details.
Chapter 1: Introduction of the project. This chapter is briefly provides a general overview of this project in order to introduce the purpose and idea for the project. This chapter consists of introduction problem statement, objective, project scope and thesis outline.

Chapter 2: Literature review. This chapter provides literature reviews on the car parking system which are smart and using LED as indicator that been done by previous researcher and some case study related to the car parking system.

Chapter 3: Methodology. This chapter describes the flow of the parking system from the beginning at the entrance until the driver get to the empty parking bay.

Chapter 4: Result and discussion. This chapter presents the result and discussion of the project. The result of the car park system will be display in with hardware and some picture of some for some specific result to achieve the objective.

Chapter 5: Conclusion and recommendation. This chapter provides a general conclusion based on project status. The problems encountered and findings of this project also will be mentioned in recommendation part.