

CHAPTER ONE

INTRODUCTION

1.1 Introduction

In today's world the car parking is becoming a big problem, and finding parking place is becoming a challenge especially in a big cities and popular destination. As population is increasing number of cars is also increasing but the area to park cars is not increasing. And when time and cost is are tow important factors for human life, whether for an individual or business, planner, developers, architects, and engineers are all looking for viable solution. One of the solution is smart parking, it help to parking large number of cars in small area. This automatic car parking enables the parking of car in cycle form, and thus reducing the space used also it help in less manual intervention and thus will lead to fewer problems.

1.2 Problem Statement

The main problem which the research has been build on is parking space, As it is known, the land is becoming less but the population of human is growing day by day. Therefore, land is very limited and spaces need to be saved in every aspect of life. Other problem we have is crime; Car park is one of the places where individuals are attacked frequently. Theft and robbery happen in car park because it is considered a quiet place where not many people would be in the car park all the time. Also difficulty in finding vacant slots is a major problem for drivers especially on weekends or public holidays. It will waste driver time and lead to traffic congestion.

1.3 Objectives

The objectives of this research are:

- ✓ The aim of this project is to design and build a prototype car park control with microcontroller integration to decrease space of parking, since it gives more structured approach rather than conventional approach.
- ✓ To make a more secure system in car park. This car parking system can decrease the risk of robbery that normally can occur in regular parking lots. The drivers will remain safe because the process of parking would only take a short time.
- ✓ To save the customers time and more convenient. User would not have to take a long walks to or from their car, look for parking spaces, memorize where the car was parked, or spend time waiting for elevator and climbing stairs. People simply leave their car at the entrance to the parking structure, and the system will handle the rest.
- ✓ To create a more user-friendly parking system. User should not have a problem to use the system and the system also can provide a few important features to user.
- ✓ To create a car park environment that is safer than ramp-style parking facilities. This is because in conventional garage, drivers will risk vehicle damage, theft and personal injury during parking their car.

1.4 Methodology

In this research microcontroller is used to build a control program. And we have used key pad to enter password and send signals in to the microcontroller, after that microcontroller send order to motor to opening or closing door and to demand parking location.

1.5 Project Layout

This project contains five chapters: Chapter One is about the introduction; it presents the problem statement of the project, the methodology and objectives.

Chapter Two introduces the literature review. Chapter Three presents the circuit design. Chapter Four includes the software and simulation. Chapter Five includes the conclusion and recommendations.