

CHAPTER ONE
INTRODUCTION

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1.1 Preface:

Vehicle security system has been a topic of great interest over the years due to the increasing vehicle theft cases reported all over the world .for that the security system has become one of the key factors in car manufacturing as the demand from the buyer .Traditional security system such as car alarm systems prevent thieves from access to vehicle and in any case for attempting to access the car a loud sound of buzzer will be heard by surrounding people.

The increase of communication technologies lead to check the vehicle status with no trouble. Advanced Vehicle systems based on embedded technology bring to everyday life.

Several security and tracking systems are designed to assist corporations with large number of vehicles in decreasing car theft.

The Global system for mobile communications (GSM) is the most popular and accepted standard for mobile phones in the world. Many people use GSM service across the world. The usage of the GSM standard makes international roaming very common between mobile users, by accessing subscribers to use their mobile phones in many areas of the world.

Vehicle tracking system is an upgraded vehicle security system, by integrating SMS features to alert vehicle owners whenever intrusion occurs. This project contains both hardware and software parts construction and the integration of both parts to create the system. An interfacing mobile is also

connected to the microcontroller, which is connected to the engine and the security system is implemented for anti-theft using an embedded system integrated with Global System for Mobile Communication (GSM). This proposed work is an attempt to design and develop a smart anti-theft system that uses GSM system to prevent theft.

1.2 Problem Statement:

Automotive theft has been a major problem all around the world. As technology gets professional, so do thieves. Traditional security systems are expensive and concern with the outer security of the vehicle to protect it from unauthorized access by using, for example, a “buzzer”, but the unauthorized person can easily hack all these levels of security and theft could be happened.

1.3 Proposed solution:

The proposed solution is to develop a security system to provide a new level of security to forbid engine starting even if the thief had the ability to break into the car. The GSM module receives SMS, connected with the microcontroller to disable, enable or start the engine.

1.4 Objectives:

- To design the proposed control system for engine locking and control system (enable, disable, start).
- To simulate the proposed system for engine locking and control system.
- To practically implement the proposed system for engine locking and control system.

1.5 Methodology:

After reviewing the previous studies for projects involving car theft, the problem and objectives were identified and all the information about the project have been collected, and have been studied in details.

So this project divided to several phases as follows:

Phase one :

Survey about car theft problem , propose a solution for that problem and the objective.

Phase two :

Determine the system, the, literature review about embedded automobile Systems and their applications, focusing in GSM Technology, writing and making proposal.

Phase three:

Survey about the car ignition system, determine the block diagram of engine locking and controlling system, types of motors (dc, servo, stepper), implementation of Arduino, GSM module and relays.

Phase four:

Software developments, simulate the system, system hardware integration, upload the code in the prototype and test it.

Phase five:

Writing and submitting final documentation.