LIGHT BEAM PRECAUTION SYSTEM

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ABSTRACT

This project focuses on the programming of microcontrollers using a high level language. The PIC family of microcontrollers is chosen as the target microcontroller because of the low power consumption which made this microcontroller popular in portable application. Besides that, PIC also cheaper other than other microcontroller such as Arduino. This project entitles Light Beam Precaution System provides security to the house owner from any intruders or any form of robbery by automatically activating the alarm and emergency light and also display the situation by LCD connected to the microcontroller device. Through an alarm and emergency light microcontroller unit can immediately advise the house owners that the house is being robbed or an intruder has illegally trespassed their respective home. This project is mainly used laser as the light beam and photocell as sensor that will detect the light beam. The two main components will be connecting in order to activate the security system. Any obstacles that pass through the light beam will automatically cut off the circuit connection because the photocell cannot receive the light beam. So, all components which is LED, LCD and buzzer will be operated to show that there was intruders in the house.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE

1 INTRODUCTION

2 LITERATURE REVIEW

CHAPTER 1

INTRODUCTION

1.1 Introduction

Home security has been a concern of worldwide. As the technology is emerging every second, abundant home based security systems have been developed and implemented to keep their welfare safe. Home security system is an essential mean of protecting our home from illegal invasion. A conventional home security system consists of a Closed Circuit Television, CCTV and burglar alarm. CCTV captures video in 24 hour to identify what goes on around the house and in the house as well as get a hold of the evidence if there is a house breaking around the captured areas. Burglar alarm acts as the tool to alert the house owners and their neighbours. In additional, it may also chase away the burglar as the system may emit a high frequency sound wave. Nevertheless, the memory consumption is considerably large as the camera keeps recording non-stop. The power consumption is considered as a concern of installing a security system. In this project, a light beam precaution system is a home security system that sends alert messages to the house owner using multiple condition such as LED, LCD and buzzer that will be operated has been designed, developed and validated based on block diagram from Figure 1.1. Section 2 introduces the background of the project. Section 3 introduces an overview of this project. Section 4 and 5 discusses the system implementation and hardware & circuit testing respectively. Section 6 makes the conclusions of the project as well as highlights the future work.