

HALL SPACE MANAGEMENT

NADIA SYUHADA BINTI ZAINOR AMRI

ALYAA NABIHAH BINTI NIDZAR

A project report submitted to the Faculty of Electrical Engineering,  
Universiti Teknologi MARA in partial fulfillment of the requirements for the award  
of Diploma of Electrical Engineering.

FACULTY OF ELECTRICAL ENGINEERING

UNIVERSITY TEKNOLOGI MARA

MALAYSIA

OCTOBER 2015

## ACKNOWLEDGEMENT

Before we get into the thick of things, we present our wholehearted compliments, with higher regards and warm thanks to one and all, who were the bone behind the sinews of this project.

We give all glory and honour to Almighty God whose blessings and help made this endeavor a success.

We would like to express our deepest appreciation to all those who provided the possibility to complete our final year project. A special gratitude we give to our final year project supervisor, Mr Muhammad Zairil, whose contribution in simulating suggestions and encouragement, helped us to coordinate our project especially in writing this report.

Last but not least, many thanks go to the head of the project whose have invested the full effort in guiding the team in achieving the goal. We have to appreciate the guidance given by other lecturer as well as the panels that give their comments for us to improve our project

## ABSTRACT

This project “Hall Space Management” is a reliable circuit that takes over the task of determine whether the seats in the hall is full or still available as well as counting number of persons or visitors in the room accurately. When somebody enters the room, the counter will incremented by one and the green Light Emitting Diode (LED) will remain ON because the room is not full and when the hall is full with visitors and no more seats left, the red LED light will turn on. The Liquid Crystal Display (LCD) will display the amount of people in the hall.

The microcontroller conduct all those job. It receive the signals from sensors, and this signal is operated under the control of software which is stored in Read Only Memory (ROM). Microcontroller continuously monitor the Infrared Receivers. When any object pass through the IR Receiver’s then IR rays falling on the receivers are obstructed. This obstruction in sensed by the Microcontroller.

## TABLE OF CONTENT

CHAPTER	TITLE	PAGES
	<b>CANDIDATES DECLARATION</b>	<b>i – ii</b>
	<b>ACKNOWLEDGMENT</b>	<b>iii</b>
	<b>ABSTRACT</b>	<b>iv</b>
	<b>TABLE OF CONTENT</b>	<b>v</b>
1	<b>INTRODUCTION</b>	
	1.1 Introduction	1
	1.2 Problem Statement	2
	1.3 Objectives	2
2	<b>LITERATURE REVIEW</b>	
	2.1 Literature Review	3
	2.2 Arduino Uno	4
	2.3 Infrared Sensor	5
	2.4 LED Light	6
	2.5 Resistor	7

## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

In today's world, there is a continuous need for automatic appliances with the increase in standard of living, there is a sense of urgency for developing circuits that would ease the complexity of life. Also if at all one wants to know the number of people present in room so as not to have congestion. This project proves to be helpful. Many times we need to monitor the person visiting some place like seminar hall or any room that consists of many people. Sometimes, it takes time to calculate the persons in the hall accurately. Besides, we also cannot estimate that the hall is already full or still available for people to enter the hall.

To overcome this problem, we are going to implement a project called "Hall space management". This project has a "visitor counter". Main concept behind this project is to measure and display the number of persons entering in any room like seminar hall. LCD display placed outside the room will displays number of person inside the room. The counter will be incremented if person enters the room and will be decremented if person leaves the room. When number of seat in the hall is full, the red LED light will turn on while when the seat is still available, the green LED light will turn on. By using this visitor counter, we can count the persons that entering or leaving the hall and we can count the available seat in the hall.