

# BIDIRECTIONAL VISITOR COUNTER

HIFZUL IMAN BIN NORISHAN

MUNIR HAKIM BIN MOHD JALAL

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  
UNIVERSITI TEKNOLOGI MARA  
MALAYSIA

SEPTEMBER 2015

## **ACKNOWLEDGEMENT**

I would like to express my special thanks of gratitude to our supervisor, Pn. Nor Affida Bt. M. Zin that help us in doing a lot of Research and we came to know about so many new things we are really thankful to her. Besides, we like to thank as well to our coordinator, En. Rozi Ariffin who gave me the golden opportunity to do this wonderful project on the topic, Bidirectional Visitor Counter. Also, I would also like to thank my parents and friends who helped me a lot in finalizing this project within the limited time frame.

## **ABSTRACT**

Bidirectional visitor counter is a counter that can increase and decrease the number when somebody enter. There are 3 objectives that we could achieve in this project which are to build an effective a Bidirectional visitor counter for human need, manage space more systematic and efficiency and develop a system that make a people life easier. For this project, we are focusing on the scope of work that uses a microcontroller AT89C51, mikroC PRO for 8051 software and USB 8051 + EEPROM USB Programmer to develop the system. By simulation, this project has been successfully run and the results shows the counter is increasing and decreasing according to the requirement. However, the implementation result of this project is not achieved as we expected due to the circuit connection failure. Hopefully, in the future, this project could be continued by us again to make it succeed and after all it contributes to the mankind.

## **TABLE OF CONTENTS:**

<b>CHAPTER</b>	<b>TITLE</b>	<b>PAGE</b>
	<b>APPROVAL SHEET</b>	<b>1</b>
	<b>CANDIDATE DECLARATION</b>	<b>11</b>
	<b>SUPERVISOR'S DECLARATION</b>	<b>111</b>
	<b>ACKNOWLEDGEMENT</b>	<b>1V</b>
	<b>ABSTRACT</b>	<b>V</b>
	<b>TABLE OF CONTENTS</b>	<b>VI</b>
	<b>LIST OF FIGURE</b>	<b>VII</b>
	<b>LIST OF ABBREVIATIONS</b>	<b>VIII</b>
<b>1</b>	<b>INTRODUCTION</b>	
	1.1 Background of study	1
	1.2 Problem Statement	2
	1.3 Objectives	2
	1.4 Scope of Work	3

	1.5 Project Contribution	4
<b>2</b>	<b>LITERATURE REVIEW</b>	
	2.1 Concept design of the project	5
	2.2 Circuit Diagram	6
	2.3 Main Components	6
	2.3.1 Microcontroller	6
	2.3.2 IR Sensor	10
	2.3.3 Seven segment display	11
	2.4 Basic Components	13
	2.4.1 Crystal Oscillator	13
	2.4.2 Resistor	14
	2.4.3 Capacitor	16
	2.4.4 Zero PCB Plate	17
	2.4.5 Diode	18
	2.4.6 Transistor	21
	2.4.7 Voltage Regulator	22
<b>3</b>	<b>METHODOLOGY</b>	
	3.1 Flowchart of the project	23
	3.2 Block Diagram	25