# A CONTROL SYSTEM OF ELEVATORS BY USING PROGRAMMABLE LOGIC CONTROLLER (PLC)

**This thesis is presented as a partial fulfilment for the award of the**

**Bachelor in Electrical Engineering (Hons.)**

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May 2006

# ACKNOWLEDGEMENT

*In the name of Allah, Lord of Universe, the Merciful and Gracious.*

The completion of this project marks the end of an invaluable learning experience for me. I would like to extend my gratitude to all those who helped make throughout the journey.

I would like to express my gratitude and appreciation to my project supervisor, Puan Rosidah Sam, lecturer, Faculty of Electrical Engineering, Universiti Teknologi MARA, Shah Alam, for her invaluable suggestions, guidance and constant encouragement

I also owe great debt to my entire lecturers especially Dr. Ahmad Maliki Omar for their advices, technical supervision and contributions in this project.

Special thanks to all my friends for their assistance and tremendous support in finishing my final year project.

Finally yet importantly, I am grateful to my family, especially my parents for their invaluable advice and support. Sincerely no words could be said for the things that you all have done for me. I am greatly indebted for all the favors and supports. Thank you and May ALLAH Bless you.

# ABSTRACT

A low cost elevator control system has been developed by using Programmable Logic Controller (PLC). PLC is used as a controller for an elevator system that has two elevators with five floors. The PLC will control vertical movement of the two elevators either moving up or down simultaneously with only one PLC. The PLC also control opened and closed door process after the elevator had reached each level. The automation of this elevator process consists in providing technological means for its selective operation and control, such that the system as so conceived is enabled to deal with those situations for which a proper command has been implemented.

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# INTRODUCTION

## 1.1 Background

In British English and other Commonwealth English's, elevators are known more commonly as lifts. An elevator is designed to help people in daily life and frequently referred as a device for vertical transportation of passengers or freight to different floors or levels. Elevators began as simple rope or chain hoists and this type of elevator is essentially a platform that is either pulled or pushed up by a mechanical means. A modern day elevator consists of a car mounted on a platform within an enclosed space called a shaft or more correctly a "hoist way". In the past elevator drive mechanisms were powered by steam and water hydraulic pistons.

The basic factor that should be considered in order to move the elevator car either up or down in a building are the number of occupants and visitors, their distribution by floors and the times and rates of arrival, departure, and floor-to-floor movement.

All of these factors with regards to the considerations are determined in order to give an acceptable facility and satisfied all the passengers. The environmental considerations of elevator which cover the process of locating elevators in a building, providing proper access space to such elevators, designing and shaping them to best accommodate people, determining door sizes and arrangements and other considerations are also needed to make sure the maximum use and benefit is gained from the total elevator plant in a building.