# REMOTE CONTROLLED LAWN MOWER USING SK40C WITH PIC16F877A MICROCONTROLLER

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Thesis submitted in partial fulfillment of the requirement for the award of degree of

**Bachelor of Engineering (Hons) Electronics (Instrumentation)** 

FACULTY OF ELECTRICAL ENGINEERING

UNIVERSITY TEKNOLOGI MARA

MALAYSIA

JANUARY 2013

### ACKNOWLEDGEMENT

First of all, I would like to thank to ALLAH S.W.T for blessing and granting to conduct and finally finished my project.

I also like to extent our sincerest appreciate to my project supervisor, Dr. Rosidah Sam, who has given me much strong logistic support while implementing the project given. She has always assisted me when I handling my project. Besides, I would like to express my sincere appreciation for his valuable advices, guidance and encouragement. This has inspired me to become more confident in trying new things. With her supervision, this project had accomplished its prescribed objectives and goals.

Thirdly, I would like to thank to my family members especially to my beloved parents, Mr.Abdul Rahim Bin Megat and for their unconditional loves and supports through my three years of studies in University Teknologi MARA (UiTM).

Special thanks to staff FKE, who had given me a great help in accomplishing this project.

At last but not least, I would like to say a lot of thanks to all my course mates and those who has lending me their helping hand.

Thank you.

#### ABSTRACT

A remote controlled lawnmower robot that uses a PIC16F877A microcontroller was presented in this project. The remote controlled lawnmower robot is designed to be able to follow the command given via a PlayStation 2 (PS2) controller joystick whether to move forward, backward, turn right and left to mow grass. The Remote Controlled Lawnmower's system principle is to remotely control a lawnmower by using a PS2 controller joystick. The microcontroller that will be used for this project is PIC16F877A. The remote controlled lawn mower can be separated into three main parts which is the input, the controller and the output. The input is the movement control by human via a remote control. User will control the lawnmower by using a remote control to which part of lawn to be mowed. The controller which is the brain of the system, will received the information signal that are send by the input to be processed and then send an output signal to the output part so that the output can perform its task. The output for this project is lawnmower's movement wheels that use two RC servo motor and the DC motor for cutting.

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## **CHAPTER 1**

### INRODUCTION

### **1.1 INTRODUCTION**

Grass mowing in fields, homes or anywhere else is considered by many people to be a very tedious chore, so there are demands for method to eliminate such problem. The traditional method found to deal with this very unpleasant task is to hire someone else to perform the grass mowing task. The first tool ever used to cut grass to a more desirable length was the scythe [1]. The scythe has a simplistic design, containing a long wooden handle with a curved blade attached perpendicularly to the end. Until the 19th century, the scythe is the only option for cutting grass, which proved to be long tedious process. As time passes, the technology for grass mowing also evolved. The gas or gasoline powered lawn mower are introduced.

Statistically, 54 million peoples mow their lawns, using about 800 million gallons of gas per year and producing tons of air pollutants. Garden equipment engines, which produced unregulated emissions, emit very high levels of carbon monoxide, volatile organic compounds and nitrogen oxides, producing up to 5% of nation's air pollution and a good deal more in metropolitan areas. According to the U.S. Environmental Protection Agency (EPA), a new gas powered lawn mower produced volatile organic compound