# AUTONOMOUS LAWNMOWER USING PERIPHERAL INTERFACE MICROCONTROLLER (PIC)

**Project report presented in the partial fulfillment for the award of the Bachelor of Electrical Engineering (Hons)**
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# ABSTRACT

This project is about an autonomous lawnmower using a peripheral interface controller. This project is using PIC16f873 to program the task regarding to the movement of the lawnmower. The autonomous lawnmower is programmed to automatically moving, which it takes two seconds after switch on. The Autonomous lawnmower will mow a field of grass. A borderline will be a layout on the surface of the field to ensure the movement of the autonomous lawnmower. The field of grass is considering having no obstacle. All hardware and software has been tested as separate modules followed by integration.

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# INTRODUCTION

## 1.1 INTRODUCTION OF AUTONOMOUS LAWNMOWER

Every year, a lot of cost is spent in commercial lawn upkeep. Golf courses, local parks and other expensive grass areas require hundreds of man-hours to maintain. As well, those who have yard in their houses are concern on the cost of cutting the grass.

For that reason, the goal of this project is to design an autonomous lawnmower that works safely and efficiently mows an area typical of a homeowner's yard. The previous versions of autonomous lawnmower that has been designed relied on the principle of randomness to mow an area. Therefore, the autonomous lawnmower had no realization where they had mowed or did not mow. The premise was as follows: given a long period of time, eventually the vast majority of the mowing area would be cut. Obviously this process would take considerably longer than if a human had mowed the same area, but the point is the human did not have to perform the task.

The main effort of this project is to design an autonomous lawnmower that mows similar in fashion to how a human would mow. The design of autonomous lawnmower was divided into 3 testing; each one is designed to deal with a particular requirement of the overall system.