LINE TRACKING ROBOT

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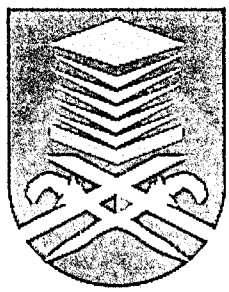

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ABSTRACT

This thesis presents the development of Line Tracking Robot by using digital microcontroller namely Peripheral Interface Controller (PIC). The PIC applied to be a controller of dc motors as output and infrared (IR) colour sensors as input. The application used the pulse signal control to vary the voltage of the DC supply. The IR colour sensors used to detect the deferent between two colours. The differences of the two colours give signal to the PIC.

The robot is in a shape of a square box, which is consisting of four omni directional wheels that place in two directions, two tyres on vertical and the other two on horizontal. The robot had an arm that able to picking and lifting a trophy.

The robot move in 'L' shape which is move by following the existing black line. The task of this robot is to take the trophy and place the trophy at the start place.

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CHAPTER 1

INTRODUCTION

1.1 Background

Robotic is the science of designing and building and intelligent machine that can perform a task that either human can do or cannot do [1]. Even though it can be perform by human but most people think it as an impossible task. So this is where robot comes into our life, where this kind of machine takes over when human cannot do a certain task.

This line tracking is been design from free sketching to technical drawing and all the parts and components are carefully calculated to get the right combination of electrical as well as mechanical sides. Robotics is an integrative that combines electrical and mechanical engineering skill.

The objective of this project is to build an autonomous line tracking robot that can move on black line automatically, the movement in L shape, able to take the gold trophy, move back to start place and place the trophy. This robot also must fight for survive which is the rule allow to push the opponents out of ring.