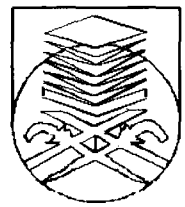

TRAIN SIMULATOR USING P.I.C MICROCONTROLLER

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ABSTRACT

Abstract

This final year project performs the basic movements and operations of a train simulation system by employing a P.I.C microcontroller. Programming technique, digital system design, structural and mechanical designs were developed to suit the operation of the train simulation itself. The heart of this project is the PIC16F877A chip. A final comment on the prospect of the development is presented.

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CHAPTER 1

1.0 INTRODUCTION

1.1 General

Microcontrollers are general purpose microprocessors which have additional parts that allow them to control external devices. Basically, a microcontroller executes a user program which is loaded in its program memory. Under the control of this program data is received from external devices. A microcontroller is a very powerful tool that allows a designer to create sophisticated input or output data manipulation.

In the train simulation system, the microcontroller reacts as the brain for all its operations. As trains are widely used when travelling and transferring people or equipments from one place to the other, there is a need to study and program the system so it can be a benefit to the mankind. However there are many factors need to be taken into account before it can be design and constructed.

Basically there are two important consideration and features of the train simulation operation. First, a mechanical and motor system will move the train from station 1 to station 2. Next, a display will indicate the destination of the train that travels along the rail.

With all the consideration in mind, the designation and construction of the project will be commenced. At the end of the project, it will be useful to go deeper into the studies towards user friendly application and enhanced the system through the programming and design modeling.