DESIGN AND DEVELOPMENT OF MICROCONTROLLER-BASED ELECTRONIC DISPLAY BOARD FOR TRACK AND FIELD EVENTS

Design Project

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ABSTRACT

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A study was conducted to design and develop a microcontroller – based electronic display board. Specifically it aimed to: construct a microcontroller circuit; construct a power supply that will provide the needed power input for the display board; develop a program that would display the fix and scrolling message and sort the time; test and evaluate the system; and determine the cost of the designed display board.

The system is composed of three main parts: the control unit, the display unit, and the power supply. The control unit is composed of microcontroller that served as the storage for the data and controls the overall performance and operation of the system. The display unit is composed of LED matrix for the display of name of events and participants and light emitting diodes (LED) for the display of time. The power supply is composed of transformer and diodes for the source of electricity for the system.

The electronic display board was able to display the name of the track and field events in fixed and scrolling form. The fixed name of the participants and their respective time were also displayed.

The software was developed using Visual Basic and PICBasic language. The software controlled the operation of the machine capable of displaying the time, encoding, deleting, and storing of messages. It was divided into subroutines.

The system underwent a series of testing and evaluation to ensure accurateness and efficiency. The electronic display board successfully displayed a scrolling and fixed message and the correct time.

The materials with its corresponding prices and the total cost of the whole system were determined. It is amounted to Php 68,952.75.

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DESIGN AND DEVELOPMENT OF MICROCONTROLLER-BASED ELECTRONIC DISPLAY BOARD FOR TRACK AND FIELD EVENTS[1/]

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INTRODUCTION

The innovation and modernization of technology is one of the key factors why there are countries that are more powerful than others. Technology helps people to have a comfortable life. It is also an access for information, facts or even leisure. Economy progresses through the help of modern technology that's why it is indeed a must for people to be well equipped, well informed, and well educated through these kinds of machineries.

A plan was prepared to make students be more aware of what is happening around their school. A plan is to design a Microcontroller-Based Electronic Display Board for Track and Field Events. This project helps students be more informed and active.