

# TESTING ROBOT

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## ABSTRACT

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Nowadays, the use of the automation technology had become common to everyone. The main purpose of creation of an automation technology was to help in reducing the time and cost consumption. Similarly, the purpose of creation for this project, "Testing Robot" was it could give convenient to the student on testing the hardware components.

For example, usually the basic components that used in the project were the LED (light emitting diode) and resistor. So as mentioned as above, this project can let user to measure the resistance value of the resistor or to test the status of LED with the use of robot without the use of personnel.

Now let's concentrate on this project. At first, there will have 2 selection modes that let the users to choose. The modes were the resistance's measurement and the LED's testing mode. Consequently, since it is a robot then naturally this project surely will have a robot arm. Therefore as selection was made by pressing the selection button, the robot arm would turn to the desired position and move toward to the testing board. In addition, the construction of robot arm was using two servo motor which can be control by adjusting the pulse width duration.

Then as the robot arm touched the testing board, the signal from the board would send to a connected PIC microcontroller to have the processing process. The PIC microcontroller used here was a PIC 16F877A. It was like brain that used to control every single activity that happened in this project. Thus by programming a set of program code into it, it could control and process the input and output signal. Then at the end, the result of the measurement or testing would display using a LCD display.

To the end of this project, the aims and objectives were achieved. Other than that, the literature review on the researched and the investigated done on this project will state on this report. Moreover, the implementation of the hardware and software component the testing's result and the final outcome will also discuss in this report. In addition, the explanation of encountered problem and it solution, the validity and limitation, and also the further improvement will also discuss in this report.

**[Keyword: LED, PIC, LCD]**