

Electronic Tic-Tac-Toe Device

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ABSTRACT

Tic-Tac-Toe is a game that almost every person played during childhood but it required a pen and paper. It is a game that giving two players to take turns to make their mark on the 3x3 grid space. To win the Tic-Tac-Toe game is required one of the player succeeds make the mark on the 3x3 grid space respective marks in vertical, horizontal or diagonal row.

This project intends to build an Electronic Tic-Tac-Toe device which is controlled by electronic circuit to generate a winning output. In this project, the winning logic is builds without programming but only logic gate chips. The winning logic of this Tic-Tac-Toe electronic device is exactly the same with the original one. There have 9 boxes on the grid space to let user make the mark and each of the boxes has 2 different colour LEDs and two switchers.

The output display system will use Microchip PIC16F877A microcontroller as processing device which is interface the LCD display. There is in between the winning logic device and the LCD display, the winning logic device will generate an output to this microcontroller and it will display on the LCD display. MikroC Pro is the C language software that liable to integrating the output of this project.

This prototype model of Tic-Tac-Toe electronic device has successfully built and it has been implemented satisfactory to achieve the objective of the project. This project is helpful and significant for student as it improves the practical skill and knowledge in the implementation of hardware and software.