Simulator Counting Number of People at the Entrance and Exit of the Building

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ABSTRACT

This study aims to build a system of counting people in a crowd. This system uses ultrasonic sensors to detect human movement so that the number of people passing through this sensor can be counted. The design of this tool uses both hardware and software. The hardware used is Arduino Uno, Ultrasonic Sensor, Power Supply, LCD Display 16x2/i2c and also LEDs, while the software uses a program that can be adjusted according to the commands that will be sent to the hardware. This tool is made using 2 two ultrasonic sensors, where the first sensor is a marker of people entering and the second sensor is a marker of people leaving. When the first sensor detects a person, the number of people passing through the sensor will be +1, when the second sensor detects a person, the number of people passing through the sensor is -1. The results of the time test were carried out 4 times, the experiment and each experiment there were 2 scenarios, namely the ultrasonic sensor entering at the entrance and the ultrasonic sensor exiting at the exit, which will display the number of people entering and leaving on the LCD Display 16x2/i2c in this case using the size of the door. 80cm wide and 175cm high.

Keywords: Ultrasonic Sensor, Arduino Uno, Power Supply, Resistor, LED and LCD Display 16x2/i2c.