AUTOMATIC DOOR OPENING SYSTEM USING ARDUINO AND PIR SENSOR.

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Motivation/ Introduction

Open/close of door has always been a tiresome work especially for blind, disabled and aged people in their home, shopping malls, etc... This automatic sliding door system can be useful for blind, old and maimed people. This system saves lot of energy which can be used for air conditioning, because the door remains open only when a person is sensed and remains closed at other times in the absence of person. . A number of technologies are available to make such kinds of systems like PIR sensors, Radar sensors, Laser sensors, Infrared sensors, etc. In this Arduino based project, we have tried to replicate the system by using a PIR sensor

SCOPE of the Project

The purposed system uses a PIR sensor to sense the human body movement near to the door

- The main **goal** of this electronic project kit is to design the **automatic door opening system** by sensing the human body temperature
- .This project defines the design of a controller for the **door**.When any movement is detected near the **door**, then the **door** opens.

Methodology

Components required: Arduino,lcd,pir sensor ,motor driver,bread board,jumper wires,potentiometer,motor

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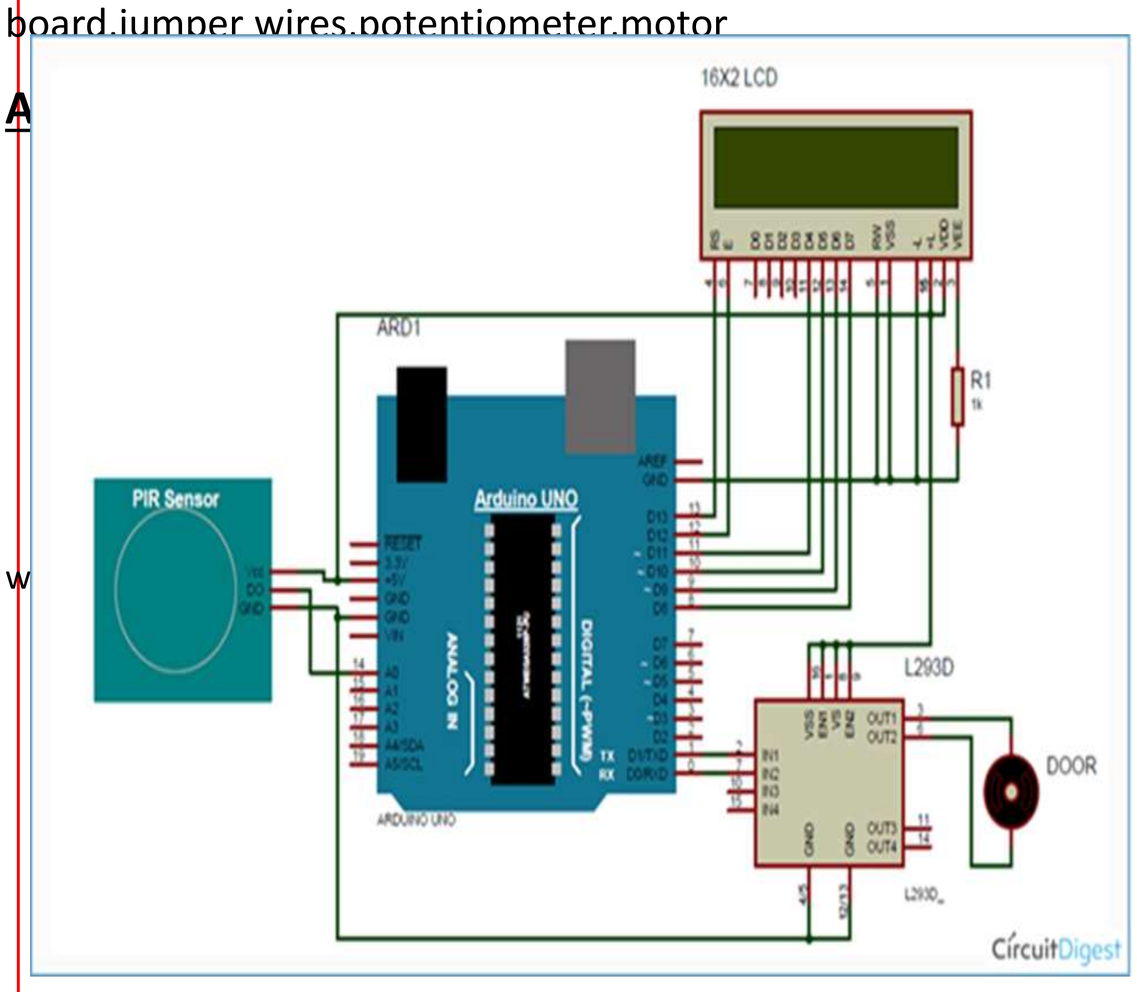


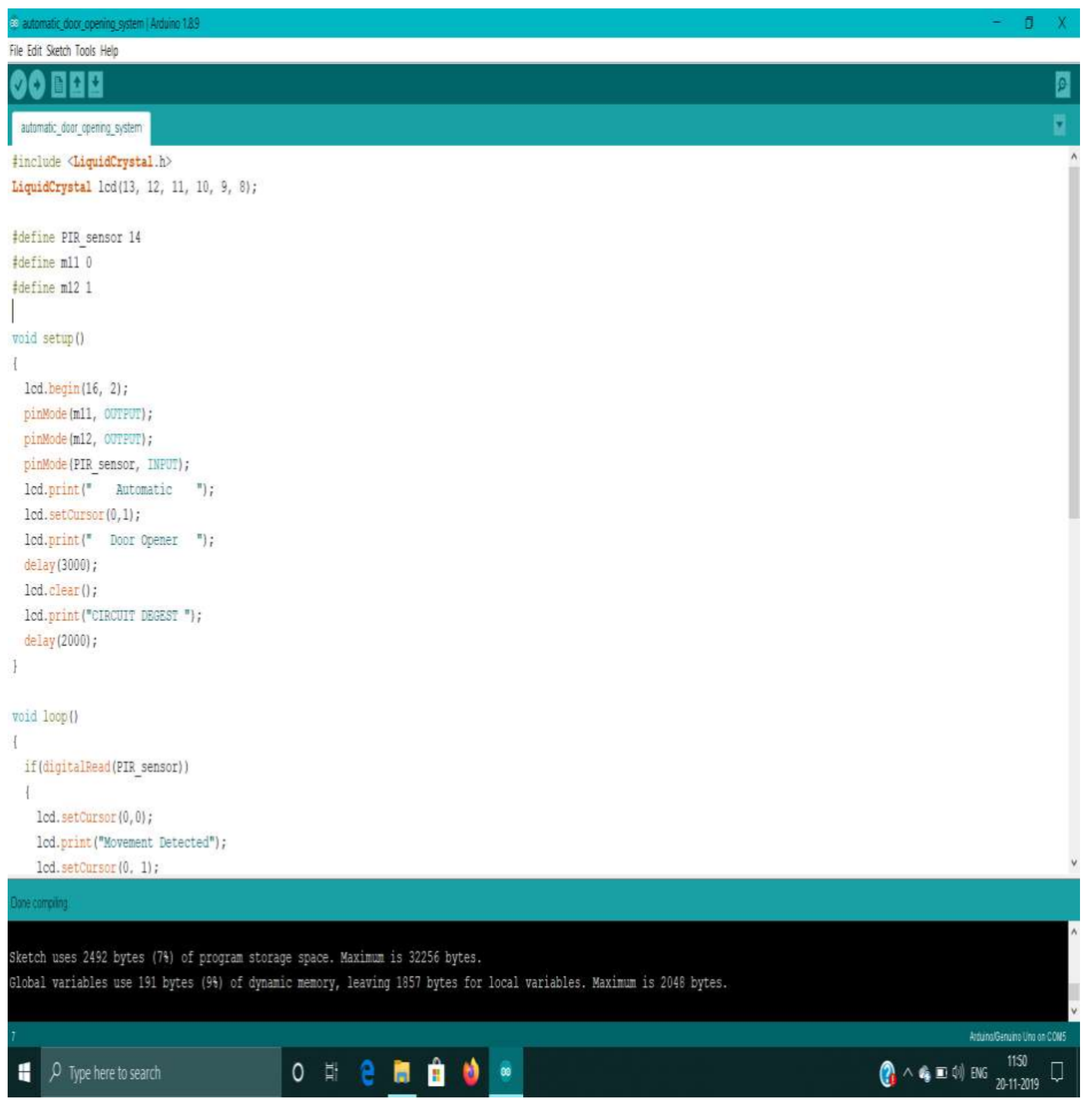
Working of automatic door opening system

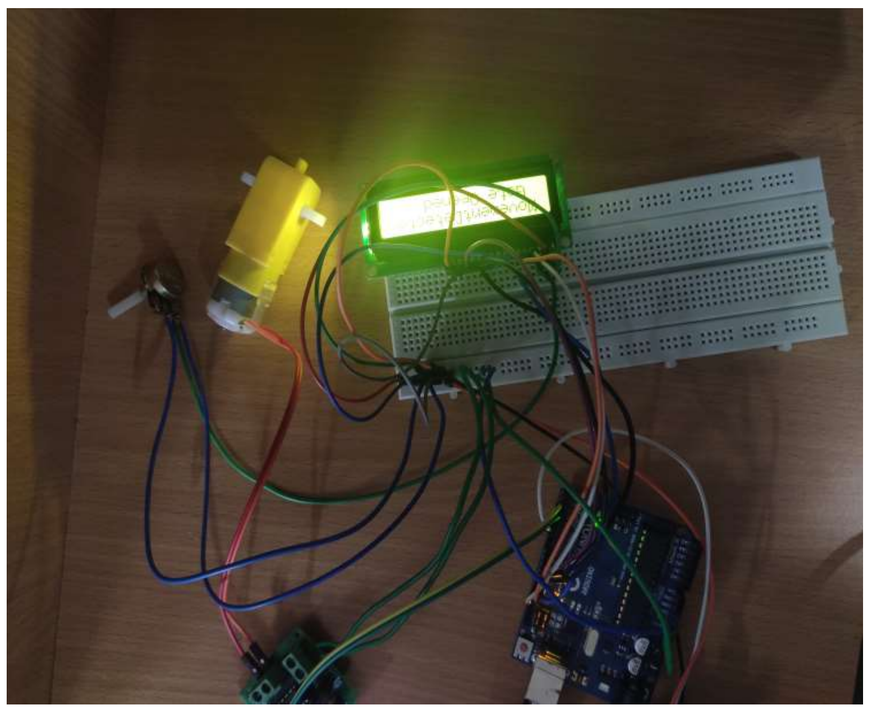
Human body has tendency to emit infrared radiation, this will be sensed by PIR sensor.

When someone comes infront of the door the infrared energy detected by the sensor changes and it triggers the sensor to open the door whenever someone approaches the door. The signal is further sent to Arduino Uno that controls the door. Liquid Crystal Display (LCD) will glow up when movement is detected. When a person is within the operating range of the sensor, it sends a logic signal to operate the door, so the door opens and after some time when the person has moved, and he is out of range of the sensor, the door closes after some delay time.

Results

Execution of Arduino code and Working of project:





CONCLUSION/SUMMARY

Many automated door open systems have been developed on different platforms which requires special hard ware devices which sense and detect movements.Purchasing new hard ware devices is costly and more time consuming so in this work an attempt has been made to implement a system which is more economical and easily accessible. By this automatic door system any sensation of movement of a person at the exact time is efficiently detected there by making this project useful .The glowing of the LED determines open and closure of the door.

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Acknowledgments/ References

Circuit digest.com