

Measurements

Report

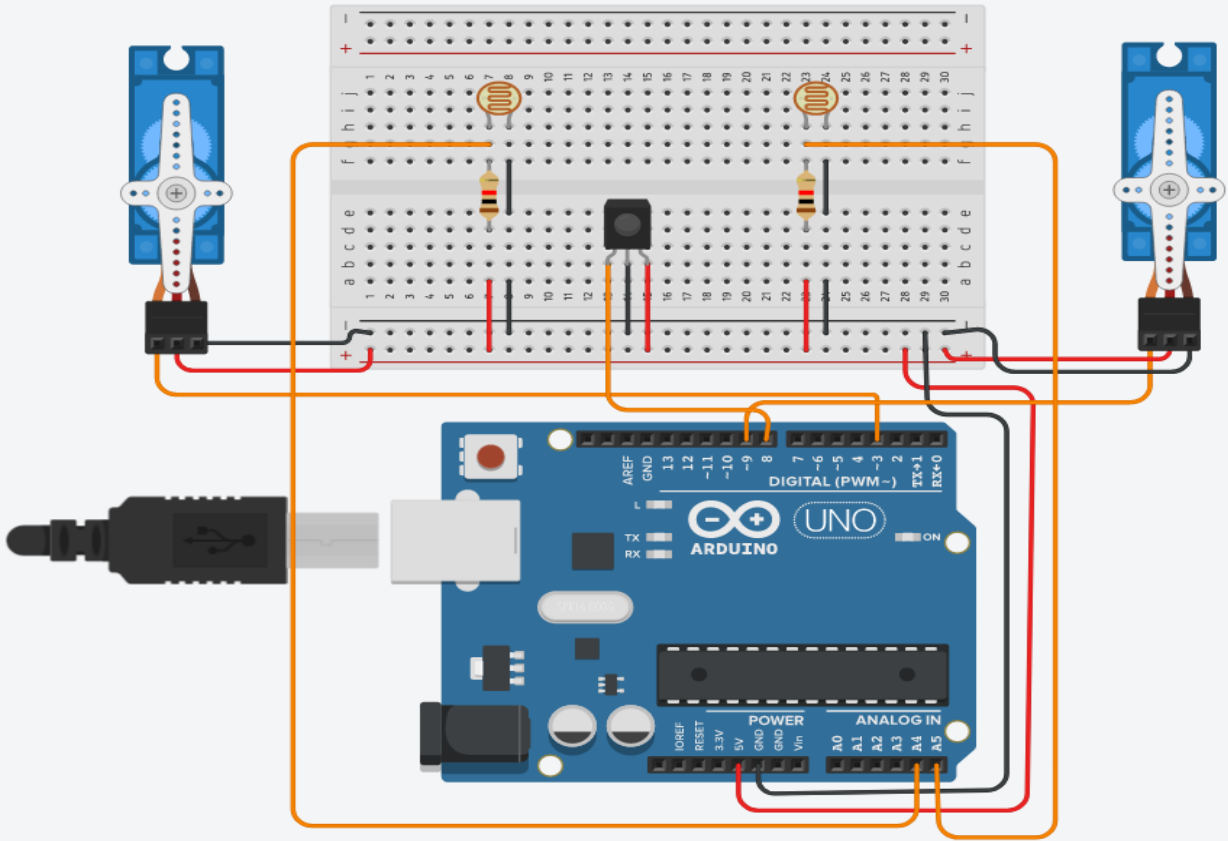
Solar Tracker and Smart Door



Members

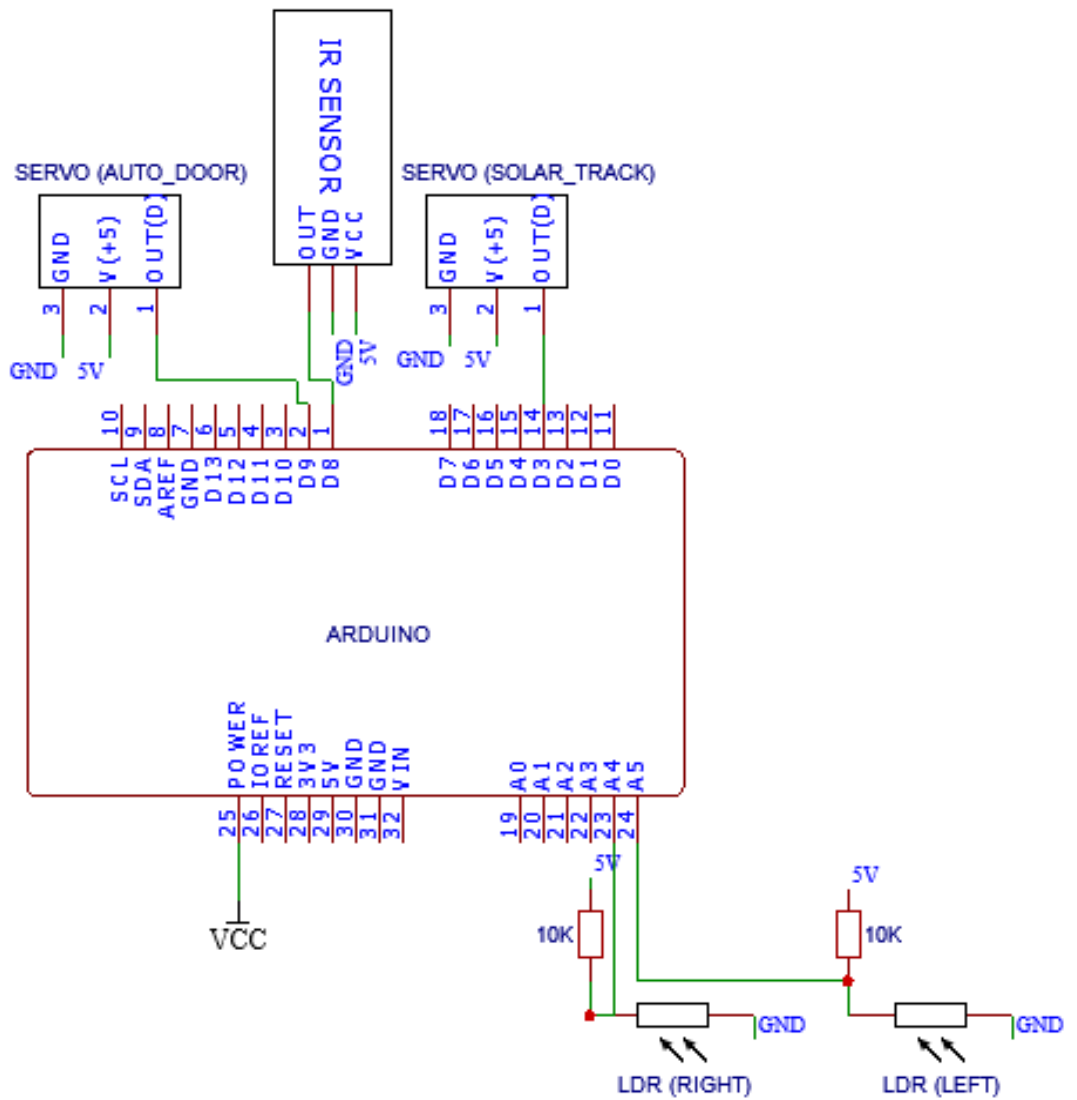
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Simulation



Made with TinkerCad, consult “resources” for the share link and code

Schematic



Made with EasyEda, consult “resources” for the share link

Parts and Functions

Transducers:

1- Infrared Sensor (1)

- **Active Type**
- **Input:** IR rays reflected from obstacle
- **Output:** digital pulse to indicate obstacle



2- Light Detecting Resistor (2)

- **Passive Type**
- **Input:** Light
- **Output:** change in resistance which can be translated to change in voltage.



Other Parts:

1- Arduino Uno board (1)

- Code and connections available

2- Servo Motors (2)

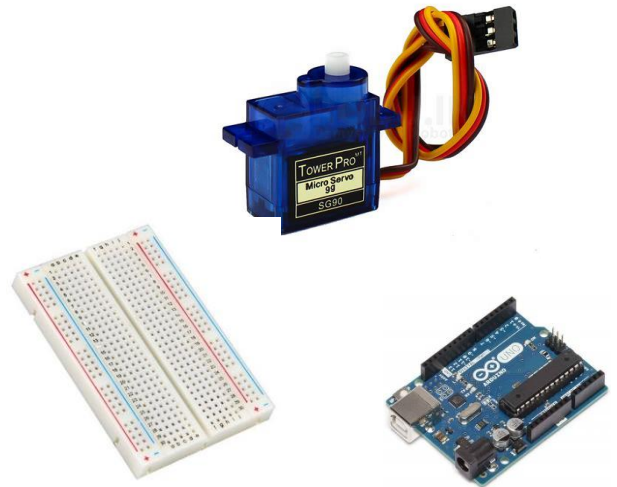
3- 10k Resistors (2)

4- Breadboard (1)

5- Jumper Wires

6- Foam boards

7- Mini solar cell



Functions

- The auto-door function triggers as soon as a body is detected by the IR sensor mounted on the entrance for the building, making way to a servo that rotates the door of the building with it.
- The Solar-Tracking function triggers when a sensible enough difference between two LDRs mounted on the side of the solar panel is detected, the servo rotates to the direction of the higher voltage (more light).

Resources

github:

https://github.com/MashaWaleed/Measurements_project

simulation:

<https://www.tinkercad.com/things/03p3XCH1V3O?sharecode=Ax0dQlMNRj7io1ejRZveEn3XZeC-ESZawRSQd8ppubk>

Showcase video: