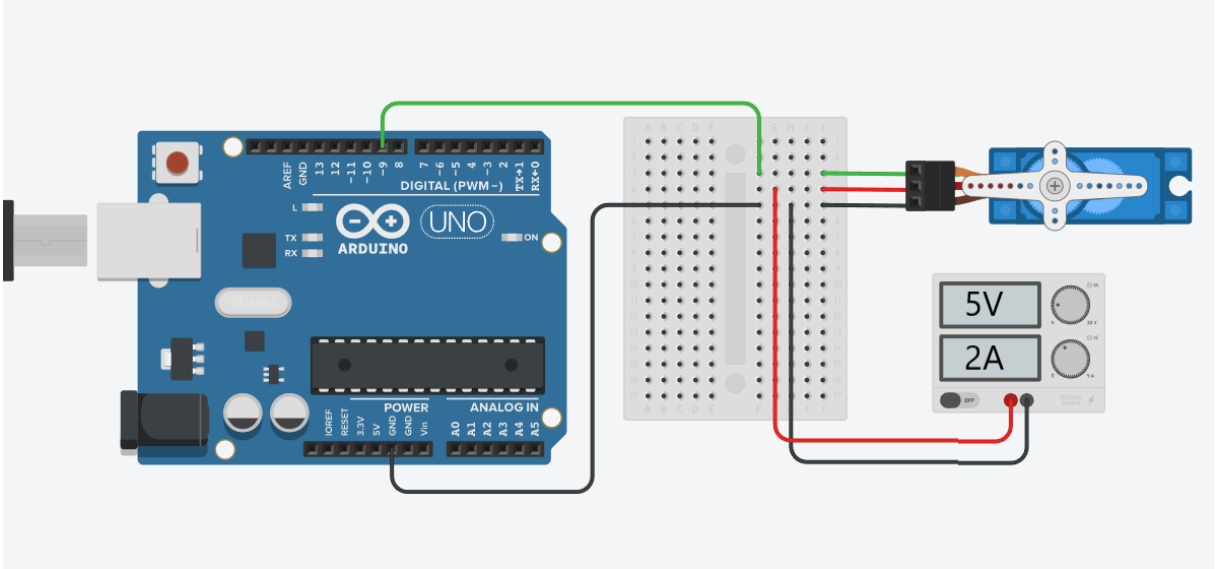
Rotating Platform

Circuit



Download the sketch for Arduino

Hardware

- Arduino board
- 5V power supply (or Dc Power Jack Cable Female Connector)
- 1 servo motor (we used MG996R Servo)
- hook-up wires
- breadboard

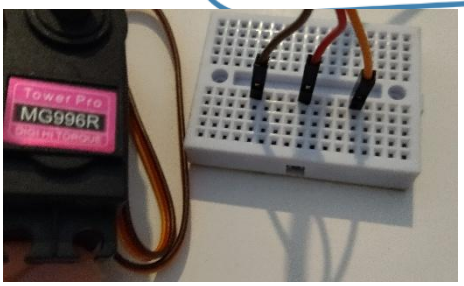
Material

- a cuboid/rectangular cardboard box
- a cylindrical/round cardboard box
- a pencil
- a cutting knife (or scissors)
- glue
- visible bandpass filters
- building blocks with attachable small wheels

Construction

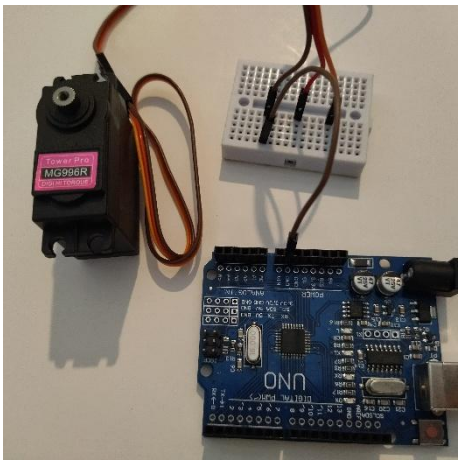
Step 1

Connect the three wires (brown, red, orange) of the servo motor to the breadboard.



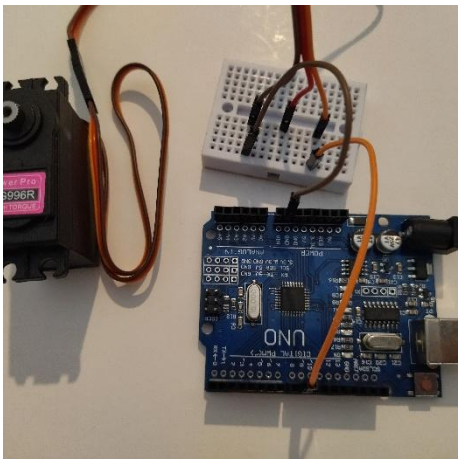
Step 2

Connect the GND pin of the Arduino with the brown wire (ground) of the motor through the breadboard.



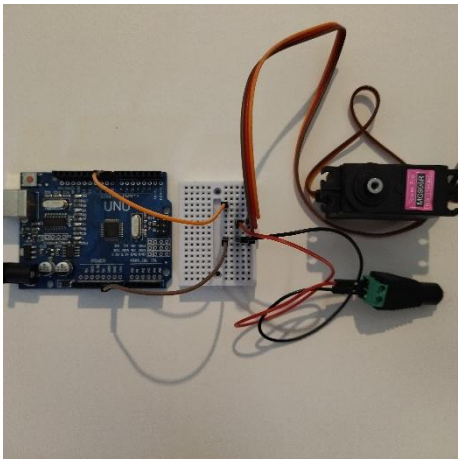
Step 3

Connect pin 9 of Arduino with the orange wire (signal) of the servo motor through the breadboard.



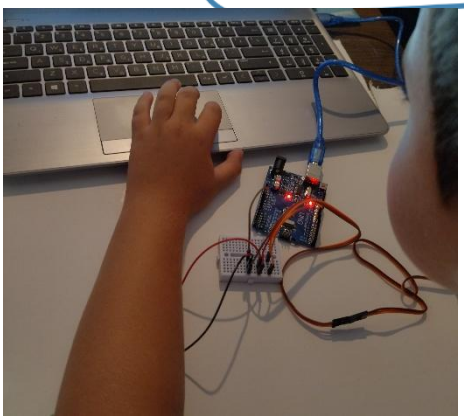
Step 4

Connect the positive pin of the jack to the red wire (power) of the motor and the negative pin of the jack to the brown wire (ground) of the motor.



Step 5

Connect the Arduino board to the computer. Open the sketch with the Arduino IDE. Upload the sketch to the board.



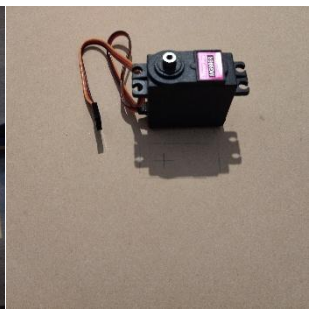
The Base

Step 1

Take a cardboard box.

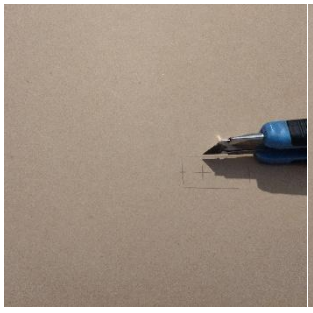
Step 2

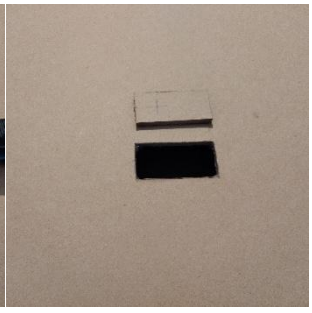
Mark, at the lid of the box, the place where the servo motor must be placed. Draw the shape of the base of the servo motor on the cardboard box.



Step 3

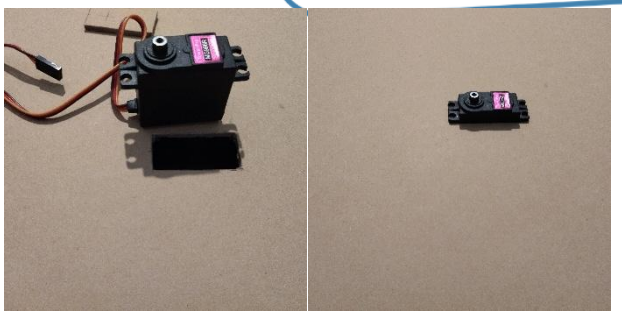
Cut out the area you drew.





Step 4

Place the servo motor in the cutout.

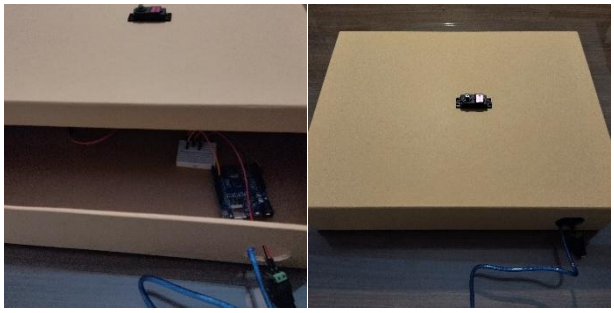


Step 5

Cut a small area on the side of the cardboard box (it will be used for the power wires).

Step 6

Put the Arduino inside the box and connect it with the servo motor.



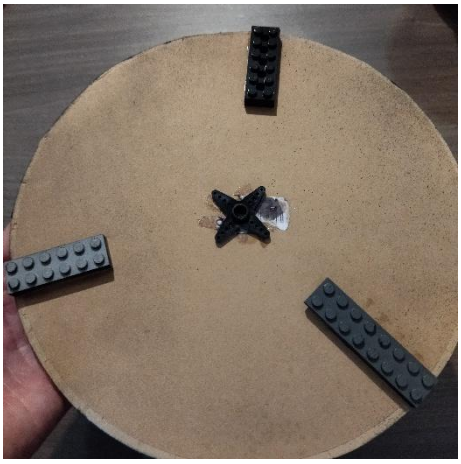
The Platform

Step 1

Take a cylindrical cardboard box.

Step 2

Cut out some circles (for the filters) and cut off the rest of the base of the cardboard box.



Step 3

Using glue, put the gear of the servomotor in the middle of the box and some building blocks as you can see in the image.

Step 4

Place the filters and connect three small wheels to the building blocks at the bottom of the box.

You find further information on the project page by the authors.

The project “Shedding “light” on a Picasso!” by Kalliopi Giannakoudaki and Georgios Chatzisavvas introduces students to multispectral imaging. Go to the Science on Stage teaching material.