

Arduino Sonar Project

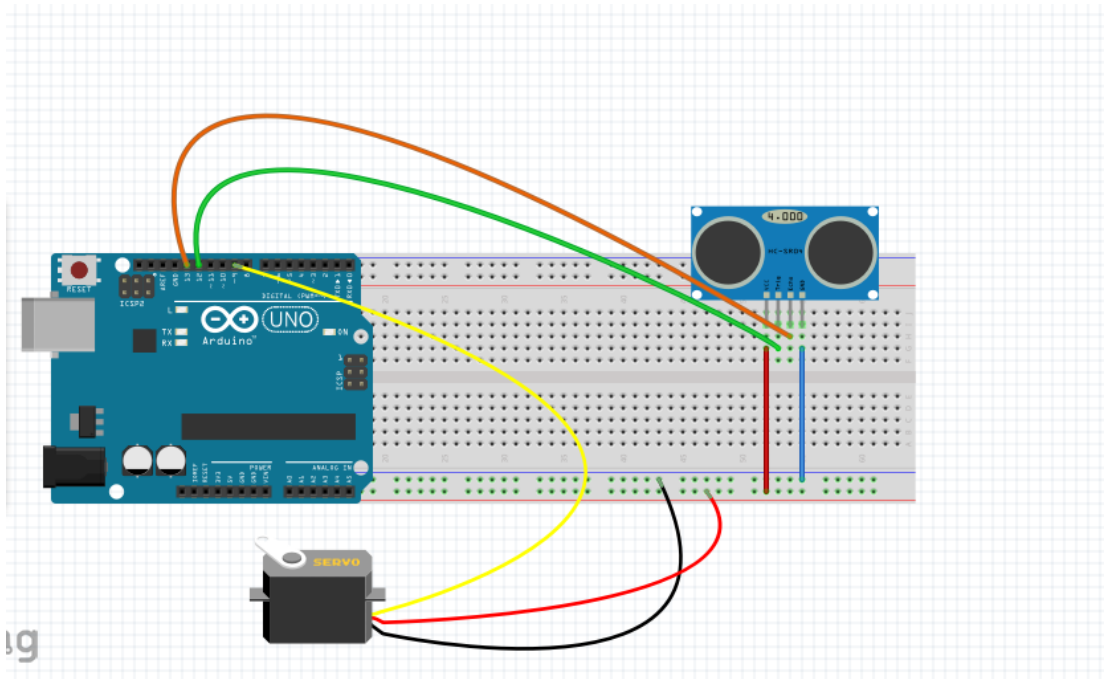
Components needed for this Arduino Project

- Ultrasonic Sensor HC-SR04
- Servo Motor
- Arduino Board
- Breadboard and Jump Wires

Circuit Schematics

Connect the Ultrasonic Sensor HC-SR04 to the pins 10 and 11 and

Connect the servo motor to the pin number 12 on the Arduino Board.



Source codes

Now we need to make a code and upload it to the Arduino Board that will enable the interaction between the Arduino and the Processing IDE.

Screen Draw

For drawing the sonar I made this function `drawSonar()` which consist of `arc()` and `line()` functions.

For drawing the line that is moving along the sonar I made this function `drawLine()`. Its center of rotation is set with the `translate()` function and using the `line()` function in which the `Angle` variable is used the line is redrawn for each degree.

For drawing the detected objects I made this `drawObject()` function. It gets the distance from ultrasonic sensor, transforms it into pixels and in combination with the angle of the sensor draws the object on the sonar.

For the text on the screen I made the `drawText()` function which draws texts on particular locations.

All of these functions are called in the main `draw()` function which repeats all the time and draws the screen. Also here I am using this `fill()` function with 2 parameters for simulating motion blur and slow fade of the moving line.

