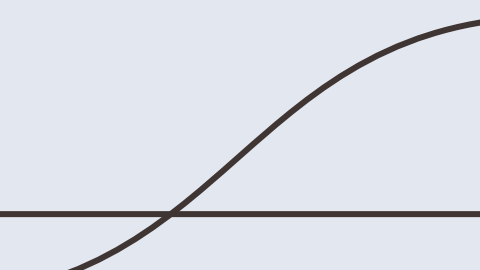




Arduino Radar System

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Presentation Outline

01 Motivation

02 Components

03 How it works

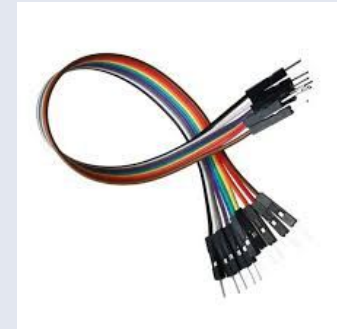
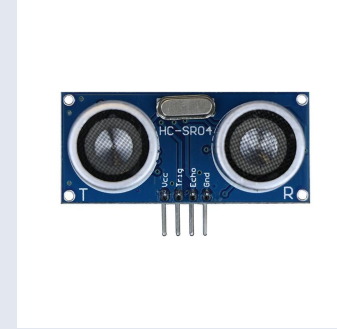
04 Expected Result

Motivation

- Curious about how real radar systems work
- Learn to connect hardware and software
- Practice programming with physical devices

Components

- Arduino UNO
- HC-SR04 Ultrasonic Sensor
- Servo Motor
- USB Cable
- Jumper Wires

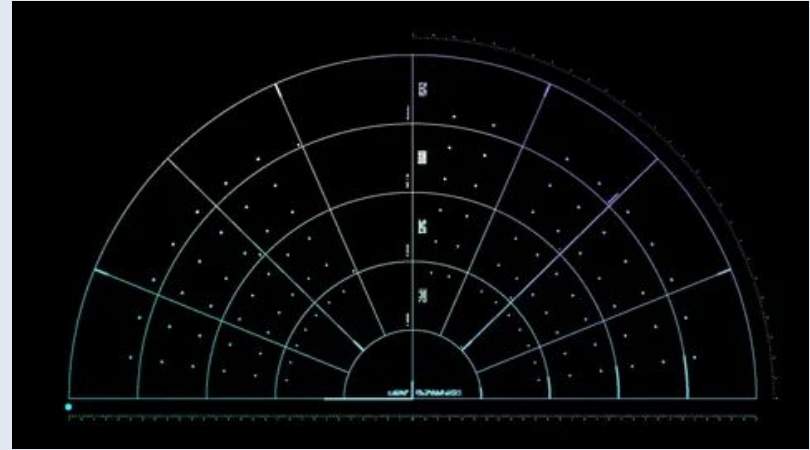


How it works

- Ultrasonic sensor sends sound waves
- Echo time → distance calculation
- Servo motor rotates sensor
- Arduino collects and processes data
- Visualize the data live

Visualization

- PC side live visualizer for Arduino data
- Java (Processing) + processing.serial library
- Data format: Arduino streams angle, distance over USB
- Rendering: classic radar UI (0–180° sweep, rings, live readouts)



Expected Results

- Real-time distance scanning
- Visual radar-style output
- Integration of coding and electronics

The image features a light blue background with two horizontal lines. The top line starts with a curved segment on the left and then continues straight to the right edge. The bottom line starts straight from the left edge and ends with a curved segment on the right.

Thank you