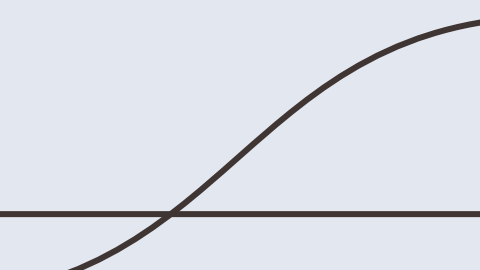# Arduino Radar System

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# Presentation Outline

01 **Motivation**
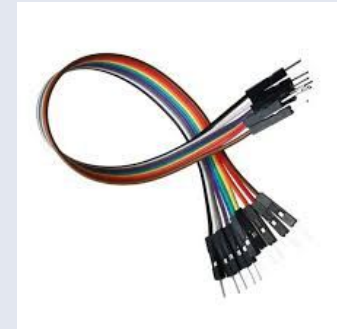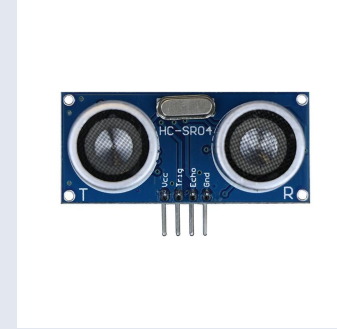
02 **Components**

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)
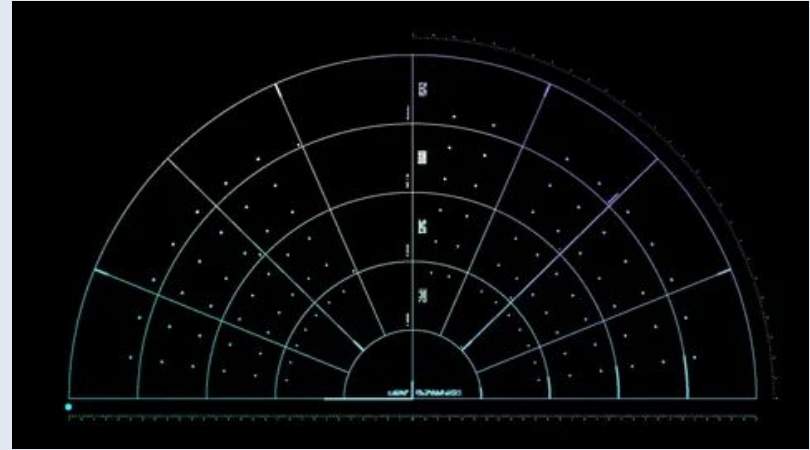
# Expected Results

- Real-time distance scanning

- Visual radar-style output

- Integration of coding and electronics

# Thank you