2WSA

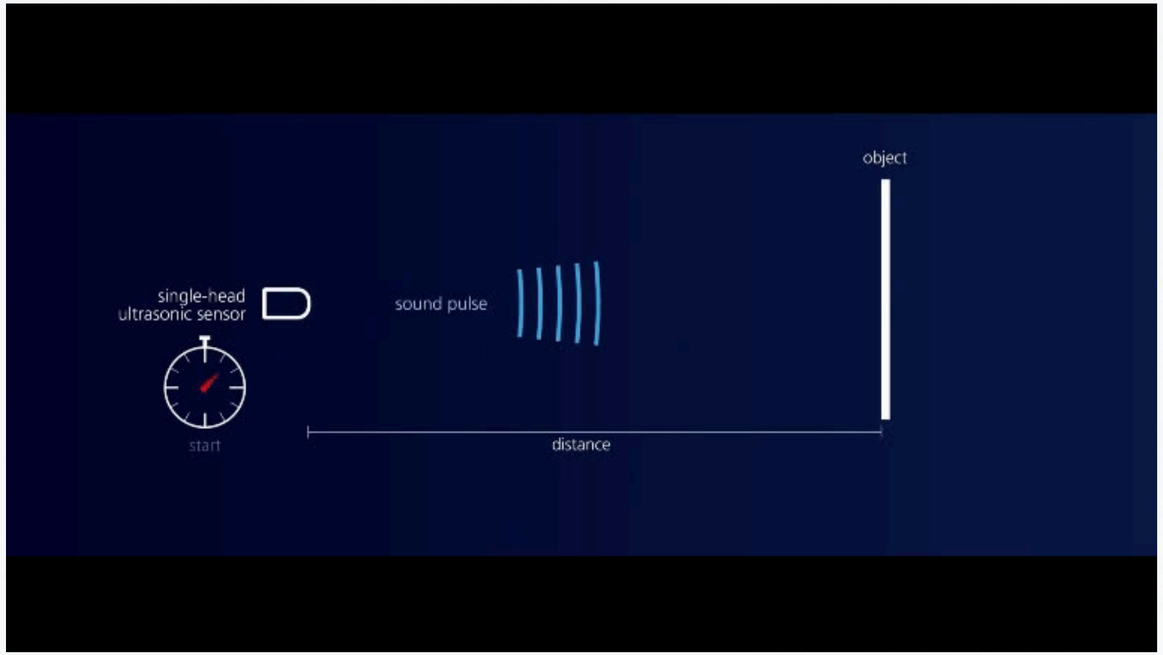
2 WHEELER SURROUNDING AWARENESS

BOSCH ROAD SAFETY HACKATHON

COMPONENTS

ULTRASONIC SENSOR

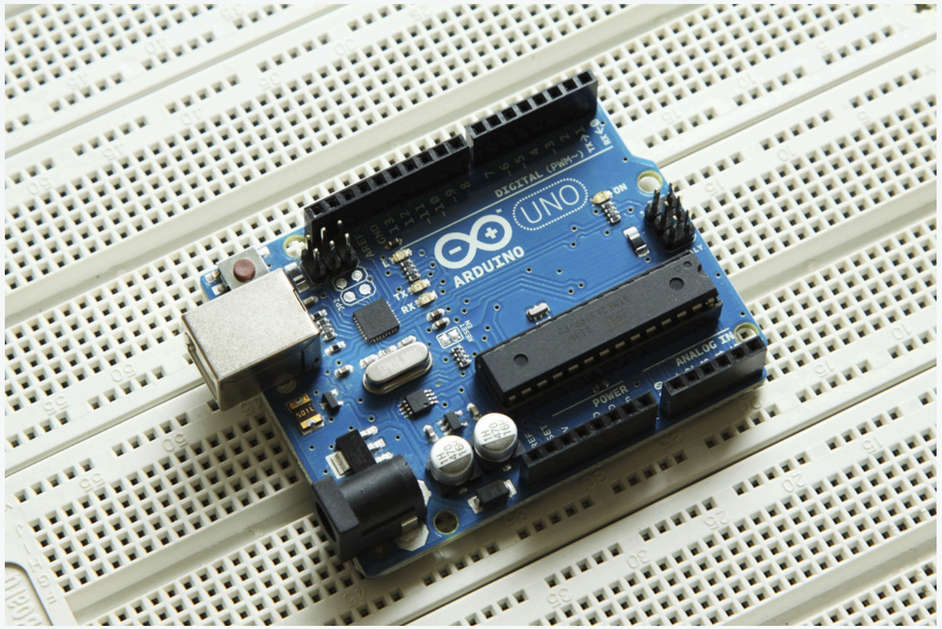
ULTRASONIC SENSORS DETECT OBSTACLES BY EMITTING HIGH-FREQUENCY SOUND WAVES AND MEASURING THE TIME IT TAKES FOR THE ECHO TO RETURN.



COMPONENTS

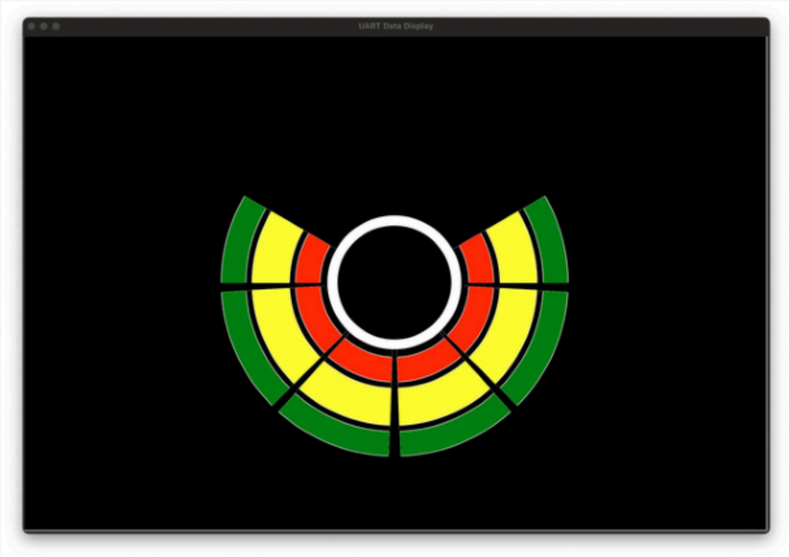
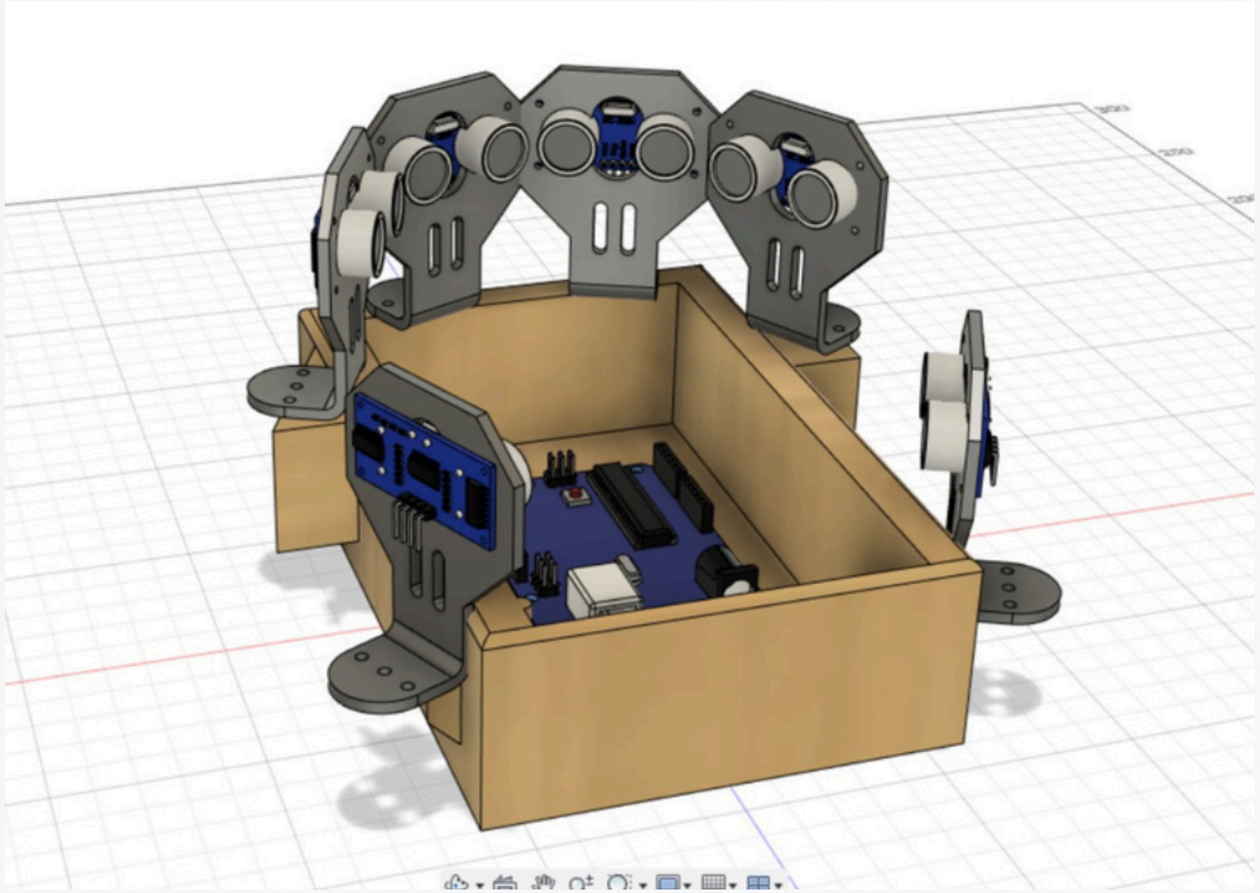
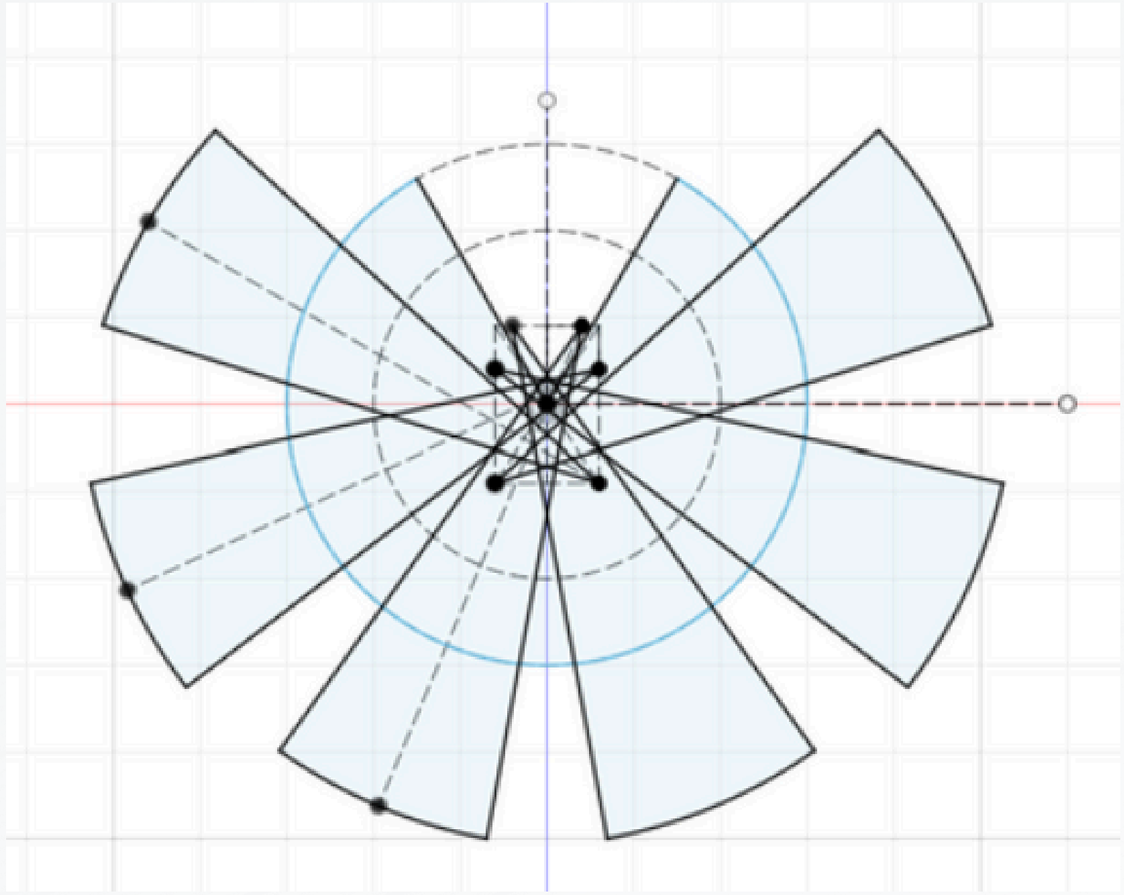
ARDUINO UNO

ARDUINO UNO, FEATURES A 16 MHZ MICROCONTROLLER, 14 DIGITAL I/O PINS, 6 ANALOG INPUTS, USB CONNECTION. ITS LOW POWER CONSUMPTION MAKE IT IDEAL FOR THIS APPLICATION



CONCEPT

- ASYNCHRONOUS READING OF ARRAY OF ULTRASONIC SENSOR DATA USING PIN CHANGE INTERRUPT
- DETECTS MULTIPLE OBJECTS IN RANGE
- ENHANCED VISUAL FEEDBACK ON RIDER'S DASHBOARD
- EXACT CALCULATION OF RANGE AND BLIND SPOTS OF ULTRASONIC SENSORS



STRATEGIES