COCSC20: Internet of Things

Exercise 2

Interfacing of Ultrasonic Sensor with Arduino Board

Objectives of this lab experiment

1. Introduction to Sensor Technology.
2. Various type of sensors.
3. Ultrasonic sensor HC-SR04 working and principal.
4. Circuit design and Sketch of interfacing.
5. Learning of processing tool for data plotting of sensor value.
6. Applications and Experiment.

Experiment:

Design a circuit for interfacing the Ultrasonic sensor in tinkercad framework and plot the captured data using Processing tool.

Submission on LMS: Following point you must submit in the assignment.

1. Problem description required Components and circuit diagram.
2. Explain the concepts, experimental, and programming skills that you have gained during this experiment. Discuss the results and comment on the reasons for the errors.
3. What is the maximum and minimum distance can be captured with sensor? Explain why?

Reading Materials:

1. https://www.keyence.com/ss/products/sensor/sensorbasics/ultrasonic/info/index.jsp
2. https://components101.com/ultrasonic-sensor-working-pinout-datasheet
3. https://randomnerdtutorials.com/complete-guide-for-ultrasonic-sensor-hc-sr04/
4. https://processing.org/
5. https://www.instructables.com/id/Arduino-Processing-HC-SR04-RADAR-Using-Processing-/
6. https://www.tinkercad.com/