

**1. Distance Measurement Display:**

Connect an ultrasonic sensor and a 7-segment display to the Arduino. Program it to measure the distance to an object in front of the ultrasonic sensor and display the result on the 7-segment display.

<https://www.tinkercad.com/things/8lrrxPNpYMY-incredible-snicket>

**2. Smart Distance Counter:**

Connect both an ultrasonic sensor and a touch sensor to the Arduino. Display a counter on the 7-segment display that increments every time an object (such as a hand) crosses a specified distance threshold (detected by the ultrasonic sensor). Use the touch sensor to reset the counter.

<https://www.tinkercad.com/things/dO8c62OMf3i-frantic-bruticus-crift>

**3. Touch-Activated Range Finder:**

Program the Arduino to take a distance reading from the ultrasonic sensor only when the touch sensor is activated. Display the measured distance on the 7-segment display and hold the value for 5 seconds before clearing.

<https://www.tinkercad.com/things/fz9XrKPRp4x-super-blad>

**4. Countdown Timer with Obstacle-Activated Reset:**

Use the touch sensor to start a countdown on the 7-segment display. If the ultrasonic sensor detects an obstacle (within a specified range) during the countdown, reset the timer. Display "E" on the display if the countdown completes without interruption.

[Countdown Timer with Obstacle-Activated Reset](#)

**5. Digital Stopwatch:**

Create a simple stopwatch using an LCD display and two buttons. Use one button to start/stop the stopwatch and the other to reset it.

<https://www.tinkercad.com/things/fedDOopalXt-copy-of-digital-stopwatch>

**6. Motion-Activated Alarm:**

Connect a PIR motion sensor to the Arduino and write code to sound a buzzer when movement is detected. Add a feature to log the timestamp of each detected movement in the Serial Monitor.

<https://www.tinkercad.com/things/bcglkksQfAw-brilliant-snaget-snicket>

**7. Temperature Monitoring System:**

Using a DHT11 or LM35 temperature sensor, create a temperature monitoring system that reads temperature data and displays it on the Serial Monitor. Adjust the code to send a warning message if the temperature exceeds a certain threshold.

<https://www.tinkercad.com/things/7ClC9XiDYBr-surprising-maimu>

**8. People Counter with Direction Detection:**

Place an IR sensor on either side of a doorway to count the number of people entering and exiting. Display the count on a 7-segment display. Use the

ultrasonic sensor to confirm direction by measuring the time an object passes between the two IR sensors.

<https://www.tinkercad.com/things/0HBnIgepyxx-mighty-turing>

**NOTE: TO Demonstrate use Tincker cad application(online )**