Inspiring Excellence

Project Idea of CSE461

Submitted By:

Group 4

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Project Title: Obstacle Detection System

Components:

1. Raspberry-pi
2. Breadboard and jumper wires
3. LED
4. Push button
5. Ultrasonic Sensor

Description: The user can interact with the system by pressing the push button. When the button is pressed, the system will check for obstacles in its vicinity.

- When the push button is pressed, the Raspberry Pi will activate the sonar sensor.
- The pulse will travel through the air and bounce off any obstacles in its path.
- The Echo pin will detect the reflected pulse and measure the time taken for it to return.
- Using the speed of sound in the air the system will calculate the distance to the obstacle.
- If an obstacle is detected within a certain range (for example, within 30 cm), the LED will light up, indicating the presence of an obstacle.
- If no obstacle is detected within the range, the LED will remain off.