Vehicle Collision Avoidance System

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TRC
Transportation
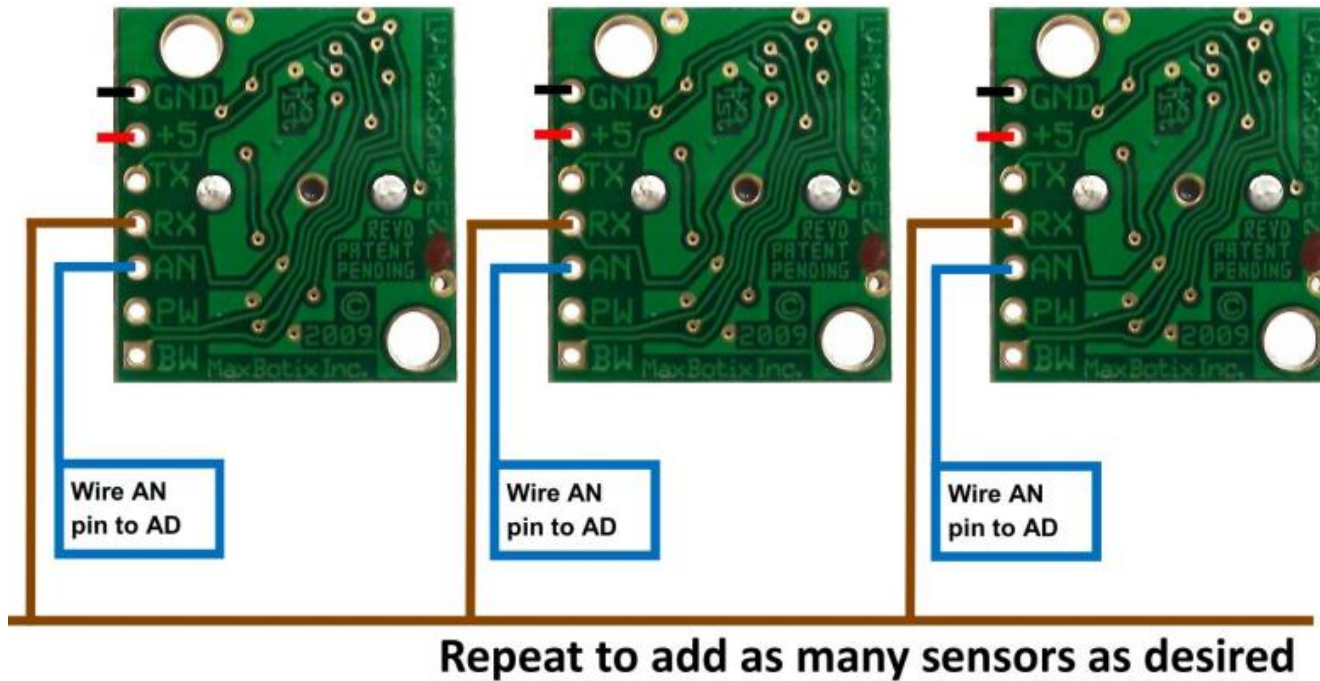Research Center Inc.
®

- Saw examples of current systems and their testing in industry

- Rode along with trucks that had systems installed

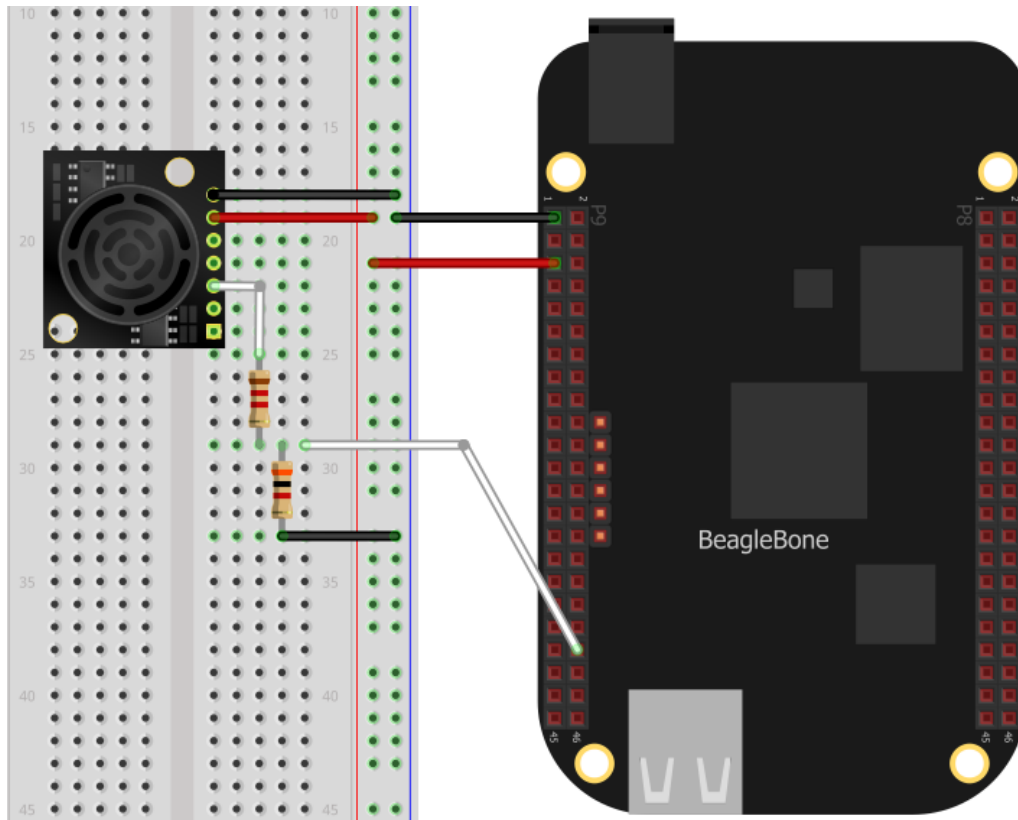- Went on facility tour that included a ride on test track in mini-van

Ultrasonic Sensors
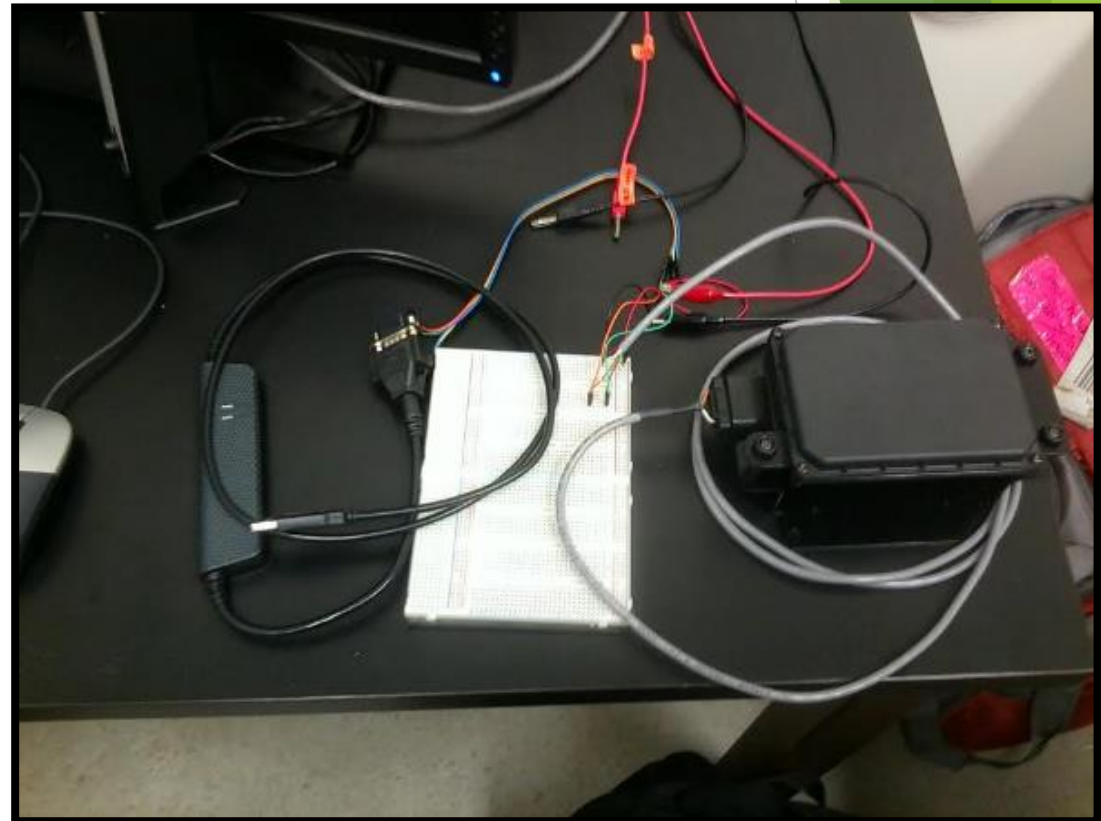
▶ Maxbotix MB7380 and MB7386 sensors
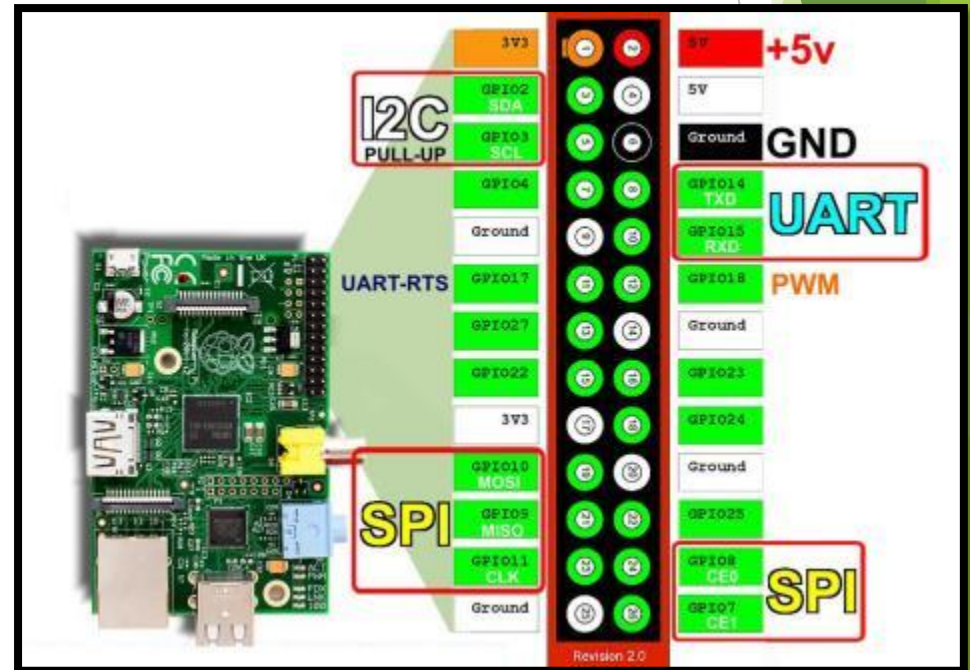
Ultrasonic Sensors

Wire AN pin to AD

Wire AN pin to AD

Wire AN pin to AD

Repeat to add as many sensors as desired

Ultrasonic Sensors

Radar

- Arrived 3 Weeks Ago
- Documentation
- Set-Up

Visual Warning System

- GUI written with Qt Framework in Python

- Application runs full screen upon Raspberry Pi power-up

- Application has multiple threads that each monitor GPIO pins for input signals

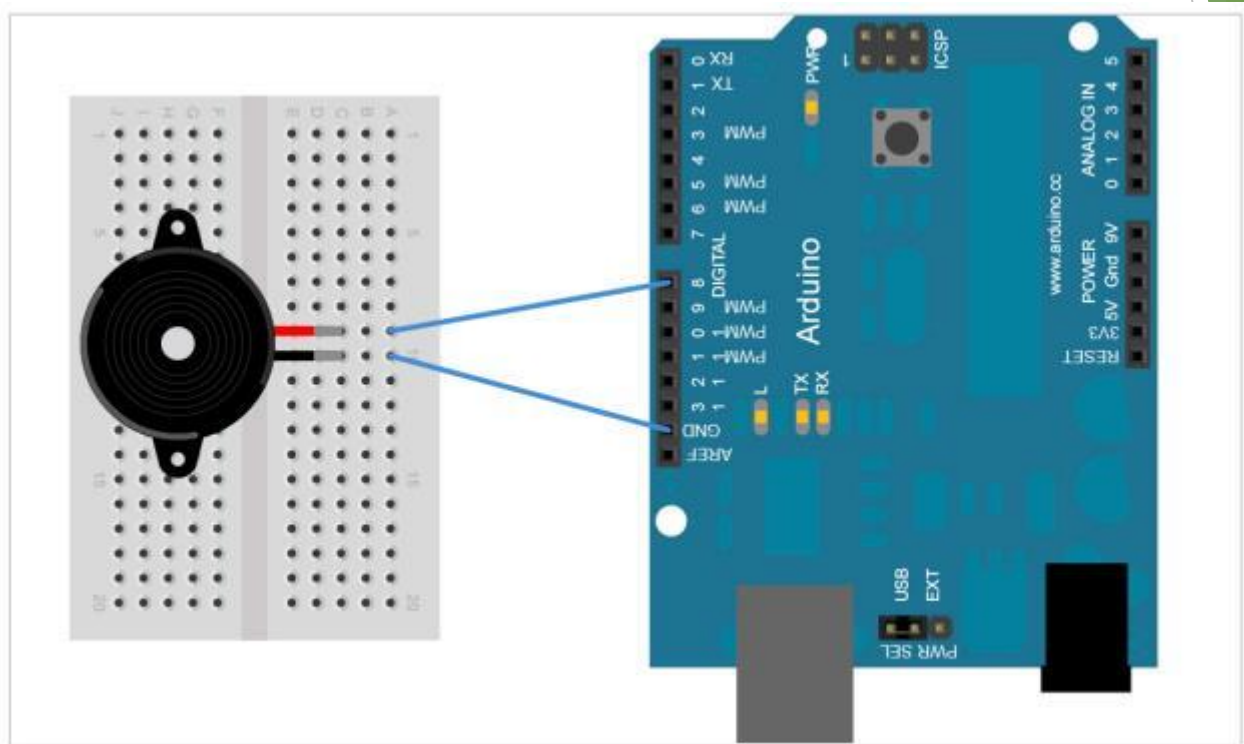- GUI is continuously updated based upon GPIO input

Visual Warning System

Audible Warning System

- Two piezo buzzers
  - Correspond to left and right side of vehicle

- Uses library that outputs PWM'd signal to buzzers for any duration and frequency of tone