



# Blind Spot Detection System

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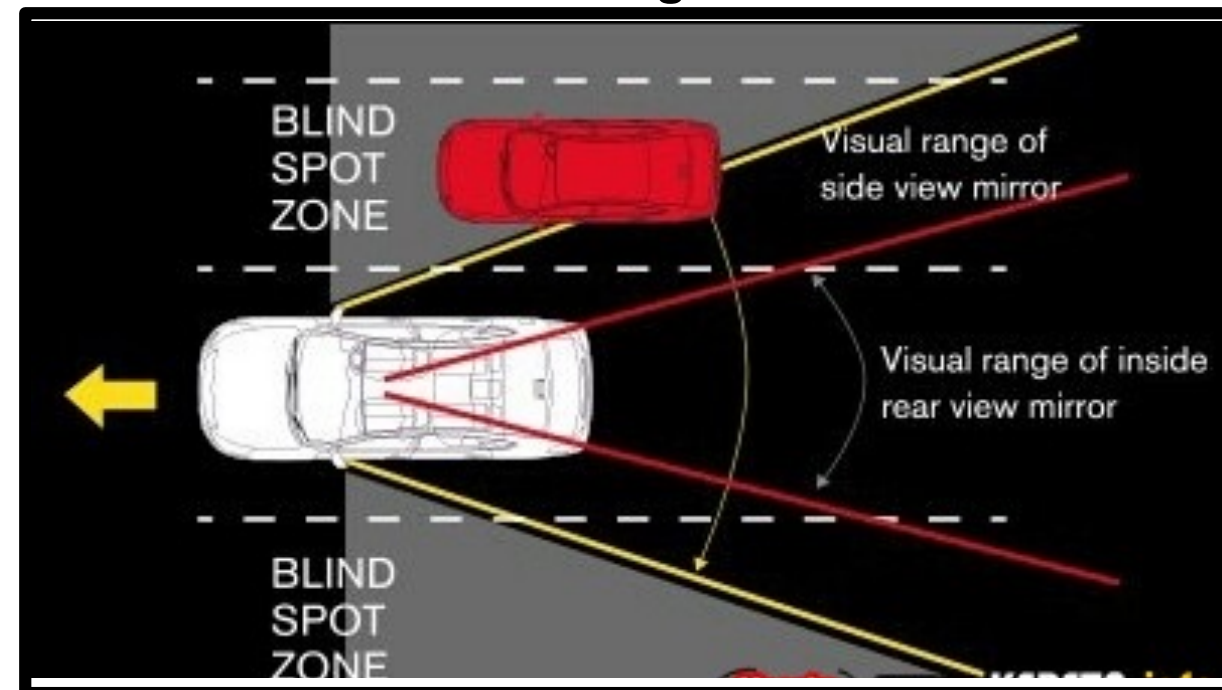
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## BACKGROUND

Even with the advancement of vehicles, there are still a lot of accidents that take place due to not being able to detect vehicles in the blind spot. According to telegraph news, the number of crashes due to the blind spot has risen by 50% over the last two years. The goal is to get alerts when there is a vehicle in the blind spot so action can be taken in time and accidents can be avoided.

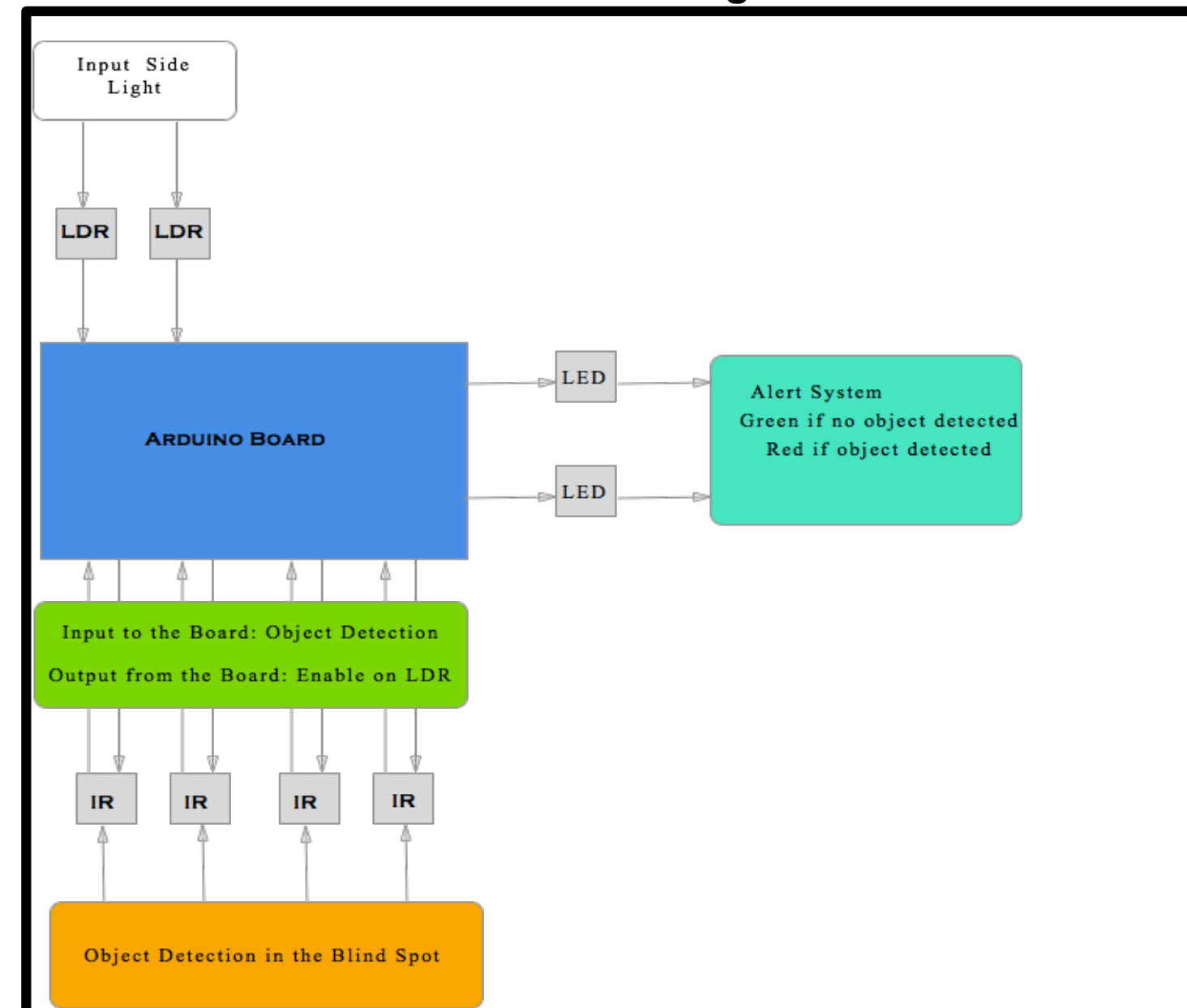
Figure 1



## PROPOSED SOLUTION

This proposed project is an alert system that would notify the driver through LEDs so that the driver is aware that a vehicle is in his blind spot and needs his attention. Our prototype will use object sensors that will detect objects within certain distance in the blind spot and obstacle sensor outputs are sent to Arduino board. The Arduino board will then send signals to turn on the LEDs to alert the driver that a vehicle is in the blind spot.

Figure 2



## PRODUCT DESIGN

### LDR

The Light Detecting Resistor sensor detects a side light and sends the signal to the Arduino board in order to begin the object detection.

Figure 3

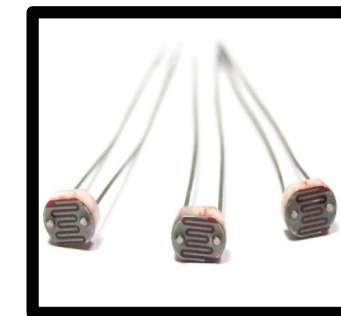
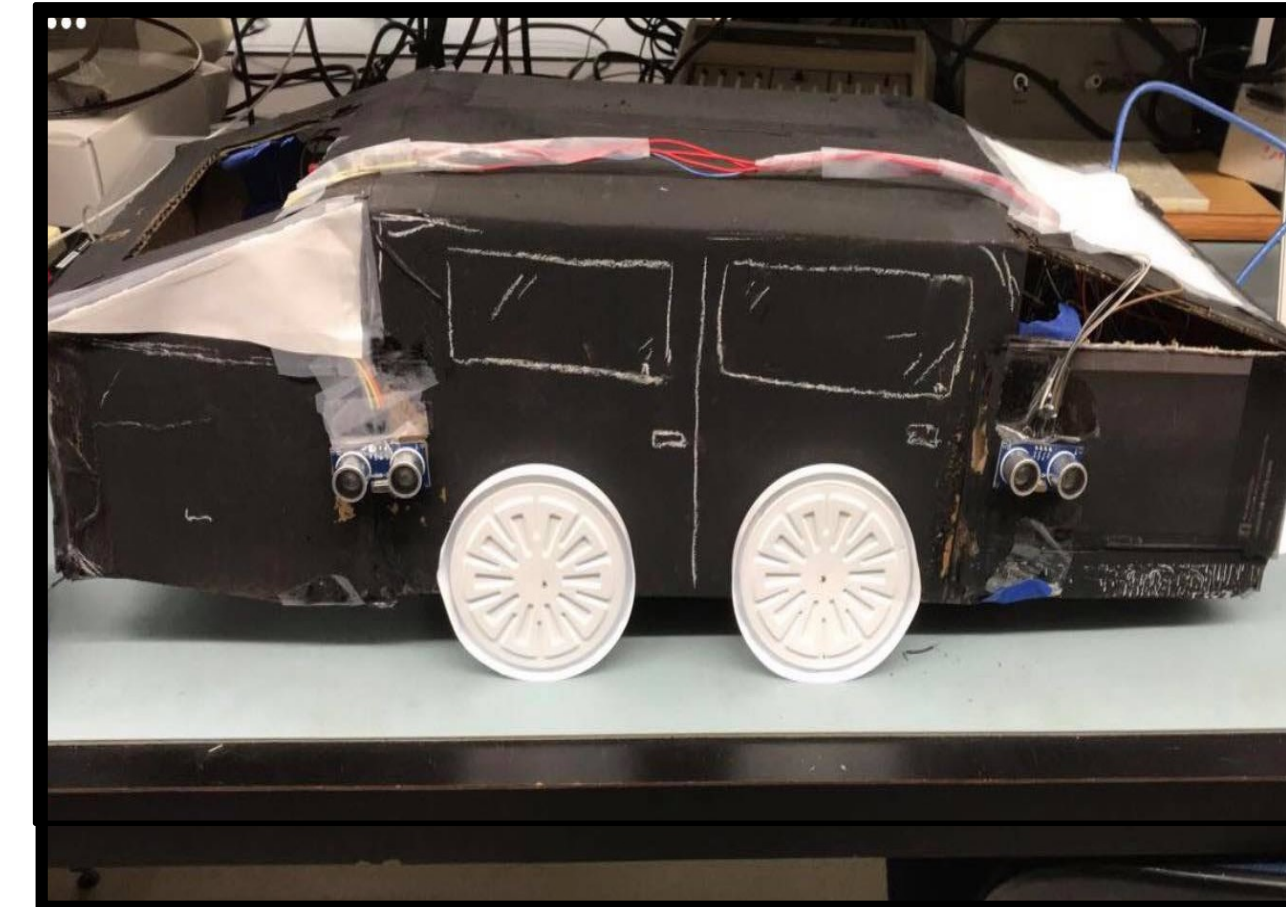


Figure 5

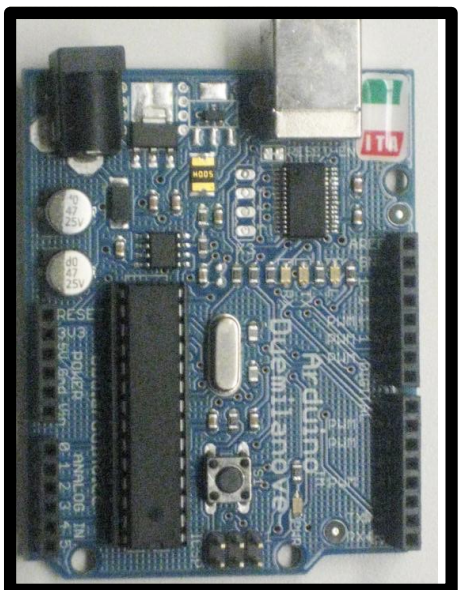


Final Product

### Arduino Board

The Arduino board is the brain of the system. It gets the input from the LDR and sends the command to the IR based on the input received from the LDR. Finally, it sends the output to the LED with the result from the IR sensor.

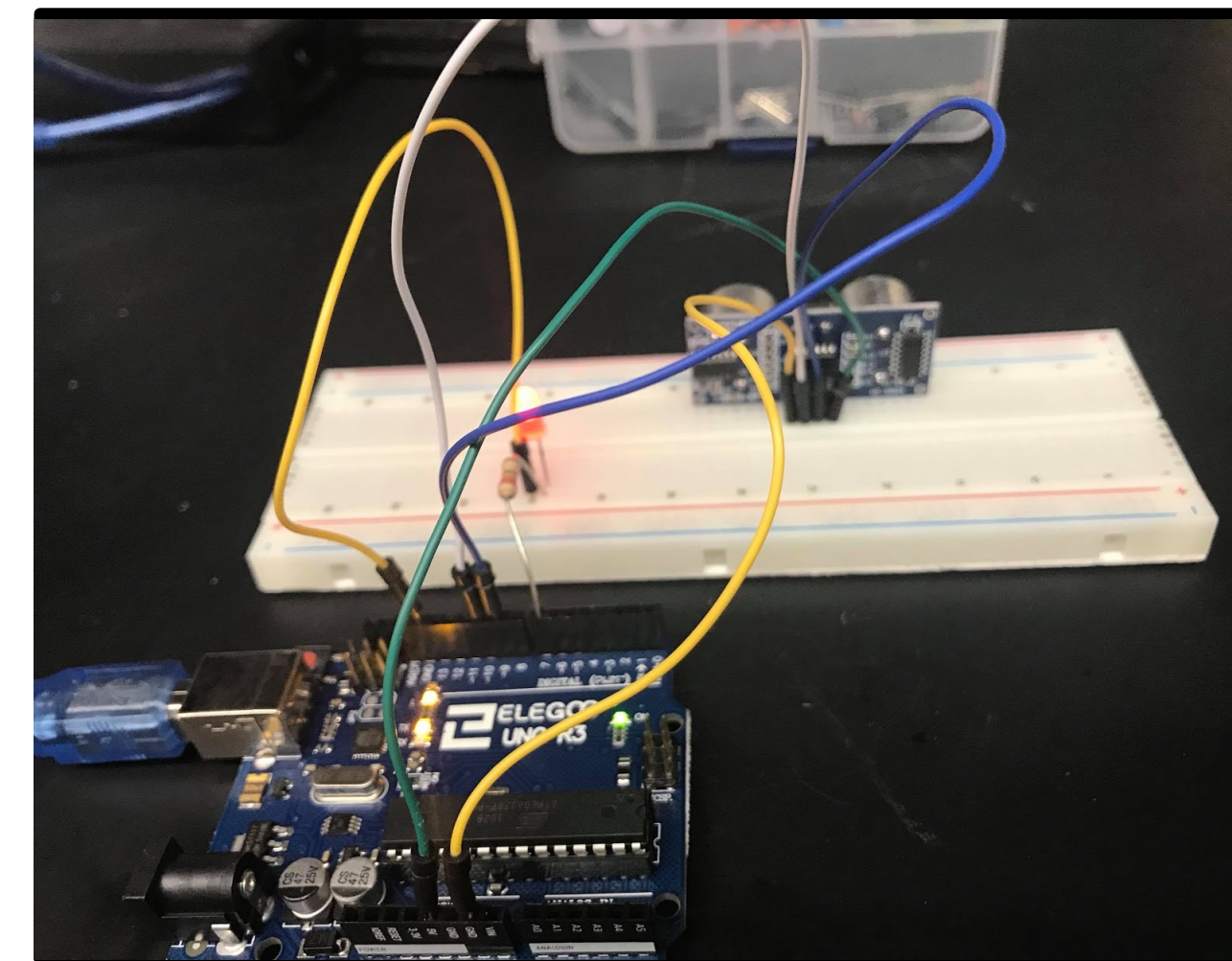
Figure 6



### LED

The light emitting diode is used in order to provide the result of the sensor. This acts as an alert system. If the object is detected then the red light is turned on otherwise the light is green.

Figure 4



Circuit for the design

### Ultrasonic Sensor

The ultrasonic sensor detects object within certain range. If the object is detected within its operational region then it will send the signal to the Arduino. Also, the object detection is only initiated by the result of LDR sensor.

Figure 7



## FUTURE DIRECTION

- Add waterproof sensors for better performance
- Use more than 2 sensors on each side for accuracy
- Use trailer connector to emulate side light feature
- Power saving mode (system turns off when car is stationary)

## REFERENCES

<http://www.drivinghelp.com/userpages/images/content/Mirrors08.png>  
<http://www.instructables.com/id/Blind-Spot-Detection-Arduino-Distance-Sensor-Matla/>

## ACKNOWLEDGEMENTS

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## CONTACT INFORMATION

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