

# The Speed Breaker detection System

## Objectives :-

- \* Alert drivers of Speed Breakers near by
- \* to Enhance road safety.
- \* to prevent accidents

## problem Statement

- \* Speed breaker that are poorly marked or come suddenly can cause vehicle damage, as well as accidents.
- \* So there is a need for a warning system to alert drivers.

## Proposed Solution

- \* So we have developed a concept for Alarm System to Alert drivers.
- \* it uses ultra sonic sensors.
- \* it detects elevation changes on the road surface, and triggers audio Alert (Buzzers) inst. inside vehicles.
- \* When Speed Breaker has detected within a predefined plane.

## Implementation:

Block diagram

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- \* (Buzzer) inst. inside vehicle.
- \* When speed Breaker lies within a predefined plane.

Implementation:  
Block diagrams

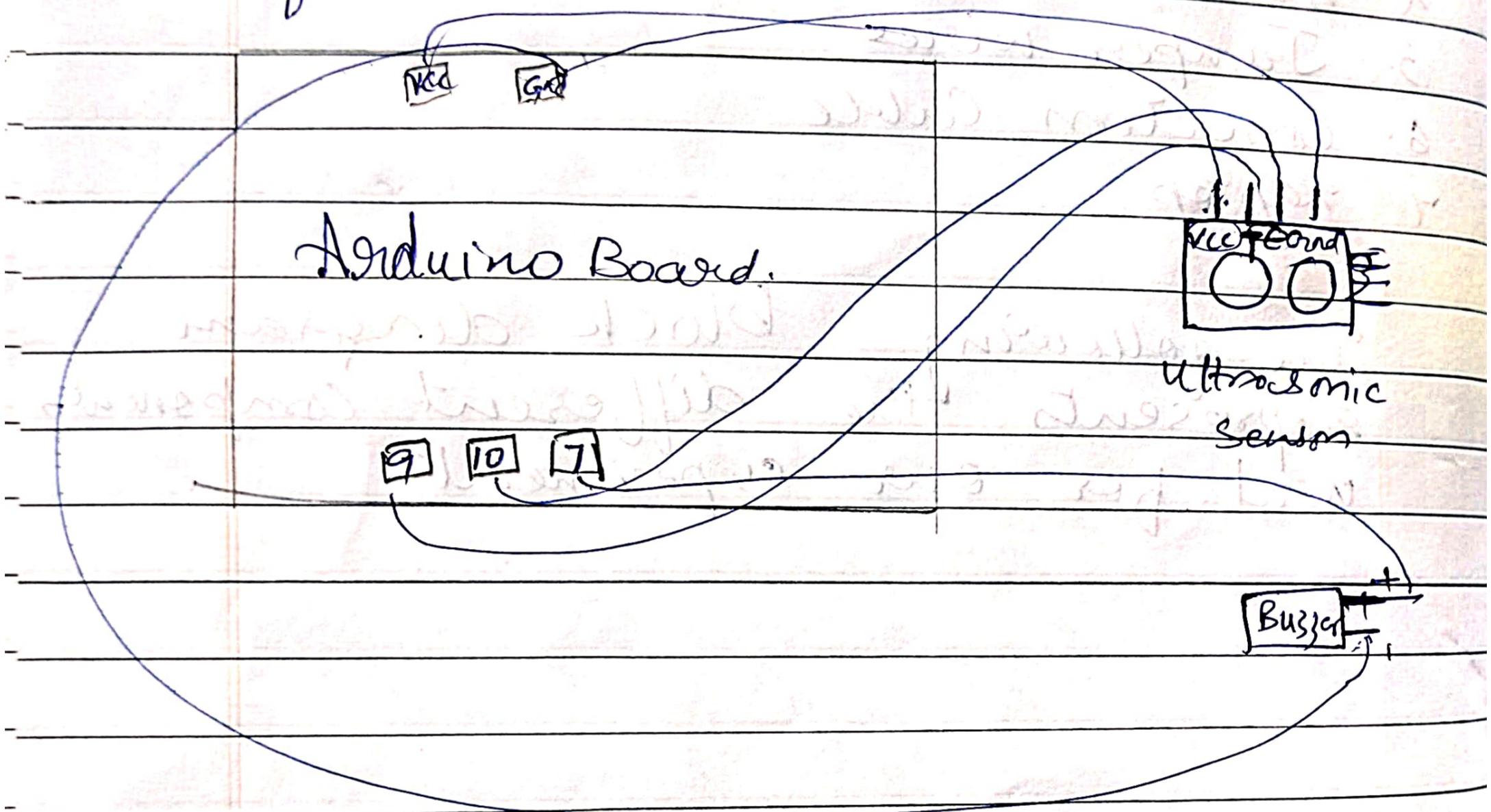
## Components used :

1. Arduino Uno
2. Ultrasonic Sensor
3. Buzzer
4. Bread Board
5. Jumper wires
6. Connection Cable
7. Laptop

The following block diagram represents the different component used for our experiment

## Circuit diagram:

We have connected the mentioned circuit components as follows:



We have used a Bread board and jumper wires to recreate this circuit diagram.

## Arduino Code:

Along with the circuit diagram, we have uploaded the following code to arduino. \*The code has the following components:

- ① Pin definition
- ② Set-up
- ③ loop

In pindefinition, we defined names of each pin the Arduino used in the circuit.

In the setup, we defined the signal direction to and from the Arduino. If Arduino receives signals from any circuit component in the pin direction is input or else is output.

Loop: Here we write, the behaviour code of Arduino. We use the ultrasonic sensor, trigger and echo pin to calculate distance from the obstacle. We make sure that the calculated distance is half that of the to and fro motion of the sound. Once we have the distance we set the buzzer on whenever the distance is less than 15 cm.

Code from .

Current status of functional circuit has been created to successfully execute the experiment.

More testing will be done to optimise performance

### Impact:

- ① Promote driver safety
- ② Encourages use of technology for real world road safety issues
- ③ Project highlights use of

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- ① Promote driver safety
- ② Encourages use of technology for real world road safety issues
- ③ Project highlights use of studied

principles to deliver solution to a  
real world problem.