# V.A.I(Vehicle Ahead Indicator)

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# About Vehicle Ahead Indicator

## 1. Description

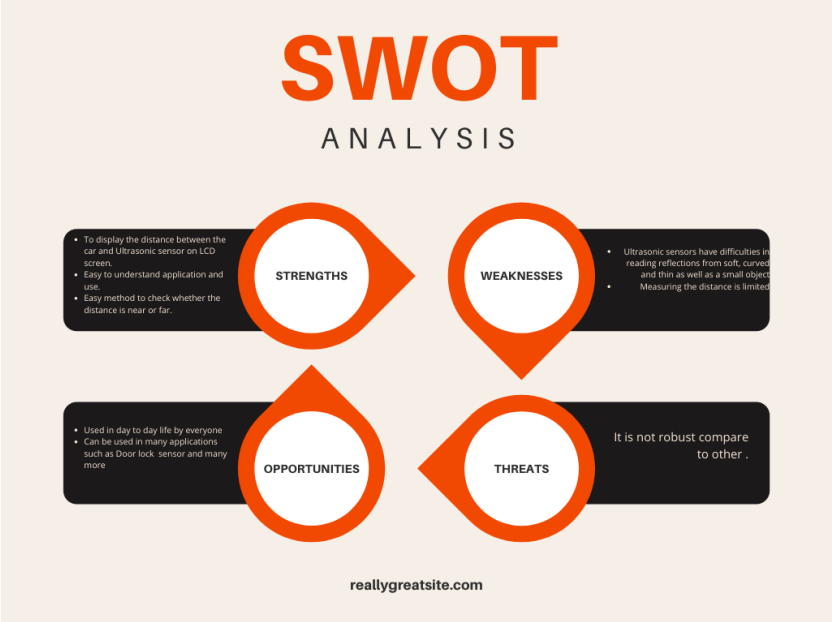
This project is about detection of the car, in how much distance is the other car present in front of us and alerting the driver by displaying in lcd display and signalling by different lights.Hear we use ultrasonic sensor,leds,lcd display message.

## 2. Identify features

- To detect the distance between ultrasonic sensor and the object placed in front of it and display the information on Lcd.
- To turn On the leds when the distance between the ultrasonic sensor and the object is too less.

## 3. 5 W's & 1H


## 4. SWOT Analysis




# Requirements

High level requirements

- To detect distance

- To turn on the leds
- To display on LCD

Low level requirements

- Switches to turn ON/OFF the system
- Power Supply to the Microcontroller, Sensors and Actuators

# Components

Power Supply

- External source of power supply that powers all devices, buttons and microcontroller.

LED’s

- Act as a means to communicate with the user.

Microcontroller

- Performs all operations required by our system. Takes input the signals which the ultrasonic sensor receives and processes them to find the distance between the object and the sensor

Clock

- For smooth working of the microcontroller.

Ultrasonic Sensors

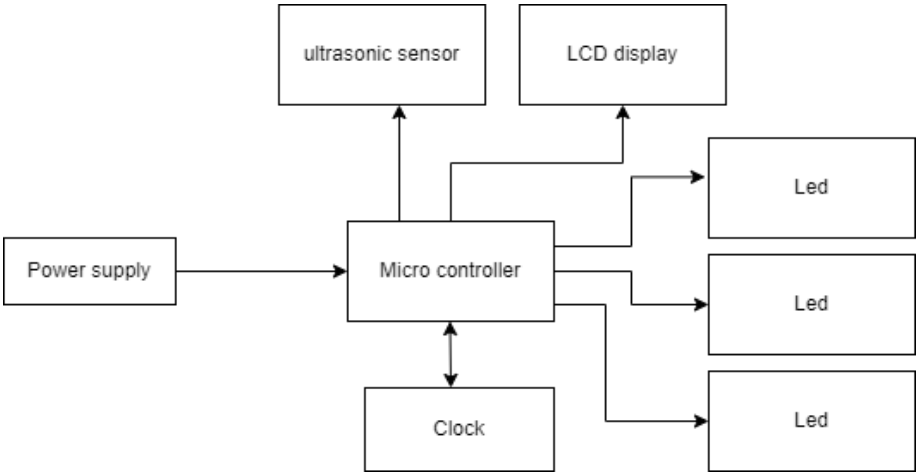
- To determine any vehicle presence in front of the sensor.

LCD display

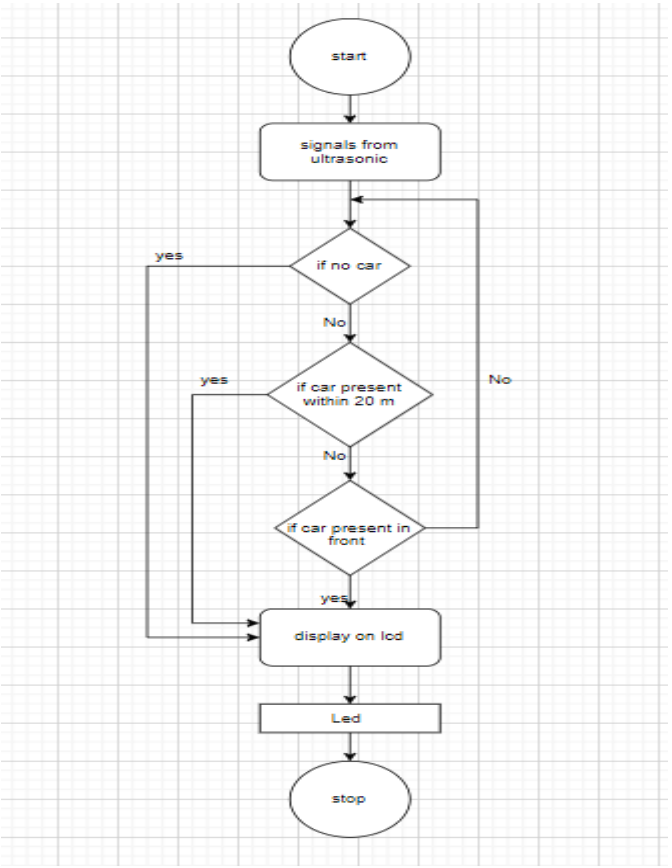
- To display the information whether the car is front or not.

# Architecture

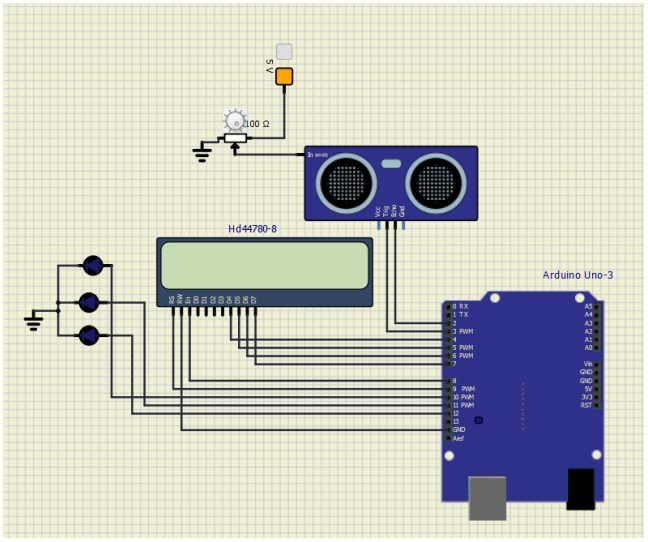
## Block diagram

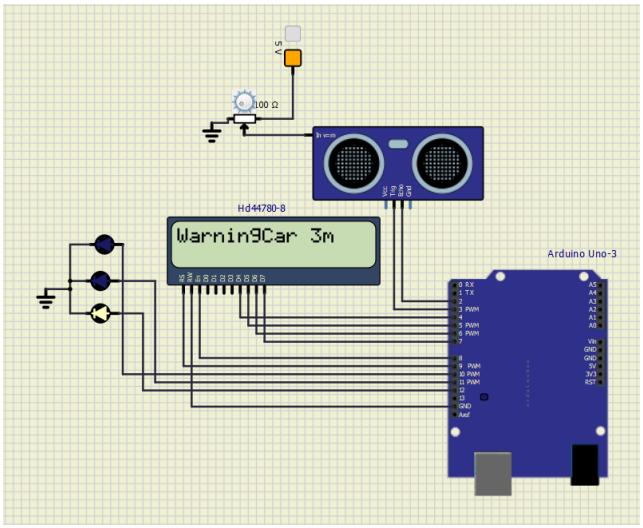


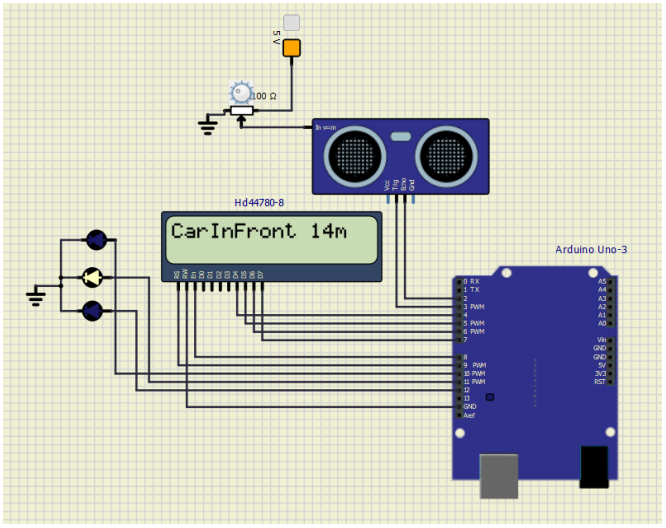

## Flowchart



# Implementation

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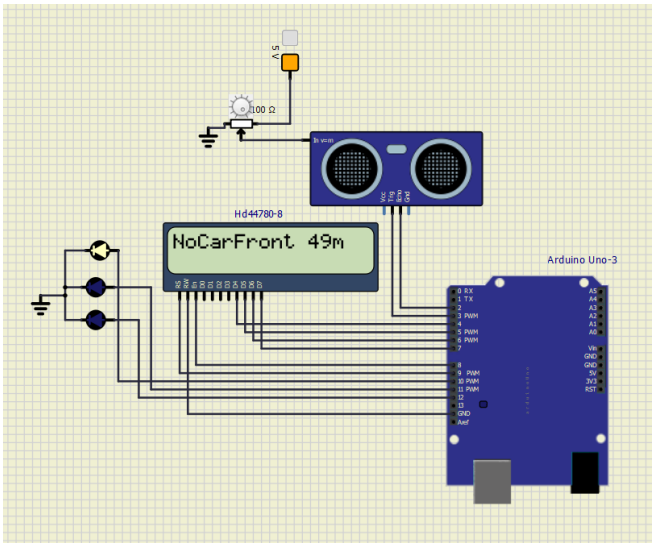
100 Ω
Hd44780-8
CarInFront 14m
Arduino Uno-3


5 V
100 Ω
Hd44780-8
NoCarFront 49m
Arduino Uno-3