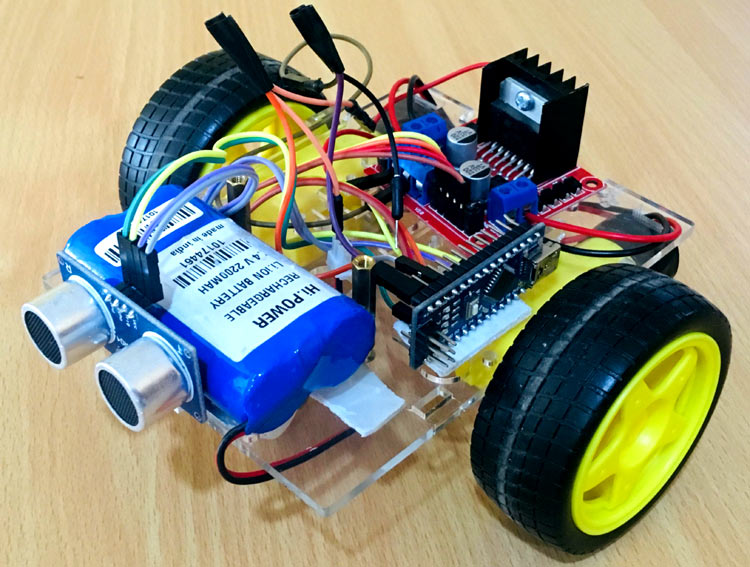
Collision Avoidance Vehicle

**Project Description**:

The project is based on a vehicle that detects obstacles ahead of it and tries to avoid hitting them

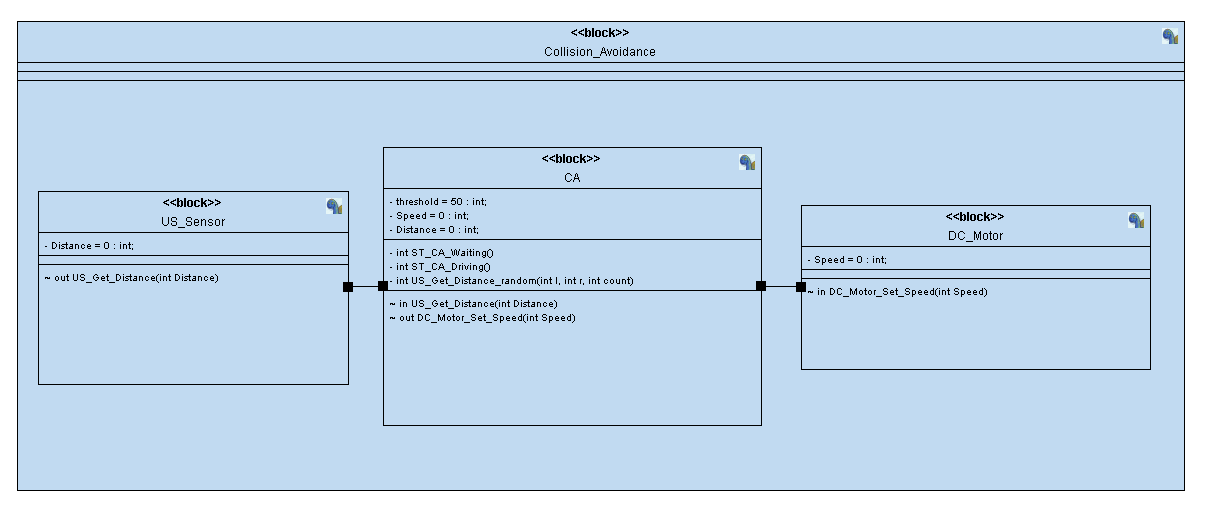


<https://circuitdigest.com/microcontroller-projects/arduino-obstacle-avoding-robot>

**Requirements**:

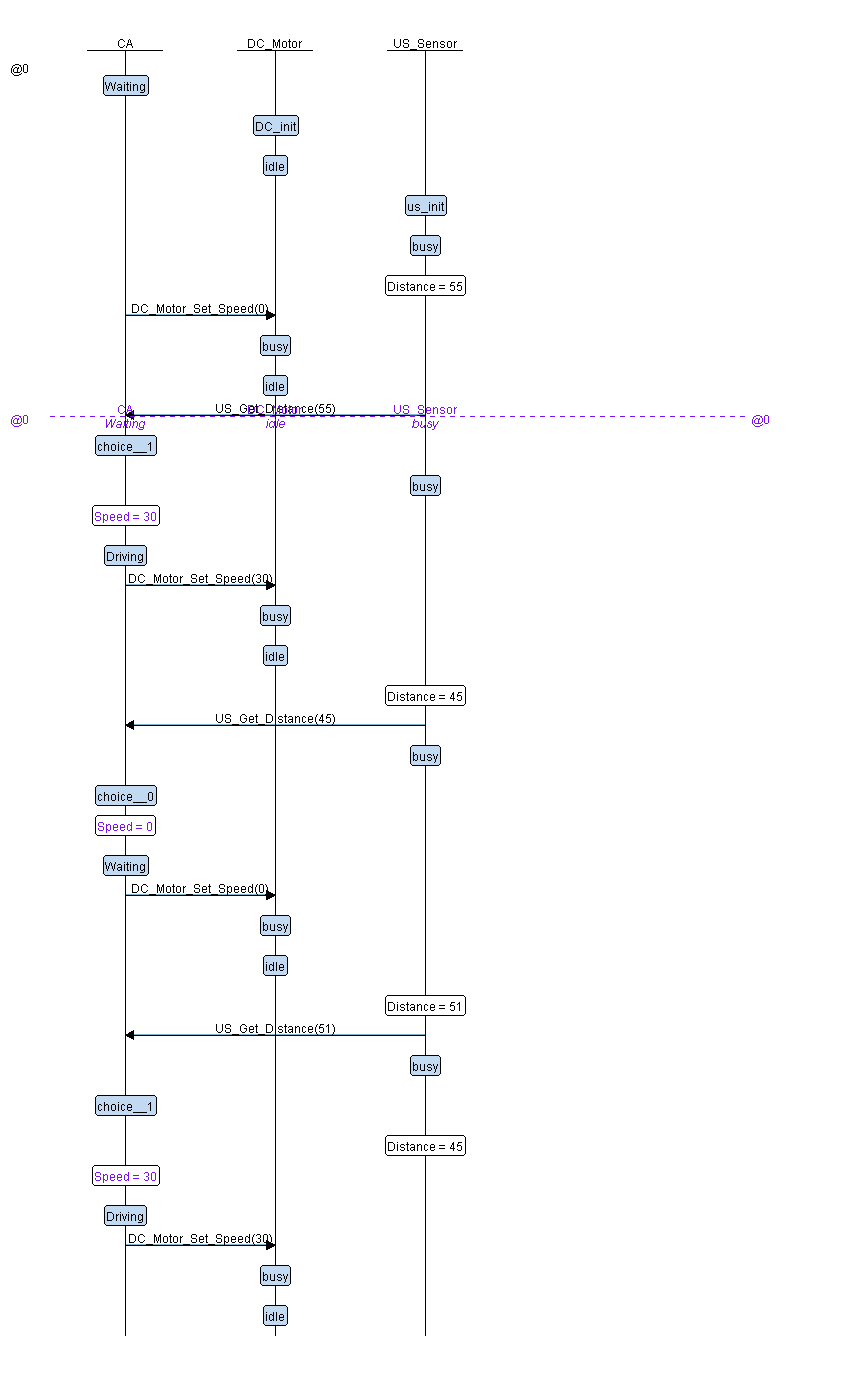
* The vehicle reads distance from ultrasonic sensor periodically
* Vehicle should take actions based on distance between the nearest obstacle
* If the distance is less than or equal the pre-defined threshold, the vehicle should stop
* If the distance is more than the pre-defined threshold, the vehicle should move

**Static Design:**



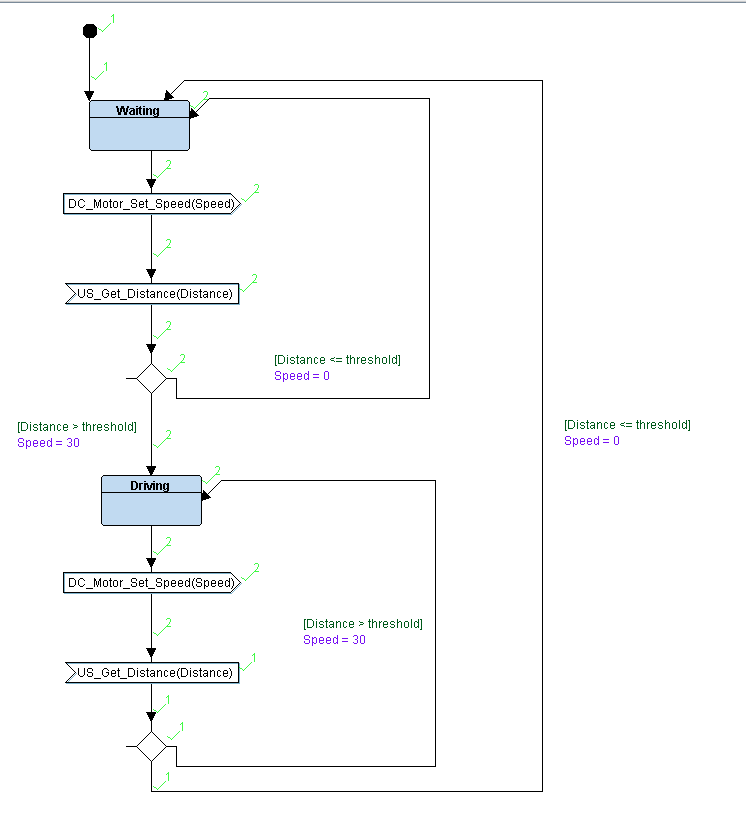
**Figure (1) Class Diagram**

**Dynamic Design:**



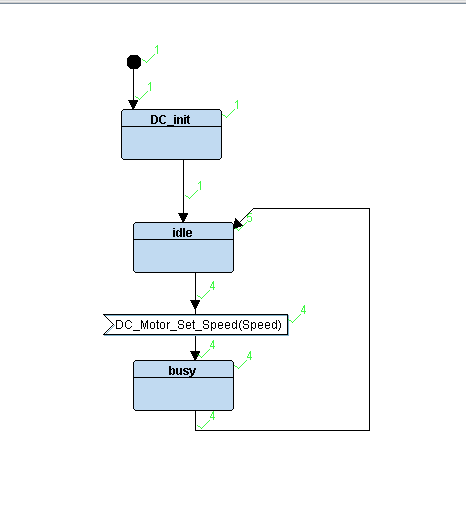
**Figure (2) Sequence Diagram**

**CA Block:**

****

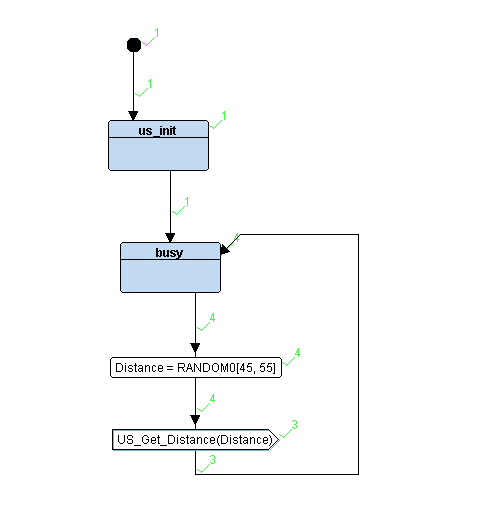
**Figure (3) CA State Diagram**

**DC\_Motor Block:**

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**Figure (4) DC\_Motor State Diagram**

**US\_Sensor Block:**

****

**Figure (5) US\_Sensor State Diagram**