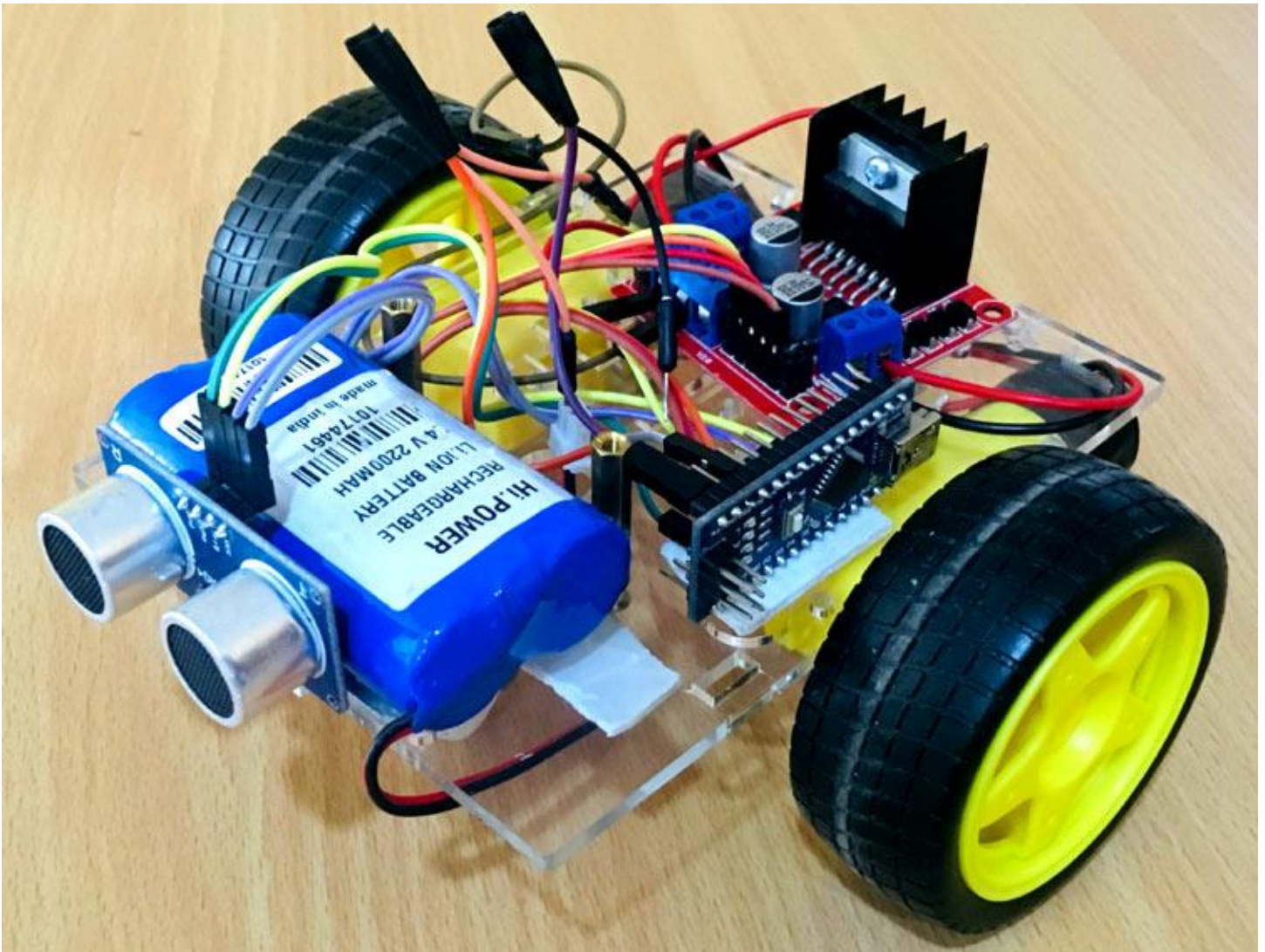


Collision Avoidance Vehicle

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-avoiding-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:

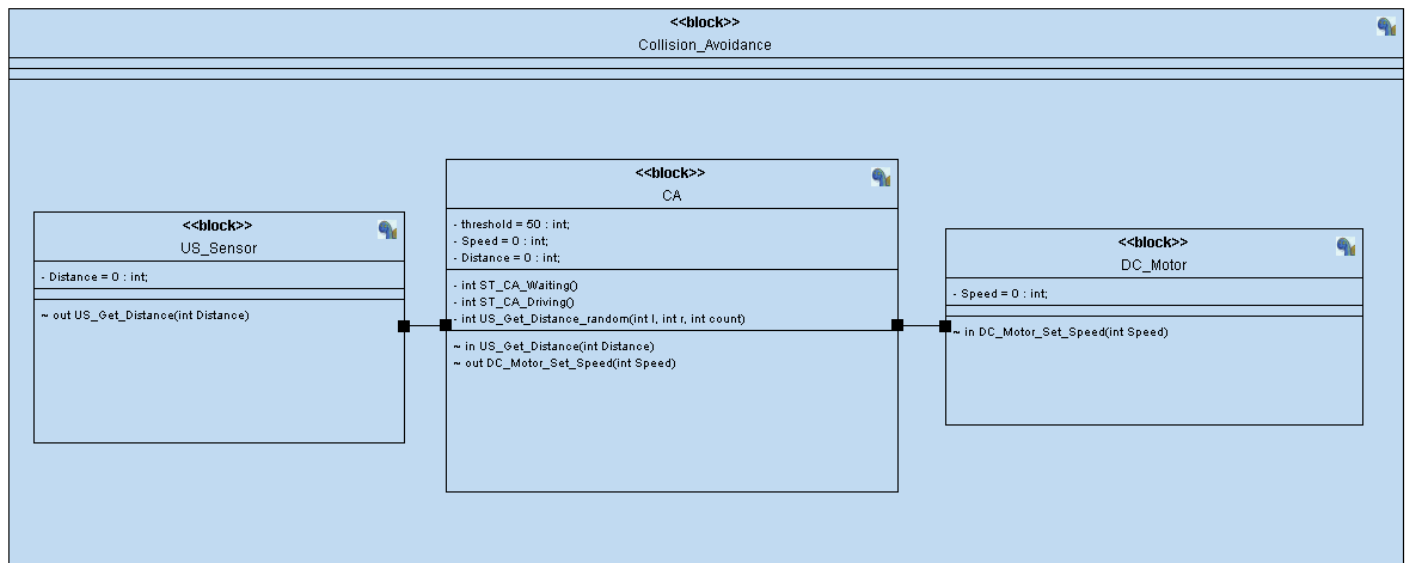


Figure (1) Class Diagram

Dynamic Design:

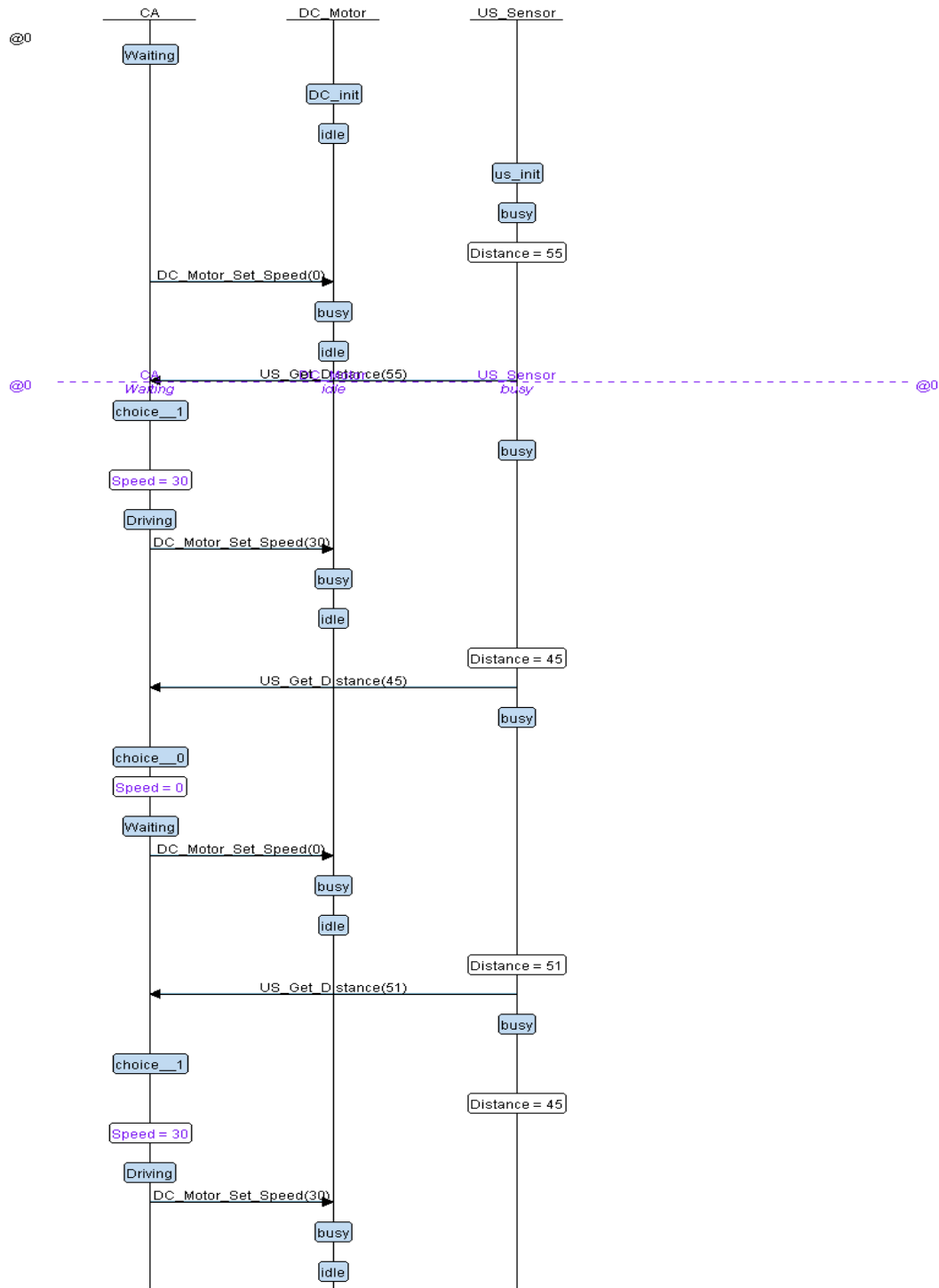


Figure (2) Sequence Diagram

CA Block:

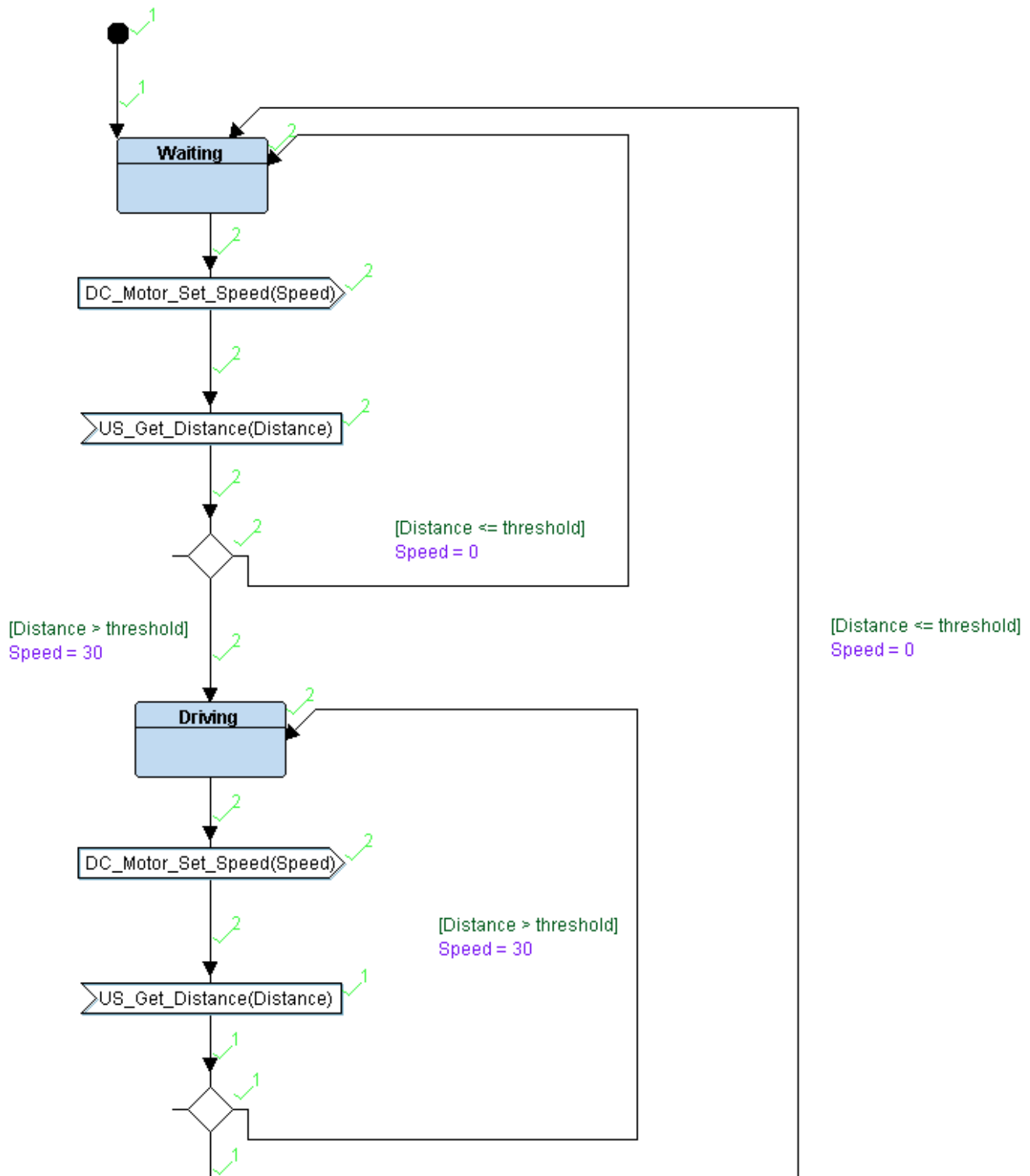


Figure (3) CA State Diagram

DC_Motor Block:

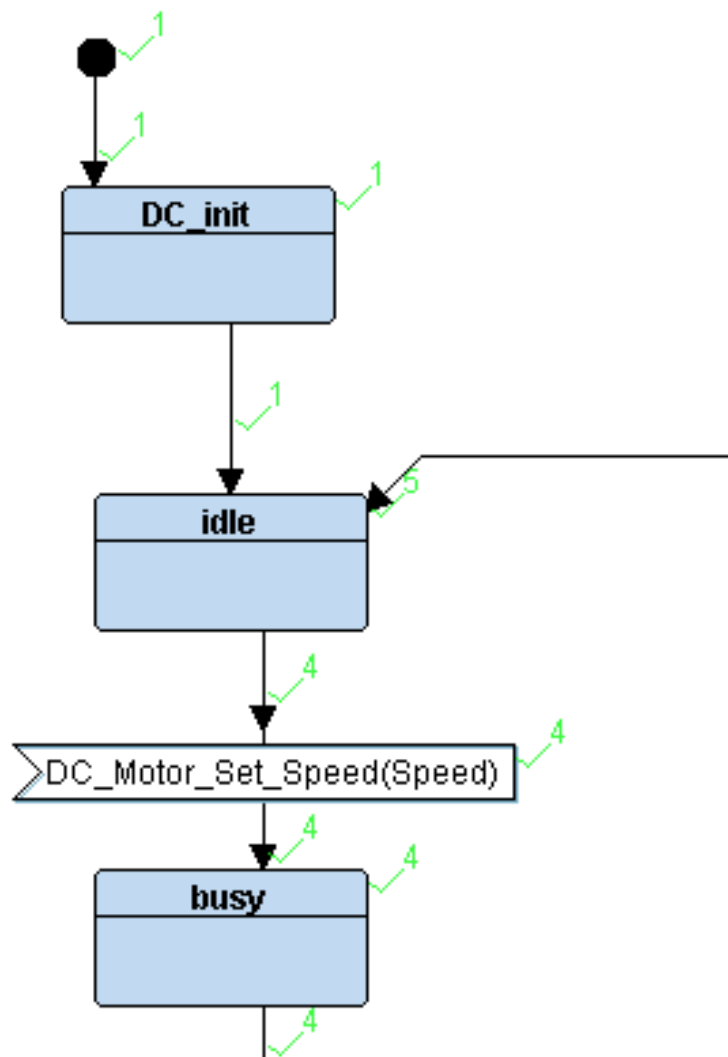


Figure (4) DC_Motor State Diagram

US_Sensor Block:

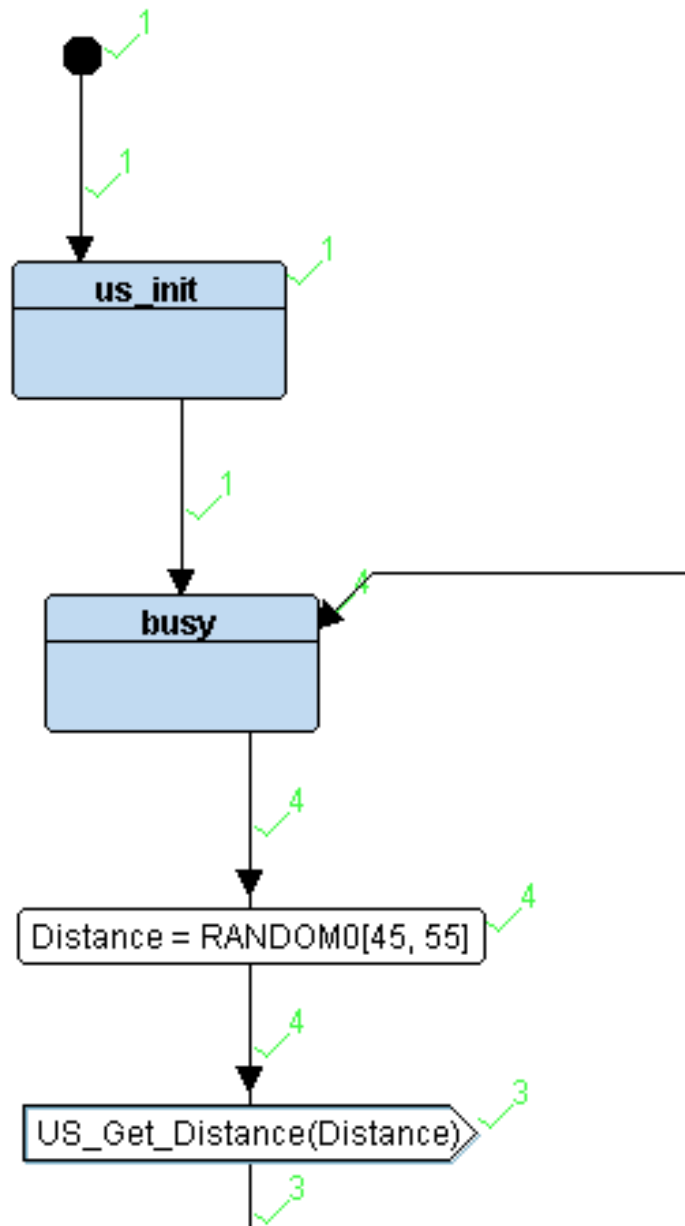


Figure (5) US_Sensor State Diagram