Collision Avoidance System Architecture

1-Case Study

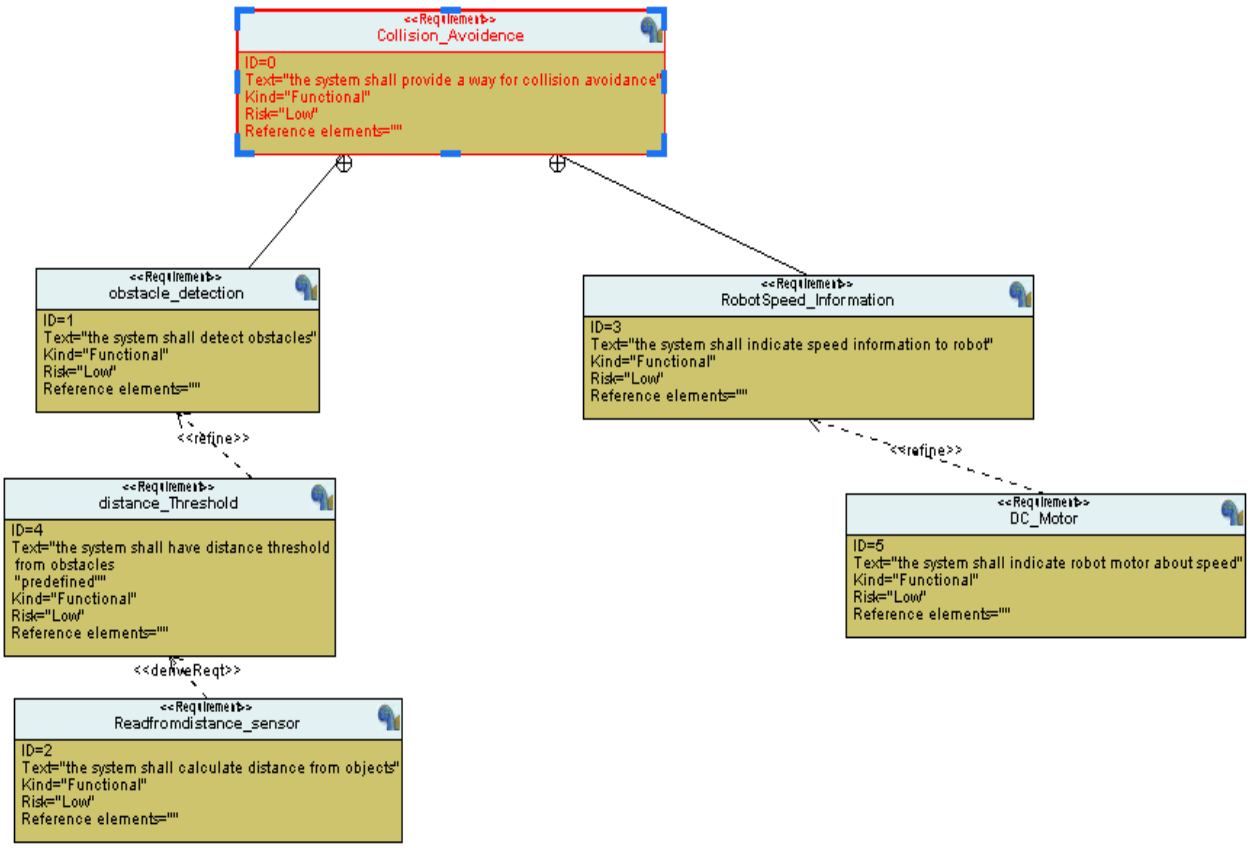
The system is Called Collision Avoidance . it should detect object around the robot and detect if the object will make a collision with the robot . if the object distance from the robot is greater than predefined distance threshold then Robot must be informed and set speed of its Dc motor to zero , else should set speed to 30 .

2-Method

V-Model -SDLC

3-Requirements

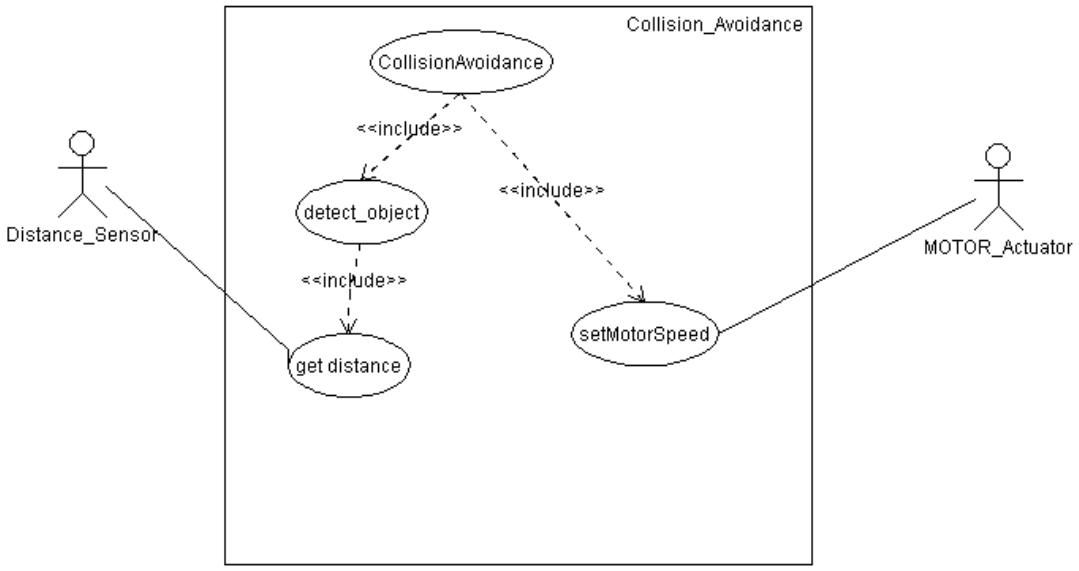
- Requirement Diagram



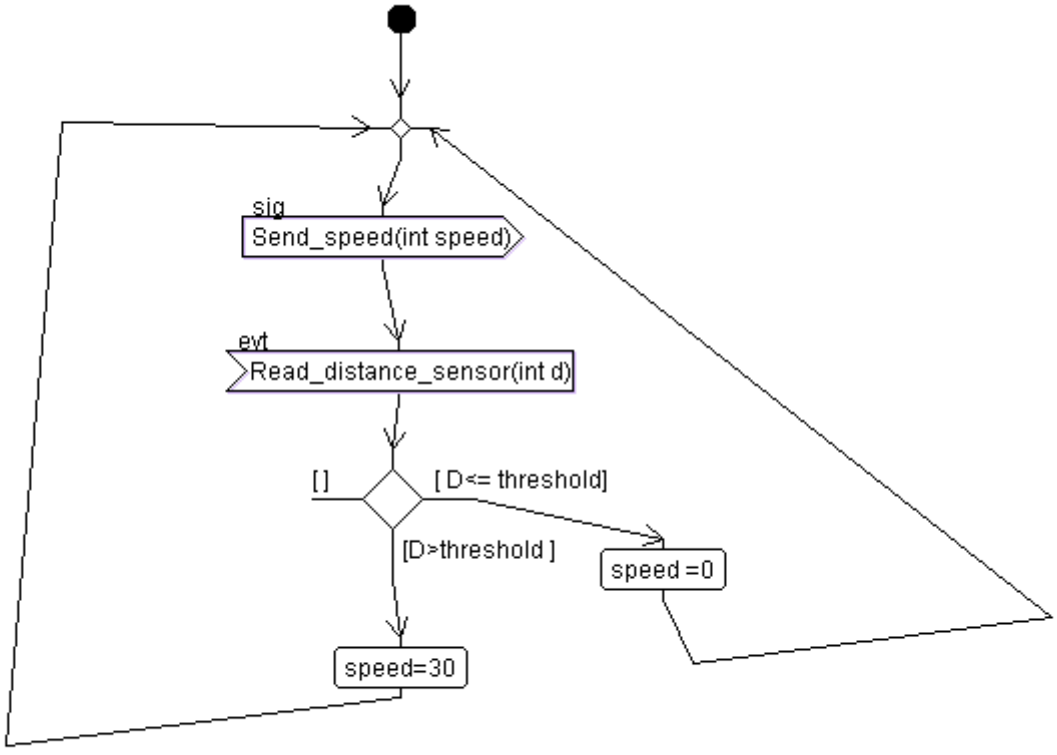
4-space Exploration

5- system analysis

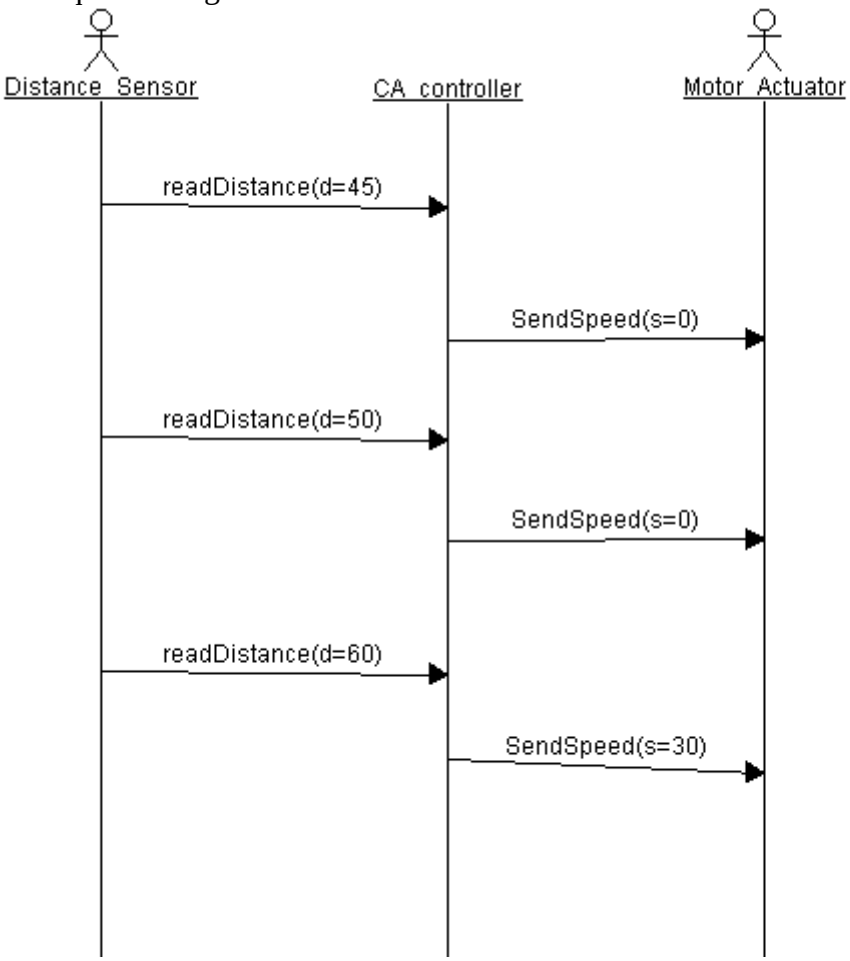
1. USE CASE Diagram



2. Activity diagram

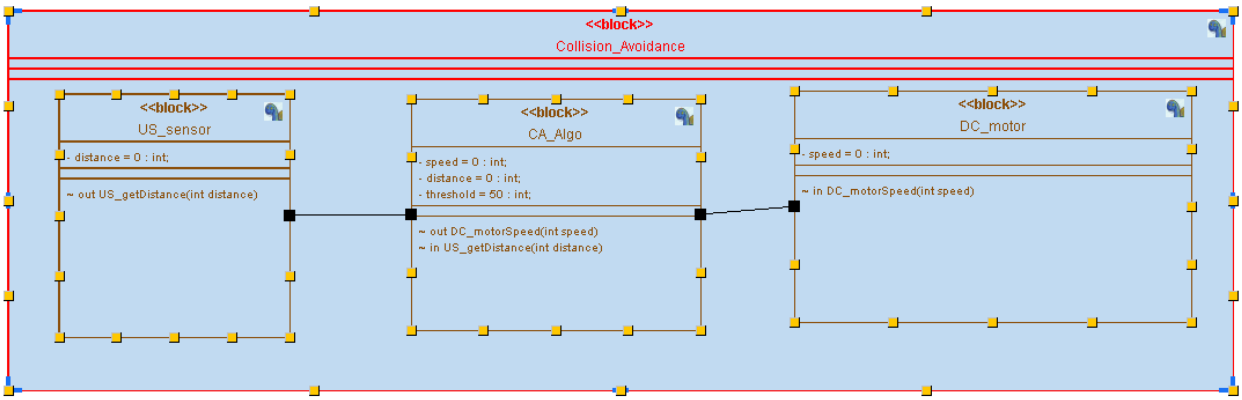


3. Sequence diagram

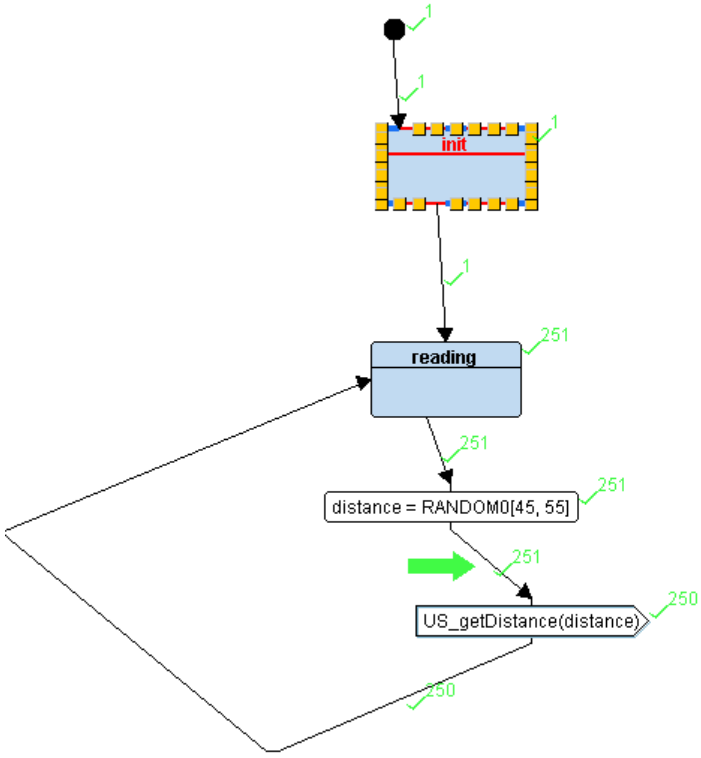


6- system design

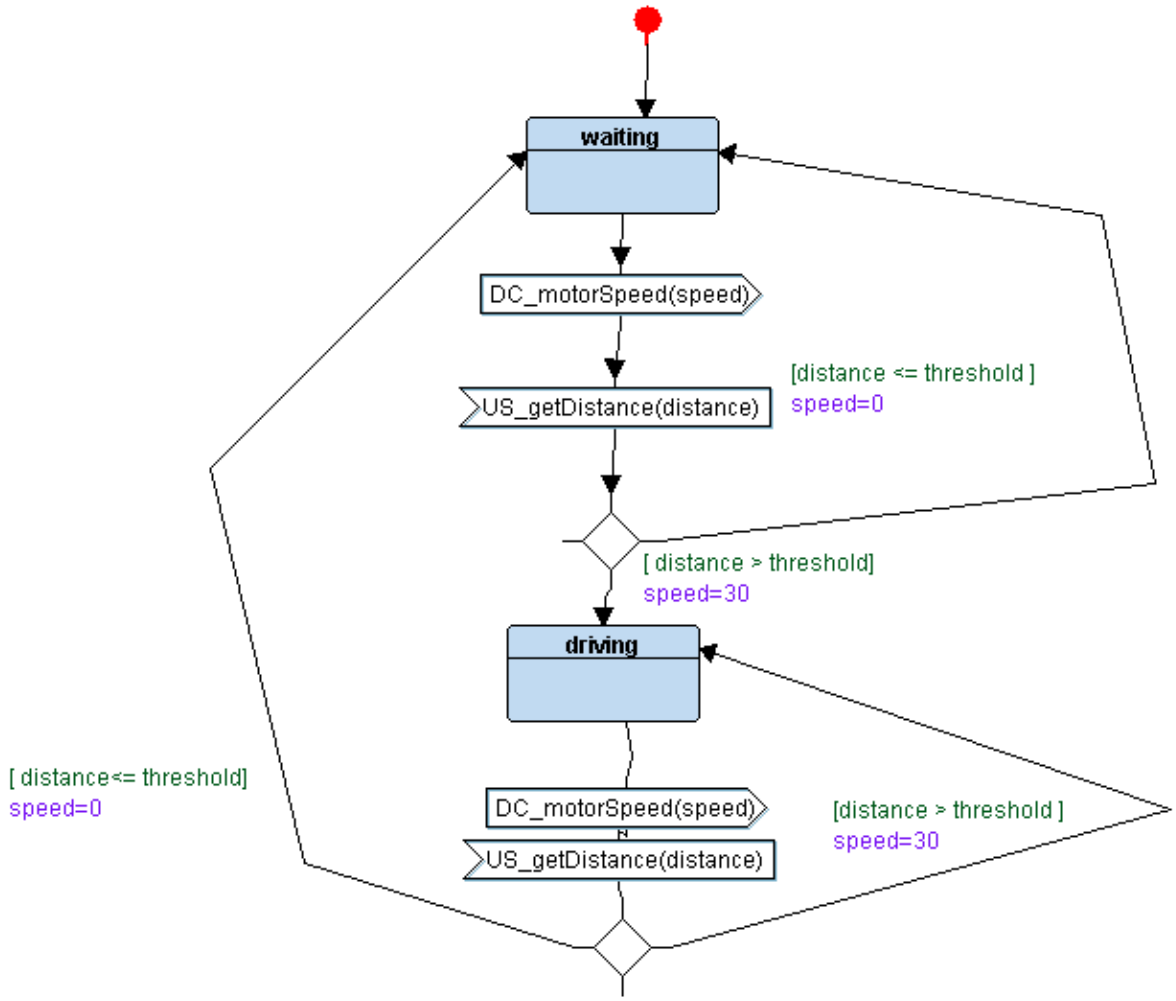
- Block diagram



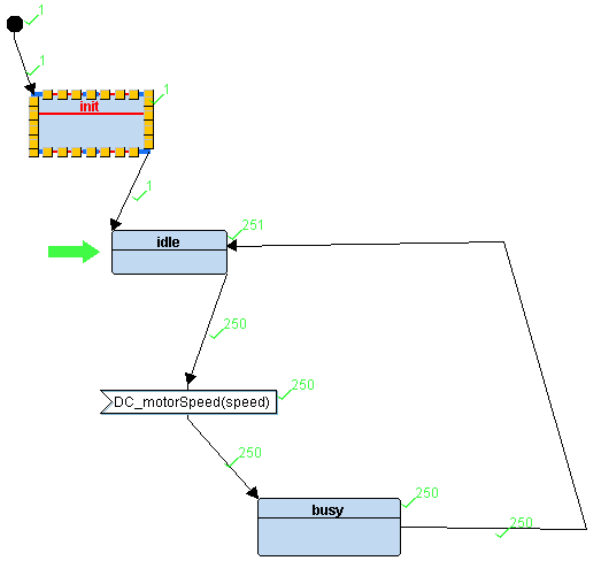
- **US_sensor** State diagram



- **CA_ALGORITHM** State diagram



- **DC MOTOR state diagram**



- **Simulation trace**