Report Project

COLLISION_AVOIDANCE

NAME: AMR AHMED

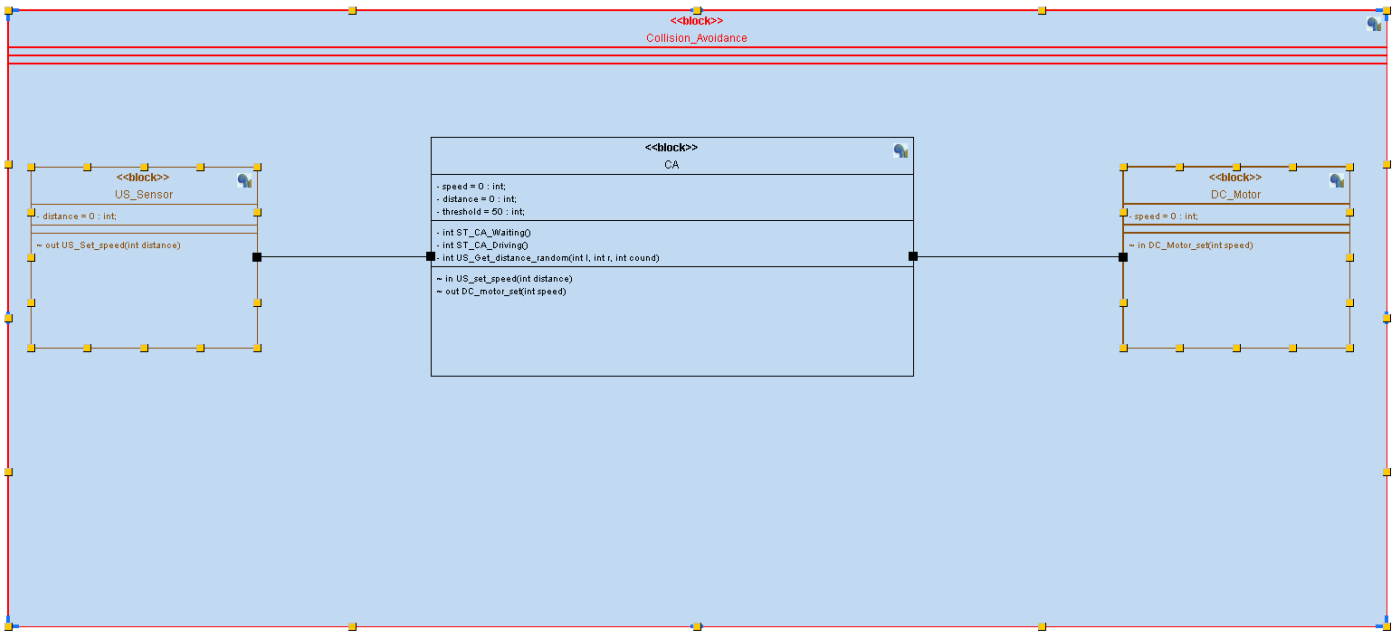
UNIT: 4

LESSON: 2

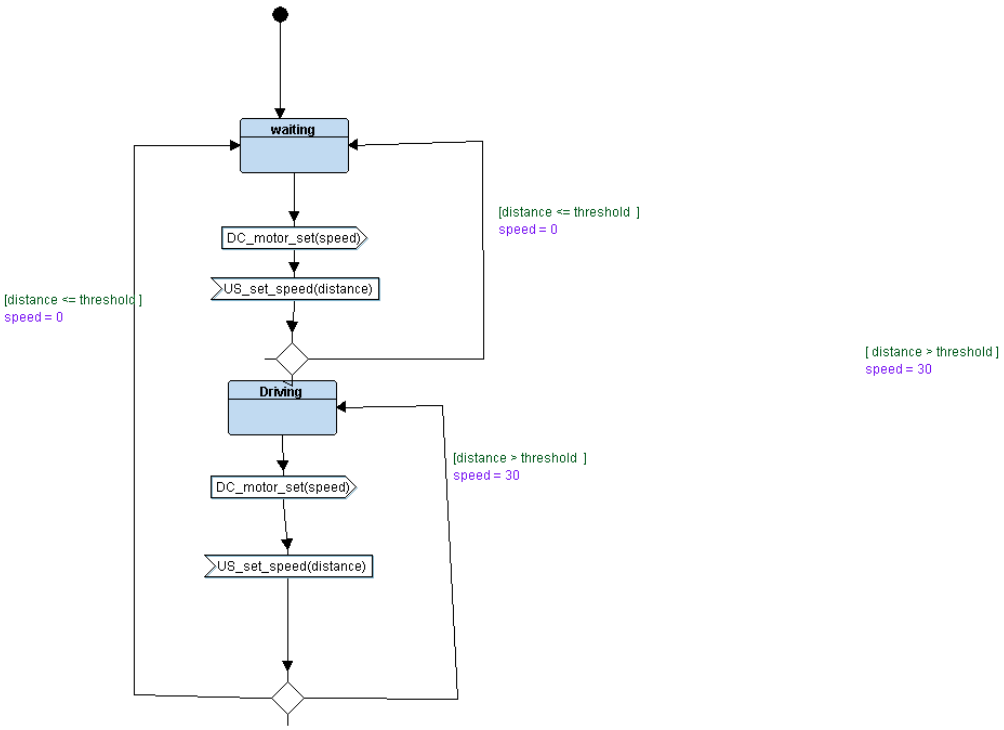
CASE STUDY

A Robot is moving in a room without specific direction and avoids any obstacles using Ultrasonic sensor

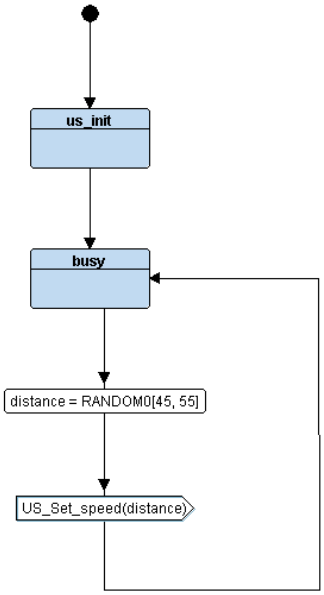
SYSTEM DIAGRAM



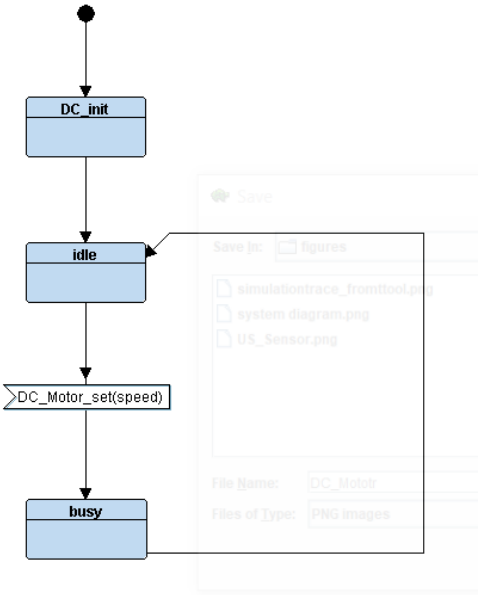
CA:



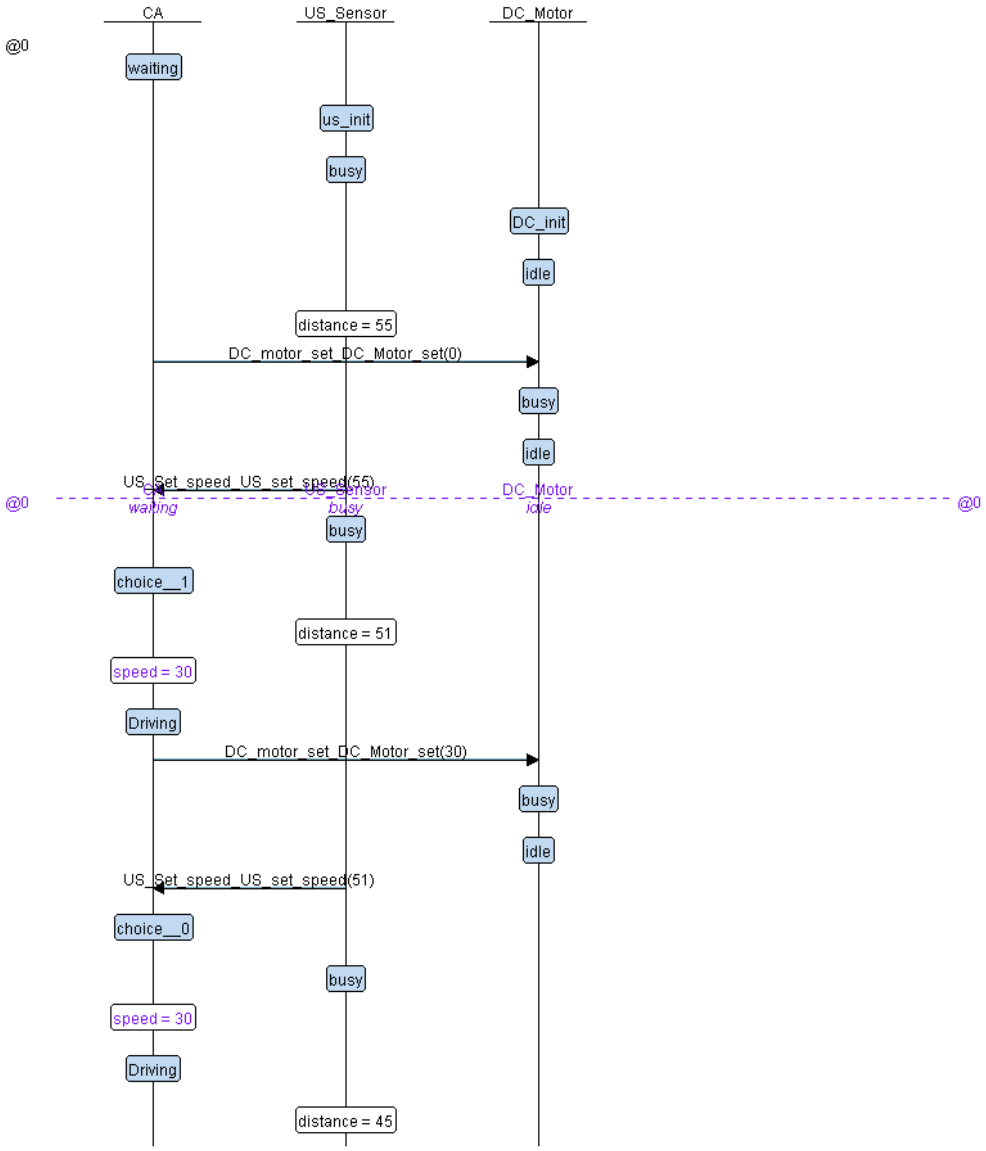
US_SENSOR



DC_MOTOR



SEQUENCE DIAGRAM



RESULT SIMULATOIN

```
US_Waiting State: distance =51
US--------distance = 51------> CA
CA_driving State: distance = 51 speed= 0
CA--------Speed = 30------> DC
DC_busy State: speed=30
US_Waiting State: distance =47
US--------distance = 47------> CA
CA_Waiting State: distance =47 speed=30
CA--------Speed = 0------> DC
DC_busy State: speed=0
US_Waiting State: distance =45
US--------distance = 45------> CA
CA_Waiting State: distance =45 speed=0
CA--------Speed = 0------> DC
DC_busy State: speed=0
US_Waiting State: distance =47
US--------distance = 47------> CA
CA_Waiting State: distance =47 speed=0
CA--------Speed = 0------> DC
DC_busy State: speed=0
US_Waiting State: distance =49
US--------distance = 49------> CA
CA_Waiting State: distance =49 speed=0
CA--------Speed = 0------> DC
DC_busy State: speed=0
US_Waiting State: distance -55
US--------distance = 55------> CA
CA_driving State: distance = 55 speed= 0
CA--------Speed = 30------> DC
DC_busy State: speed=30
US_Waiting State: distance =55
US--------distance = 55------> CA
CA_driving State: distance = 55 speed= 30
CA--------Speed = 30------> DC
DC_busy State: speed=30
US_Waiting State: distance =48
US--------distance = 48------> CA
CA_Waiting State: distance =48 speed=30
```