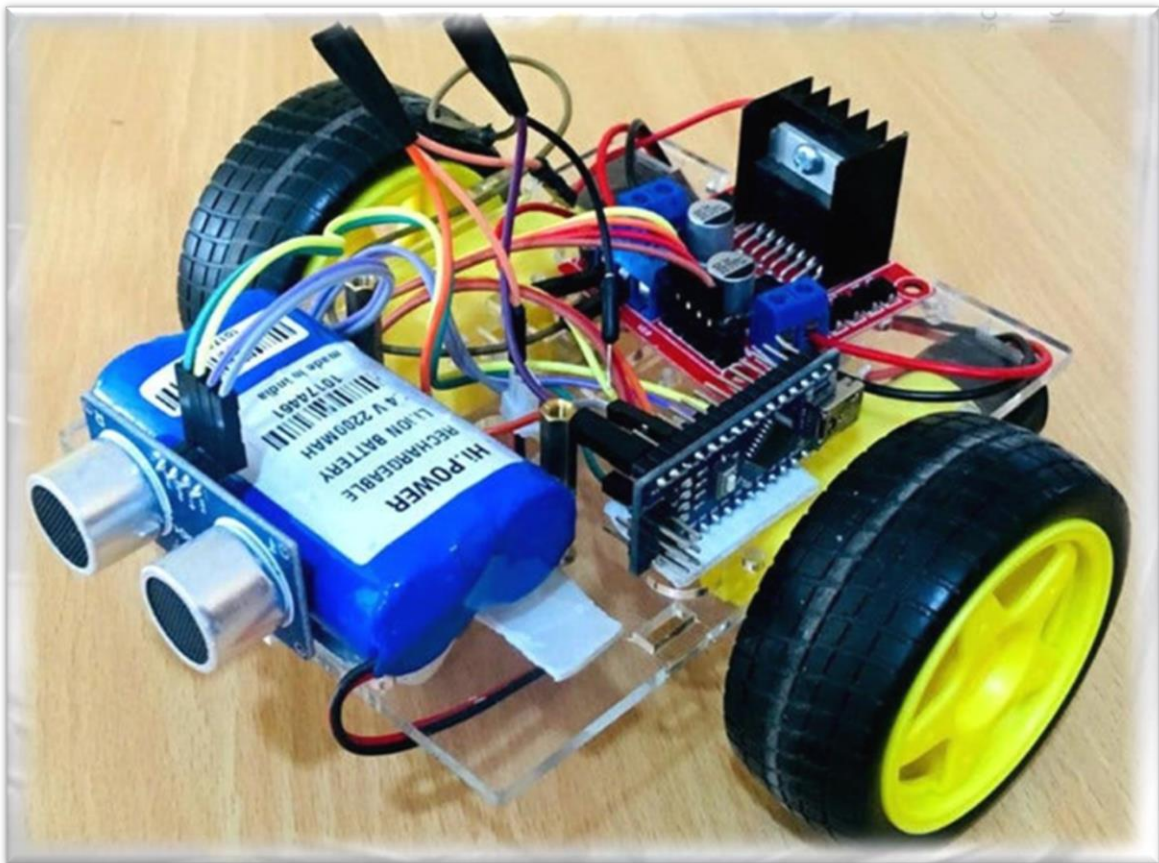


Ultrasonic Obstacle-avoiding Robot Report



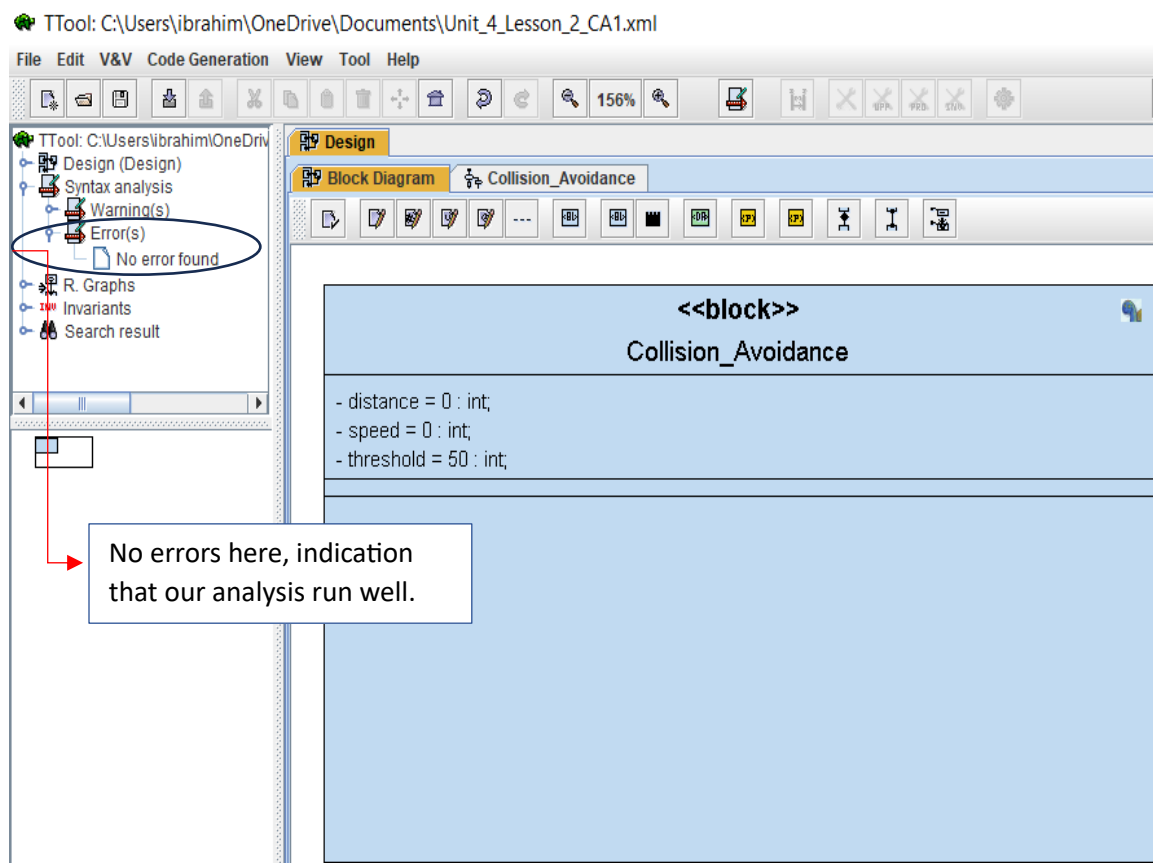
By: Ibrahim Abo Elhassan
Mastering Embedded system

Description of project

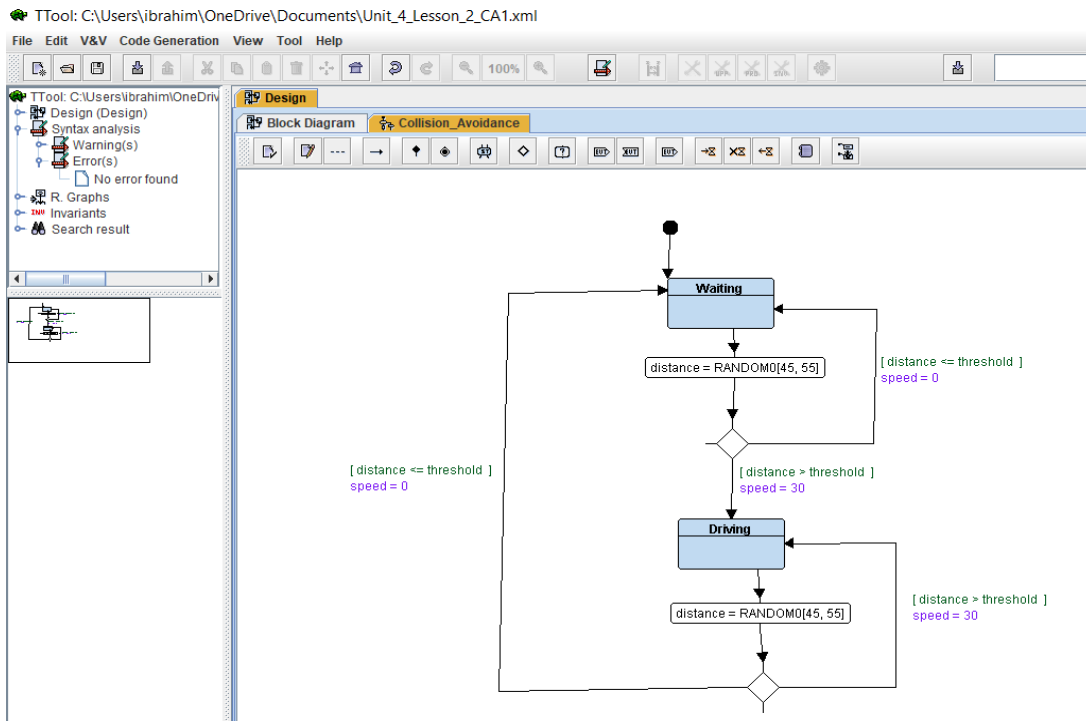
- ✓ The purpose of the project is to make a system design and write code for Ultrasonic Obstacle-avoiding Robot report. This sensor will measure the distance between robot and Obstacle if it larger than 50 cm the robot continues in driving if not it will stop.

Single Module

- 1) Block diagram of system.



2) State machine



3) Result of implementation of c.

```
<terminated> (exit value: -1) Collision_Avoidance_v1.exe [C/C++ Application]
CA_Waiting State: distance = 46 Speed = 0
CA_Waiting State: distance = 50 Speed = 0
CA_Waiting State: distance = 47 Speed = 0
CA_Waiting State: distance = 47 Speed = 0
CA_Waiting State: distance = 53 Speed = 0
CA_Driving State: distance = 46 Speed = 30
CA_Waiting State: distance = 46 Speed = 0
CA_Waiting State: distance = 47 Speed = 0
CA_Waiting State: distance = 49 Speed = 0
CA_Waiting State: distance = 50 Speed = 0
CA_Waiting State: distance = 49 Speed = 0
CA_Waiting State: distance = 55 Speed = 0
CA_Driving State: distance = 47 Speed = 30
CA_Waiting State: distance = 50 Speed = 0
CA_Waiting State: distance = 55 Speed = 0
CA_Driving State: distance = 46 Speed = 30
CA_Waiting State: distance = 49 Speed = 0
CA_Waiting State: distance = 47 Speed = 0
CA_Waiting State: distance = 54 Speed = 0
CA_Driving State: distance = 47 Speed = 30
CA_Waiting State: distance = 50 Speed = 0
CA_Waiting State: distance = 49 Speed = 0
CA_Waiting State: distance = 52 Speed = 0
CA_Driving State: distance = 55 Speed = 30
CA_Driving State: distance = 53 Speed = 30
CA_Driving State: distance = 48 Speed = 30
CA_Waiting State: distance = 48 Speed = 0
CA_Waiting State: distance = 52 Speed = 0
CA_Driving State: distance = 54 Speed = 30
CA_Driving State: distance = 45 Speed = 30
CA_Waiting State: distance = 54 Speed = 0
CA_Driving State: distance = 55 Speed = 30
CA_Driving State: distance = 55 Speed = 30
CA_Driving State: distance = 55 Speed = 30
CA_Driving State: distance = 51 Speed = 30
CA_Driving State: distance = 55 Speed = 30
```

4) Simulation on Ttool.

