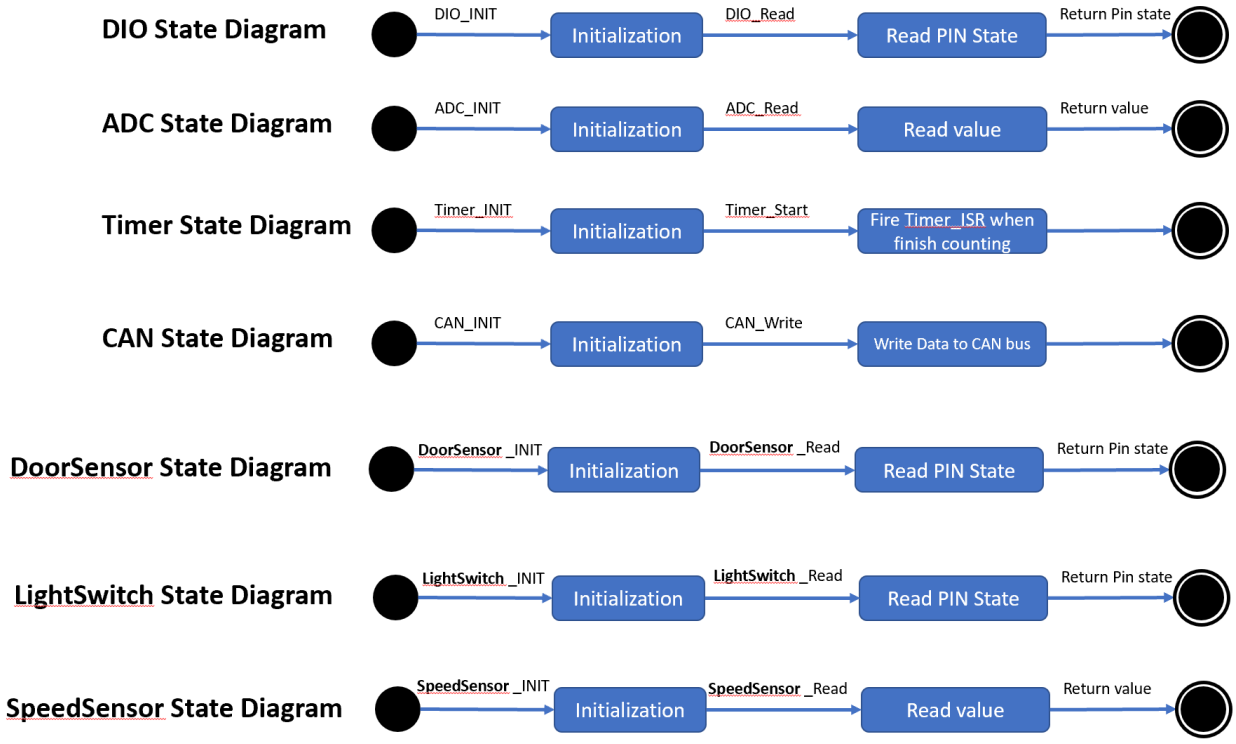
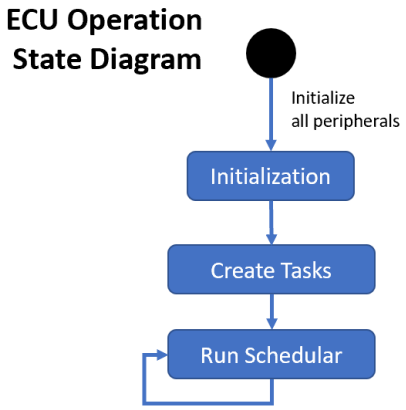
Dynamic Design Analysis

ECU\:

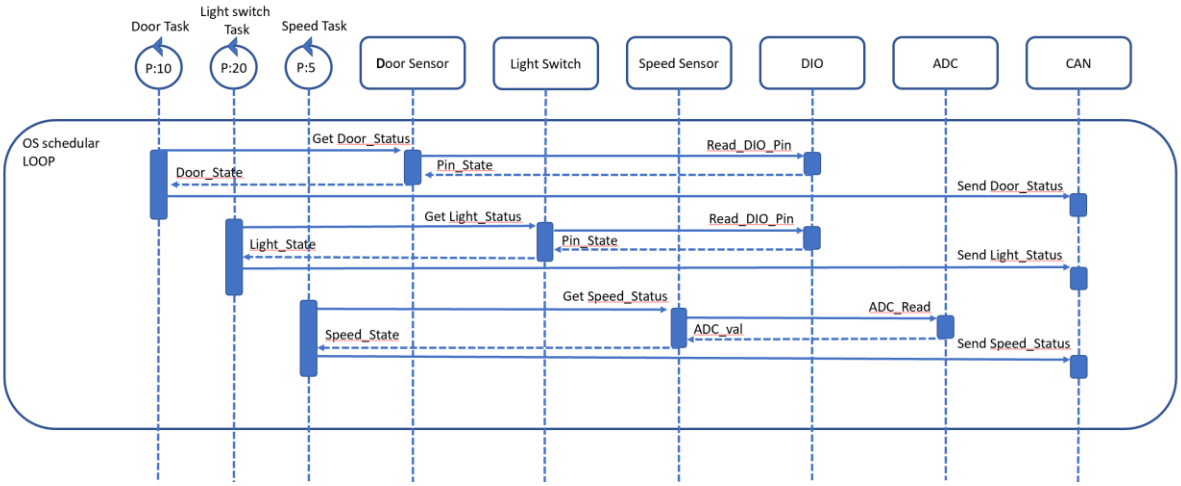
state machine diagram for each ECU component



state machine diagram for the ECU operation



Sequence Diagram For ECU1:



CPU Load for ECU1

D{P:10,E:1.2,D:10} ; L{P:20,E:1.2,D:20} ;S{P:5,E:3,D:5}

Hyper period:20

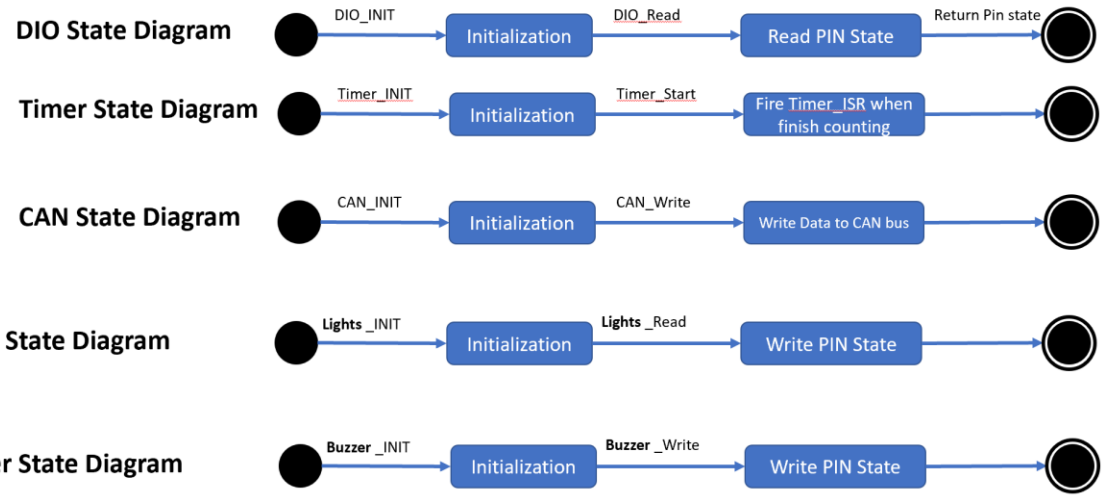
U=(E1+E2+E3)/H

*U=((1.2*2)+(1.2)+(4*4))/20*

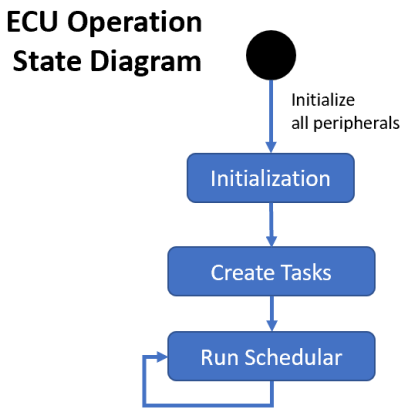
U=15.6/20=0.78 (78%)

ECU٢:

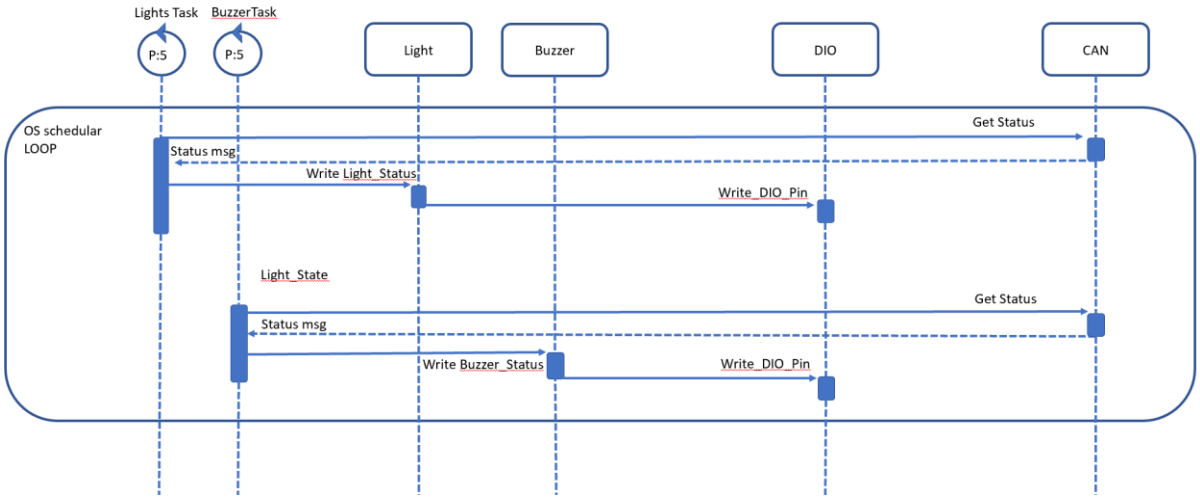
state machine diagram for each ECU component



state machine diagram for the ECU operation



Sequence Diagram For ECU2:



CPU Load for ECU2

B{P:5,E:1.2,D:5} ; L{P:5,E:1.2,D:5}

Hyper period:5

U=(E1+E2)/H

U=(1.2+1.2)/5

U=2.4/5=0.48 (48%)