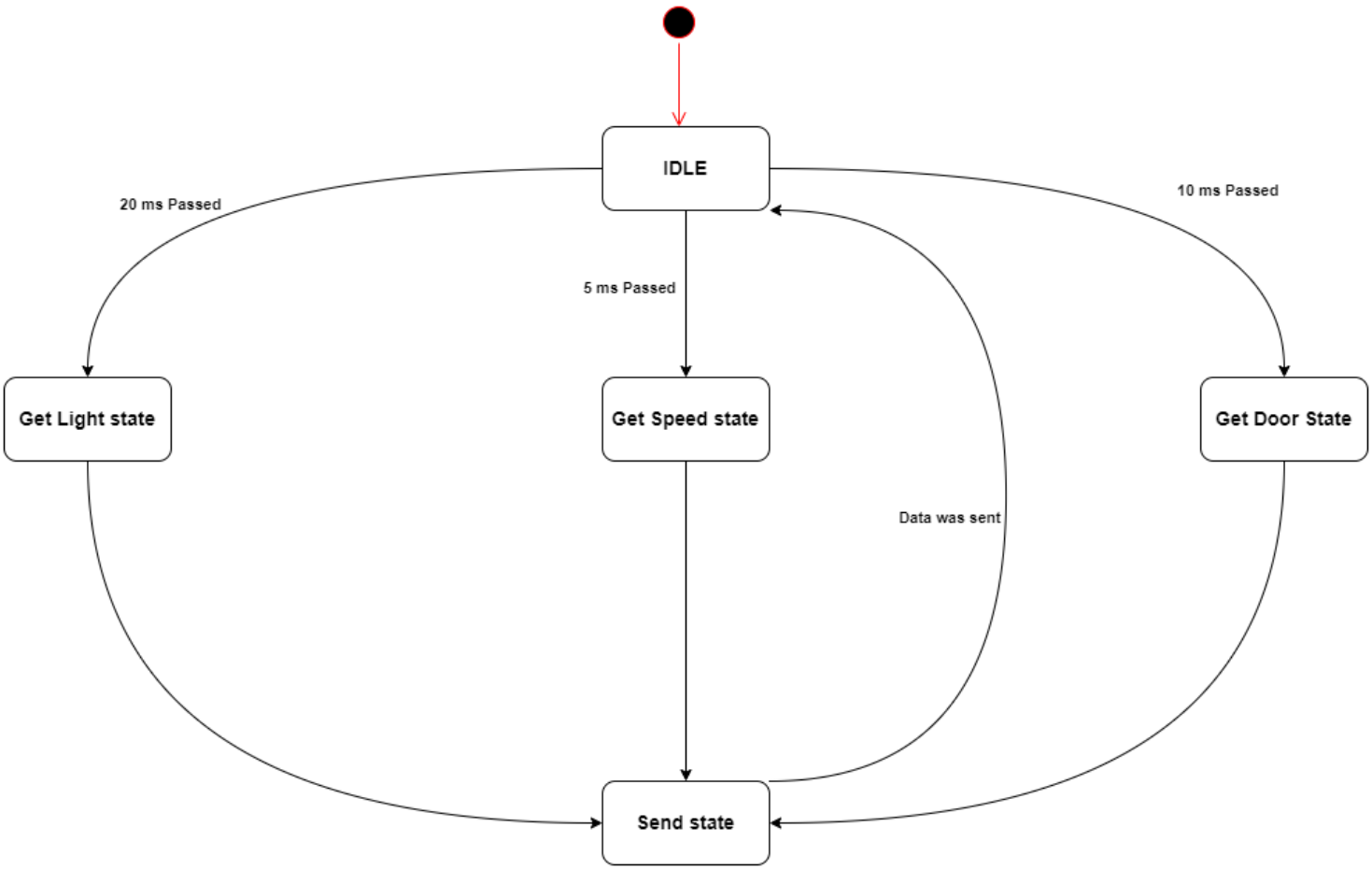
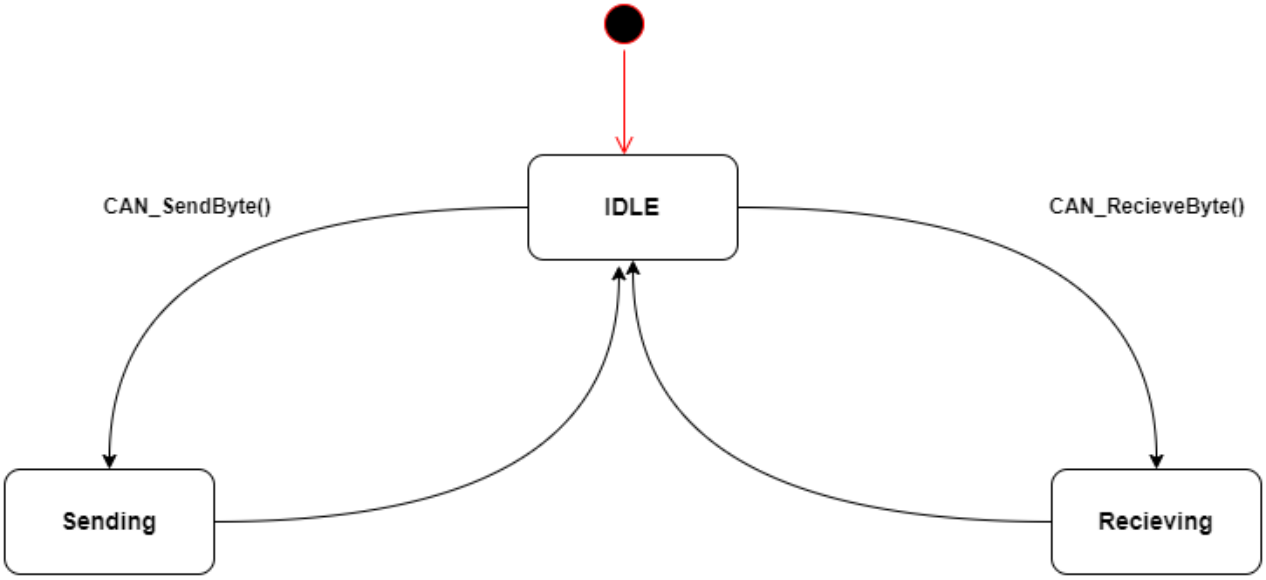
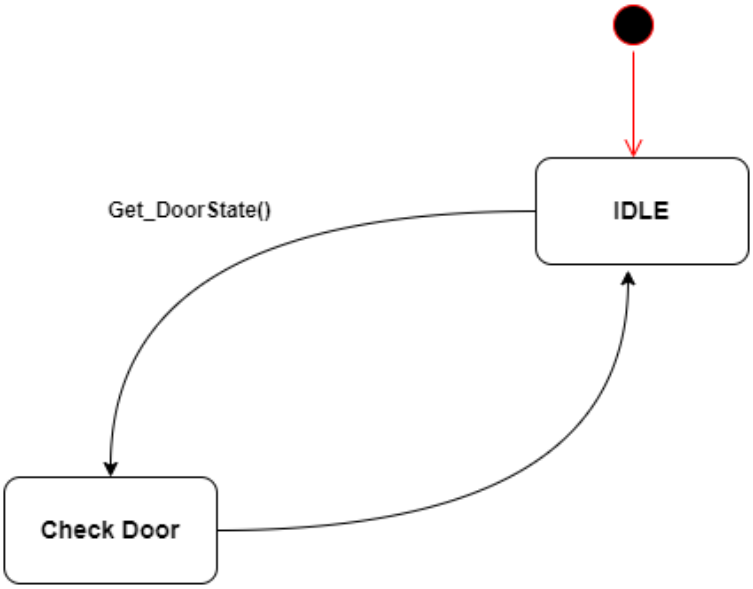
ECU 1


IDLE
20 ms Passed
10 ms Passed
5 ms Passed
Get Light state
Get Speed state
Get Door State
Data was sent
Send state

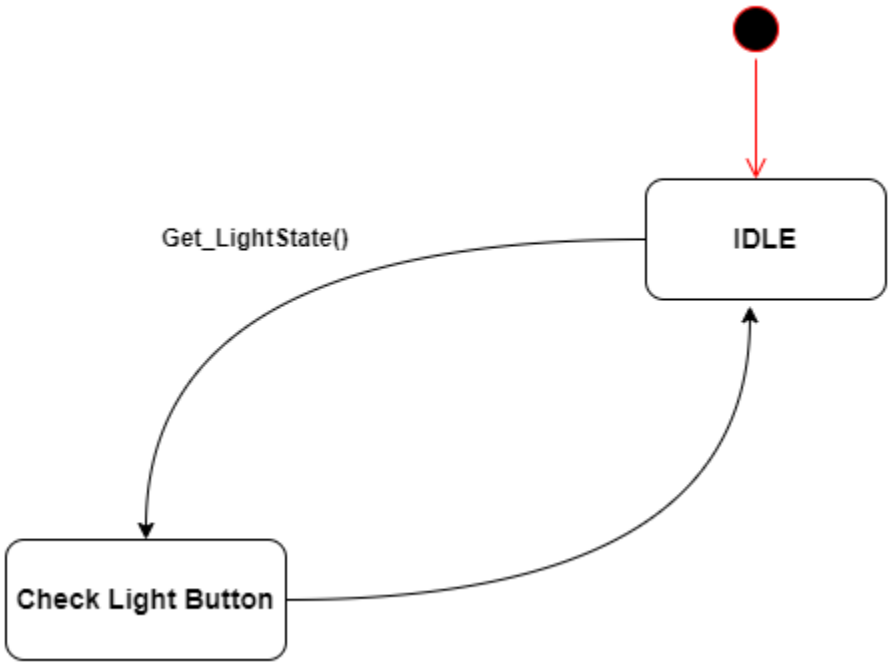
CAN



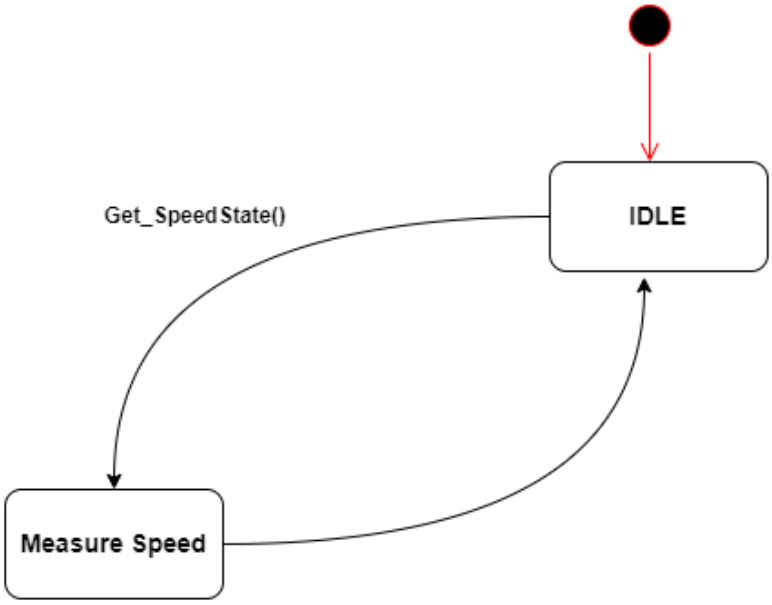
Door Sensor



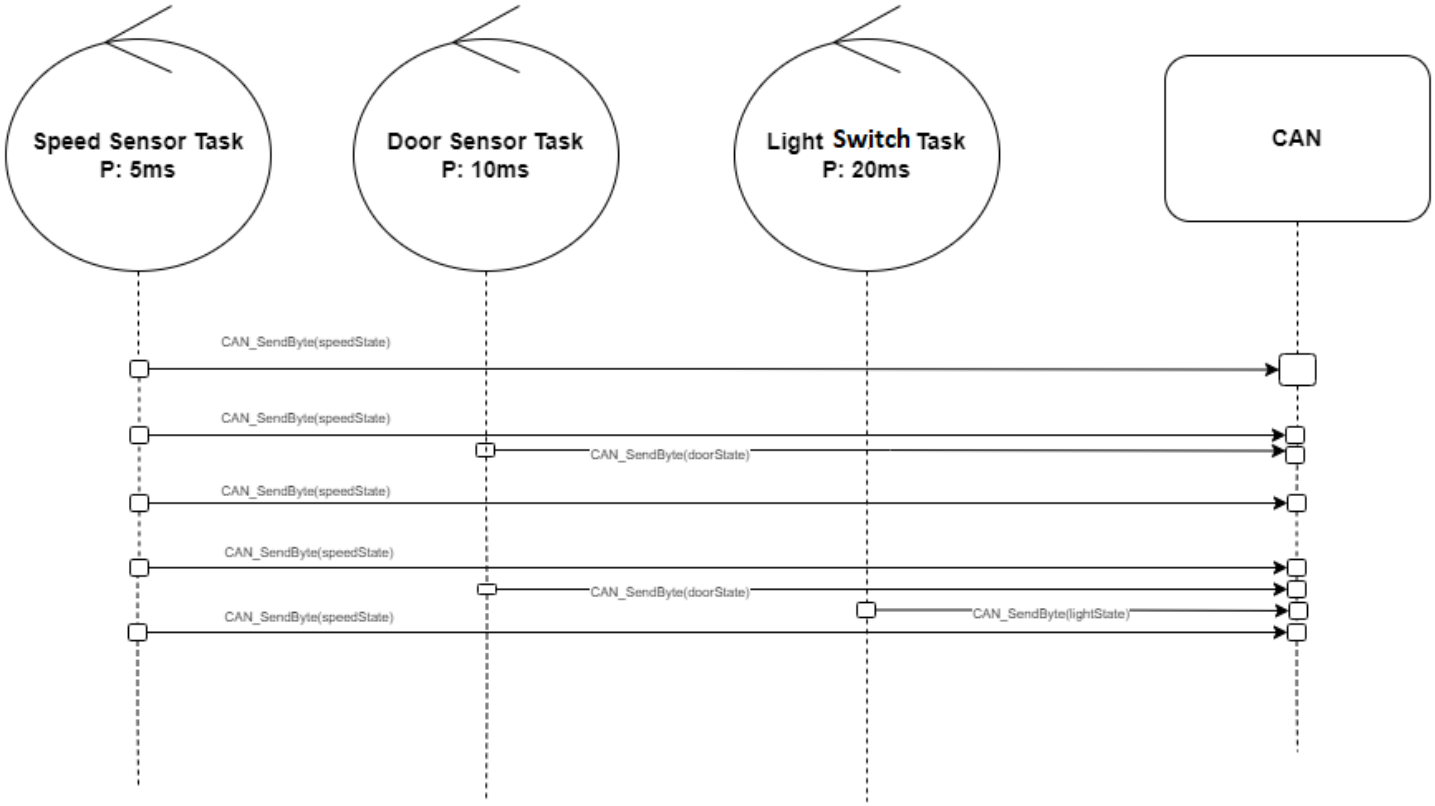
Light Switch



Speed Sensor



Sequence Diagram



Assuming:

Speed sensor task is 10us and P: 5 ms

Door sensor task is 10us and P: 10 ms

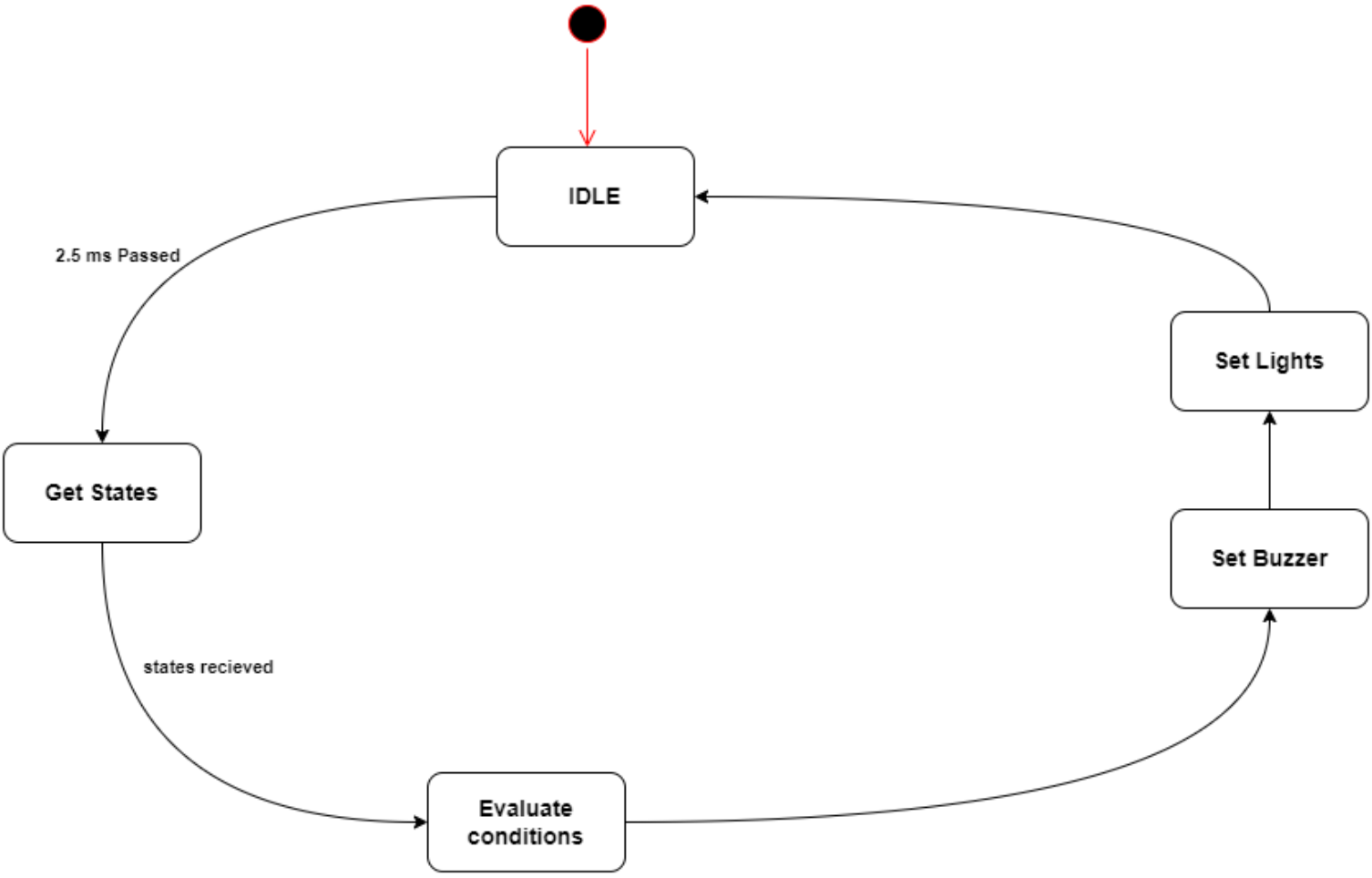
Light switch task is 8us and P: 20 ms

Hyper Period = 20 ms

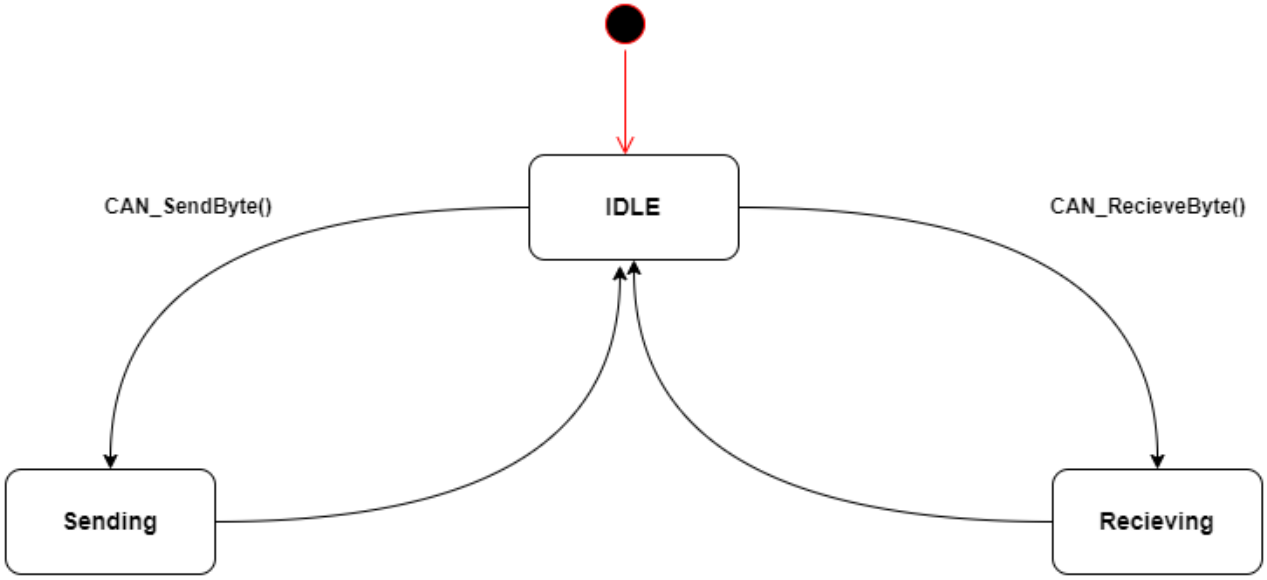
CPU Load = ((0.01x3) + (0.01x2) + 0.08) / 20 = 0.65%

System is not loaded at all … <1%

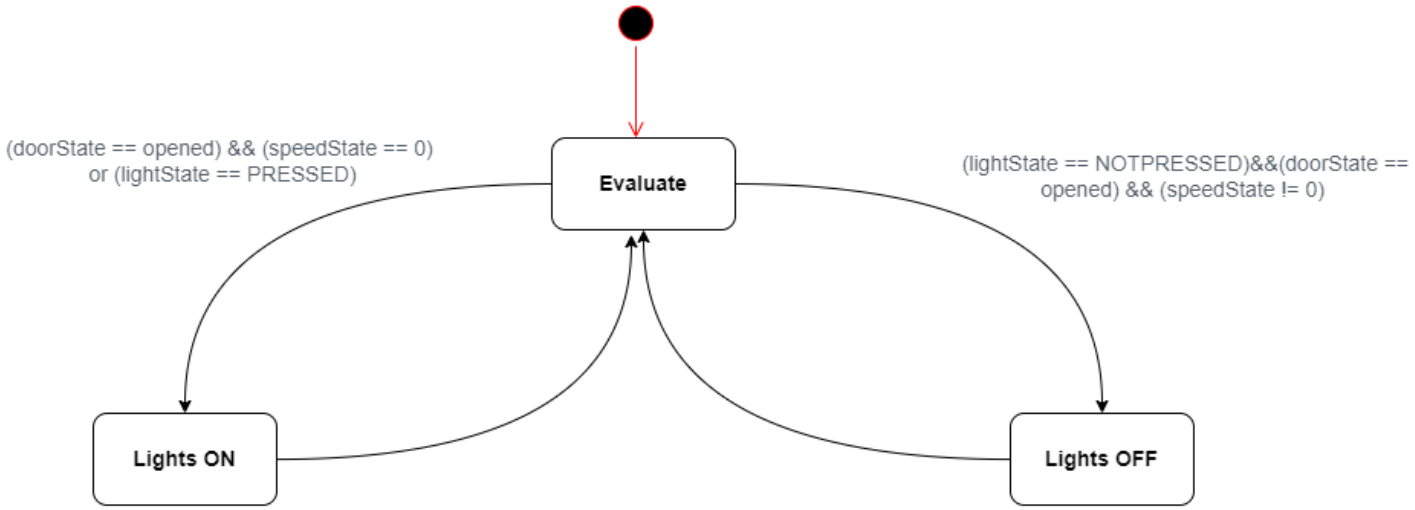
ECU 2


IDLE
2.5 ms Passed
Get States
states recieved
Evaluate conditions
Set Buzzer
Set Lights

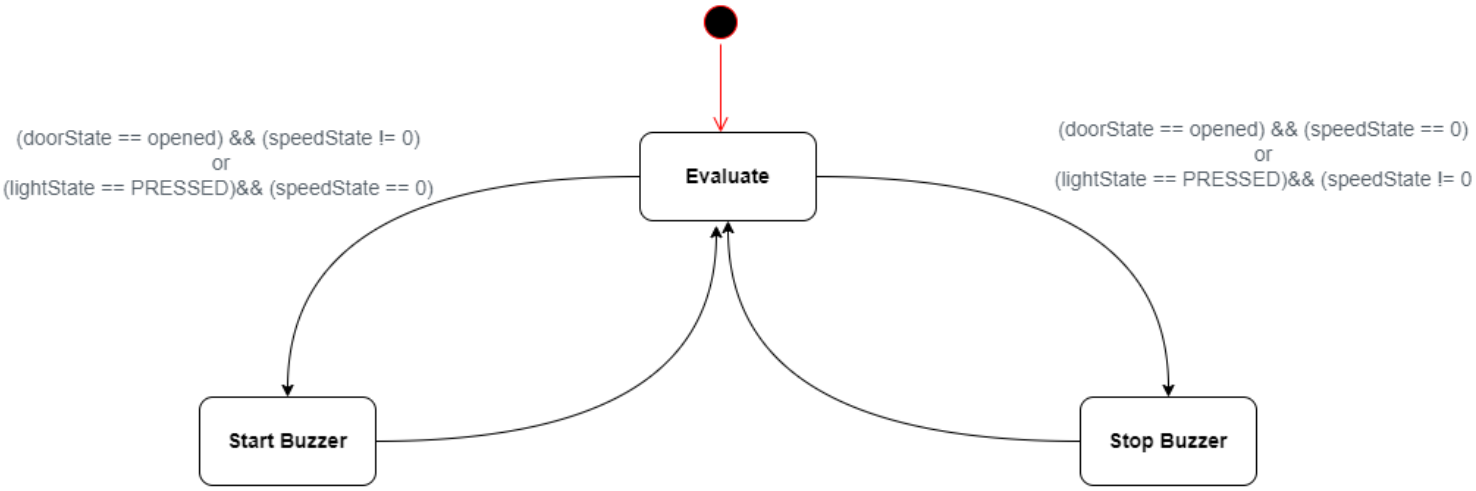
CAN



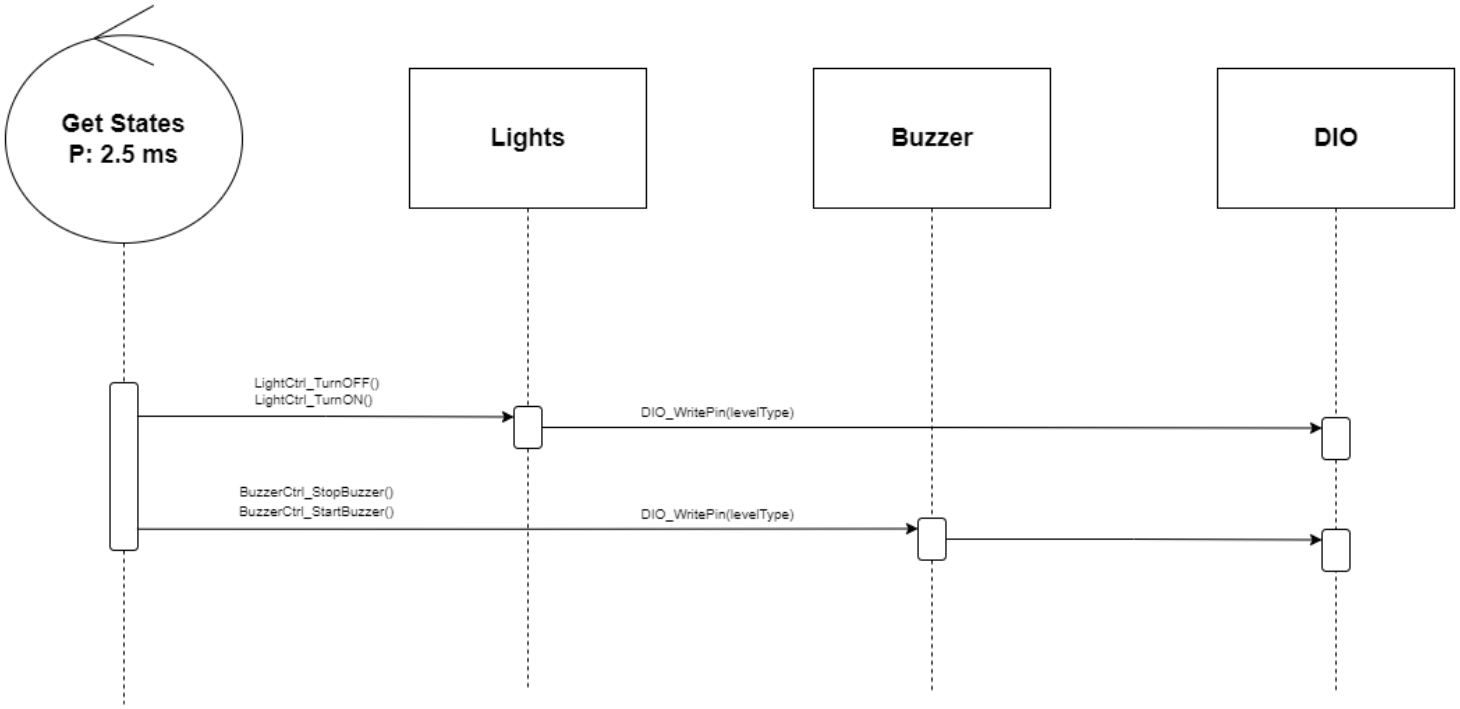
Light Control



Buzzer Control



Sequence Diagram



Assuming get states task execution time is 20us and P is 2.5ms therefore CPU load = 0.8%, system not loaded … <1%