Dynamic Design

ECU1 :

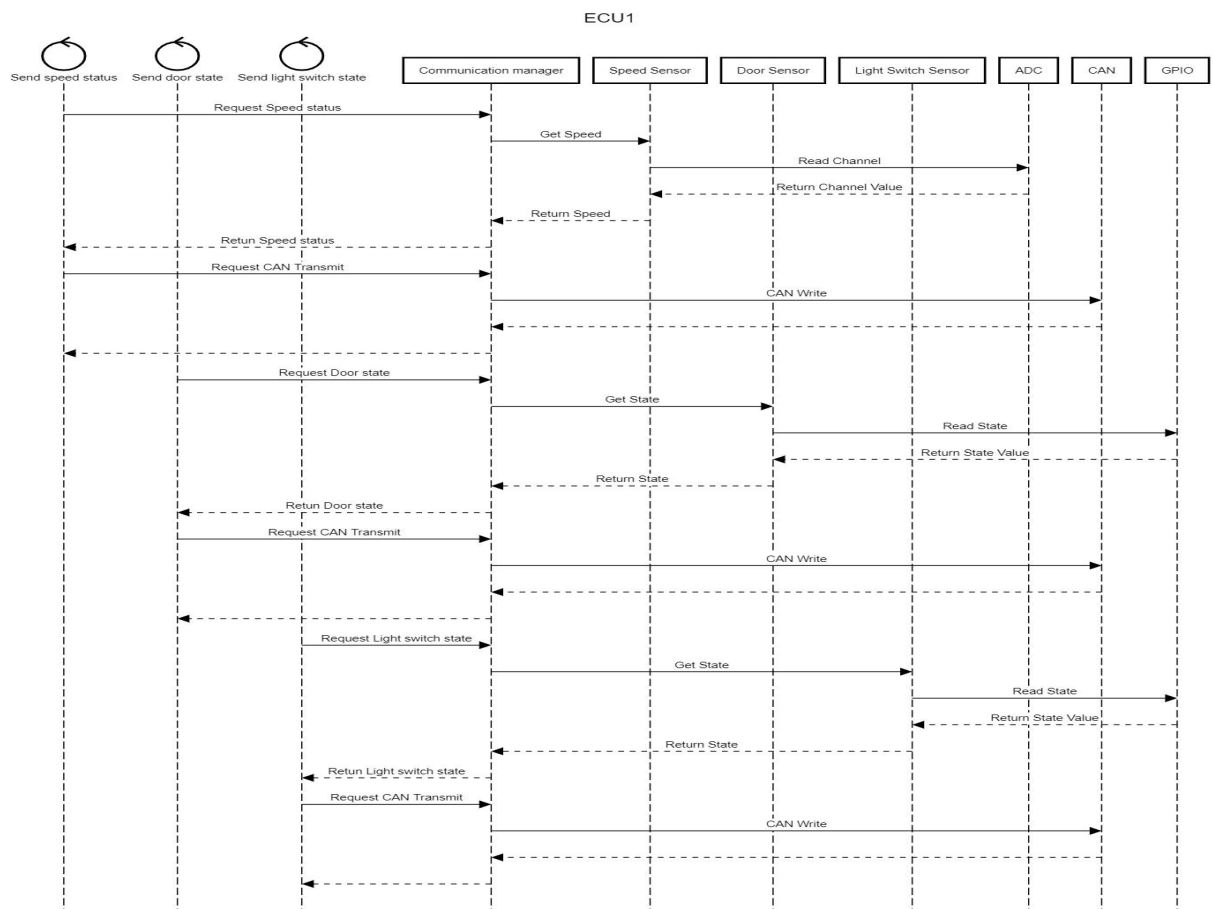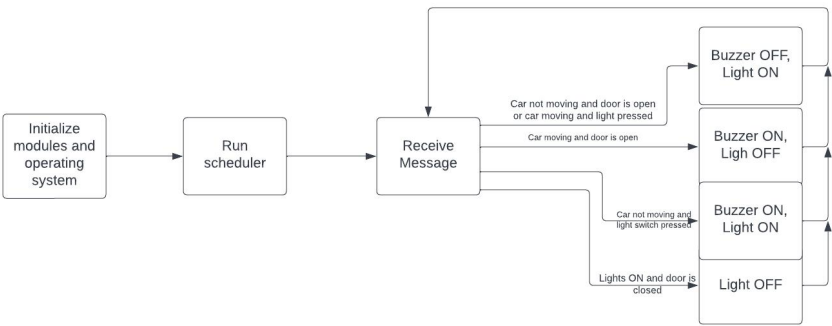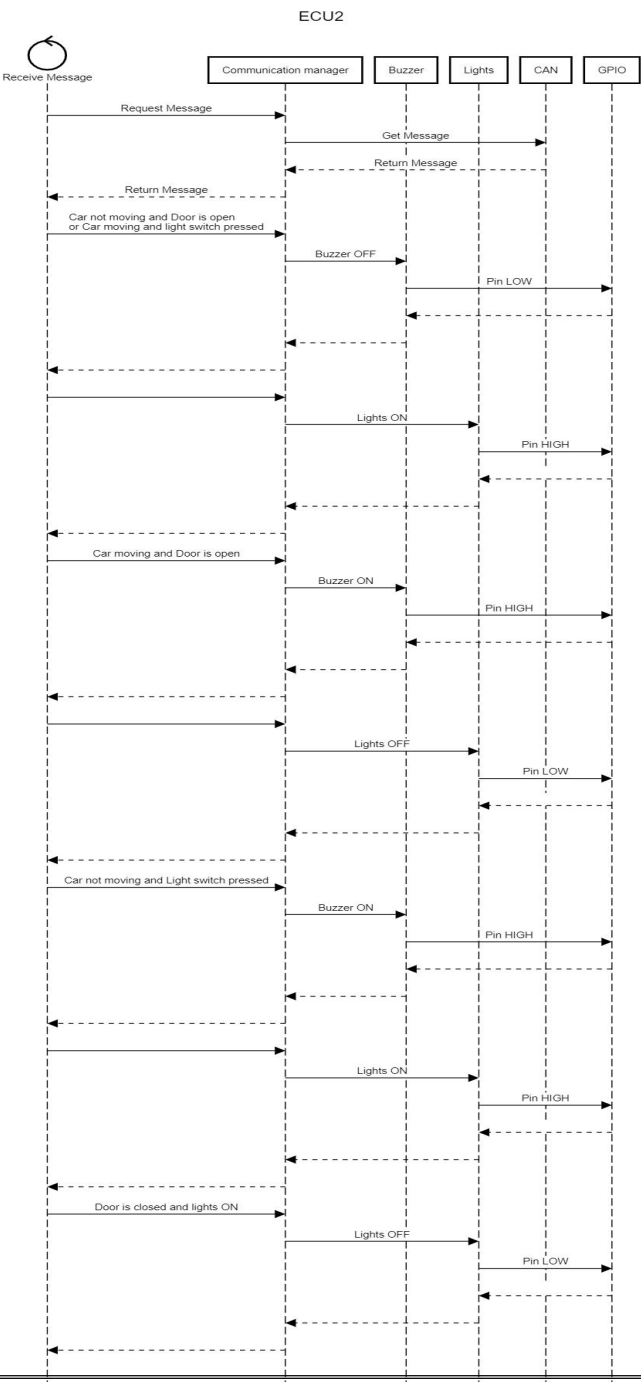## State Machine:
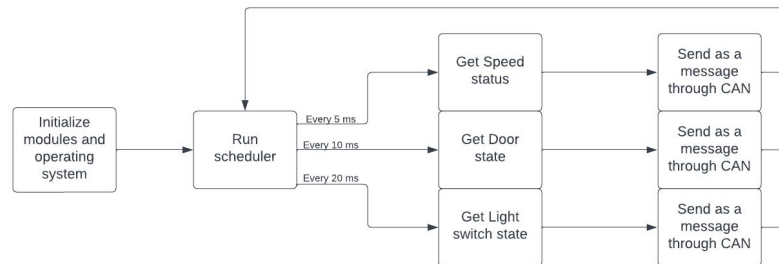
Sequence Diagram:

ECU 2:
State machine:

Sequence Diagram:

CPU Load:

ECU 1:

This ECU has 3 periodic tasks, we can estimate the execution time by 100 us for each task.

Therefore, CPU Load = $\dfrac{100\mu s*1 + 100\mu s*2 + 100\mu s*4}{20ms} = 3.5\%$

ECU2:

ECU 2 has only one periodic task which is receiving messages, the execution time can be estimated to 100 us.

Therefore, CPU Load = $\dfrac{100\mu s*1}{5ms} = 2\%$