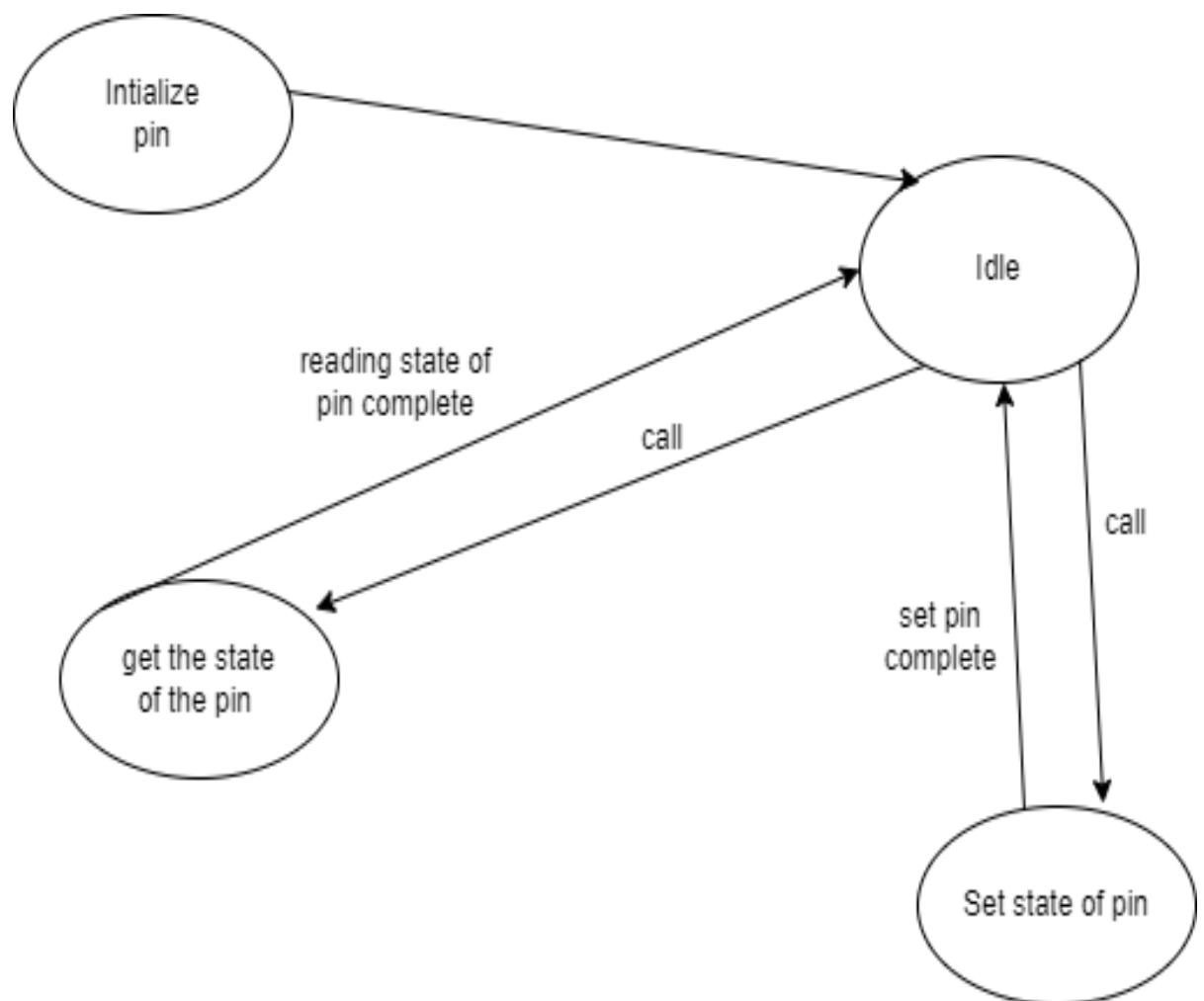


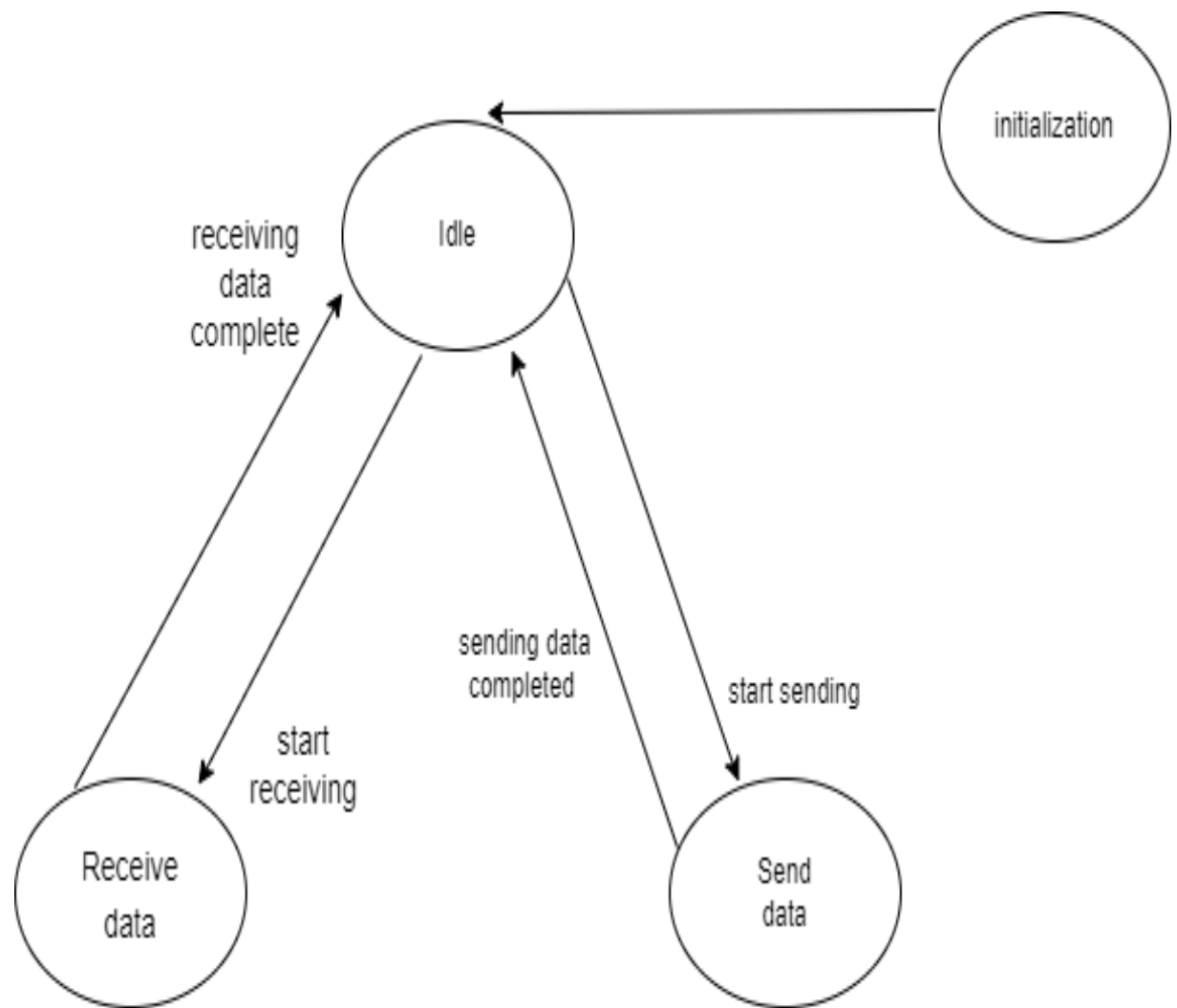
# **ECU2 Dynamic Design**

**Ammar Hassan Abdelhakim**

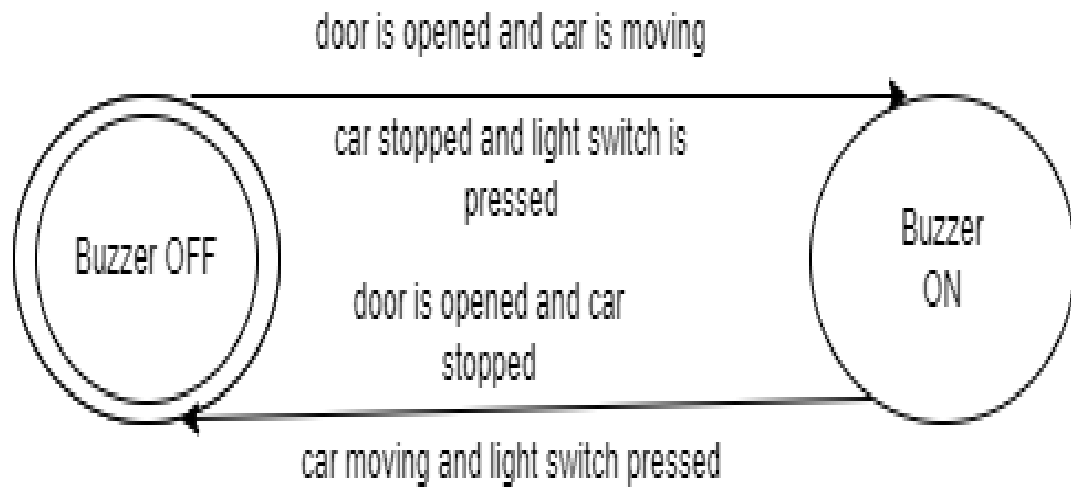
- **Components State Machine**
  - **DIO State Machine**



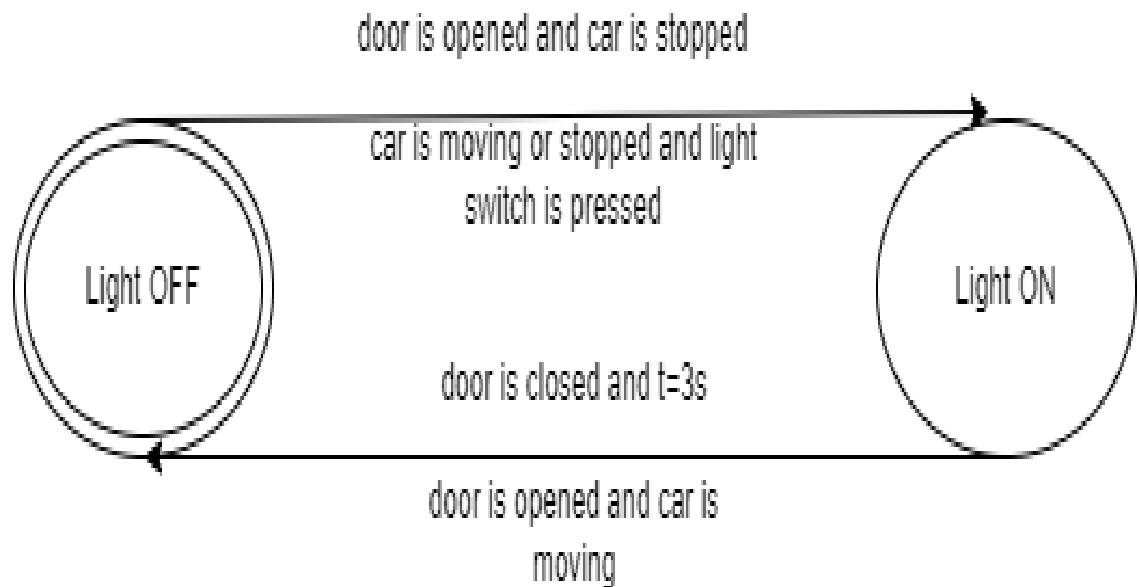
- **CAN State Machine**



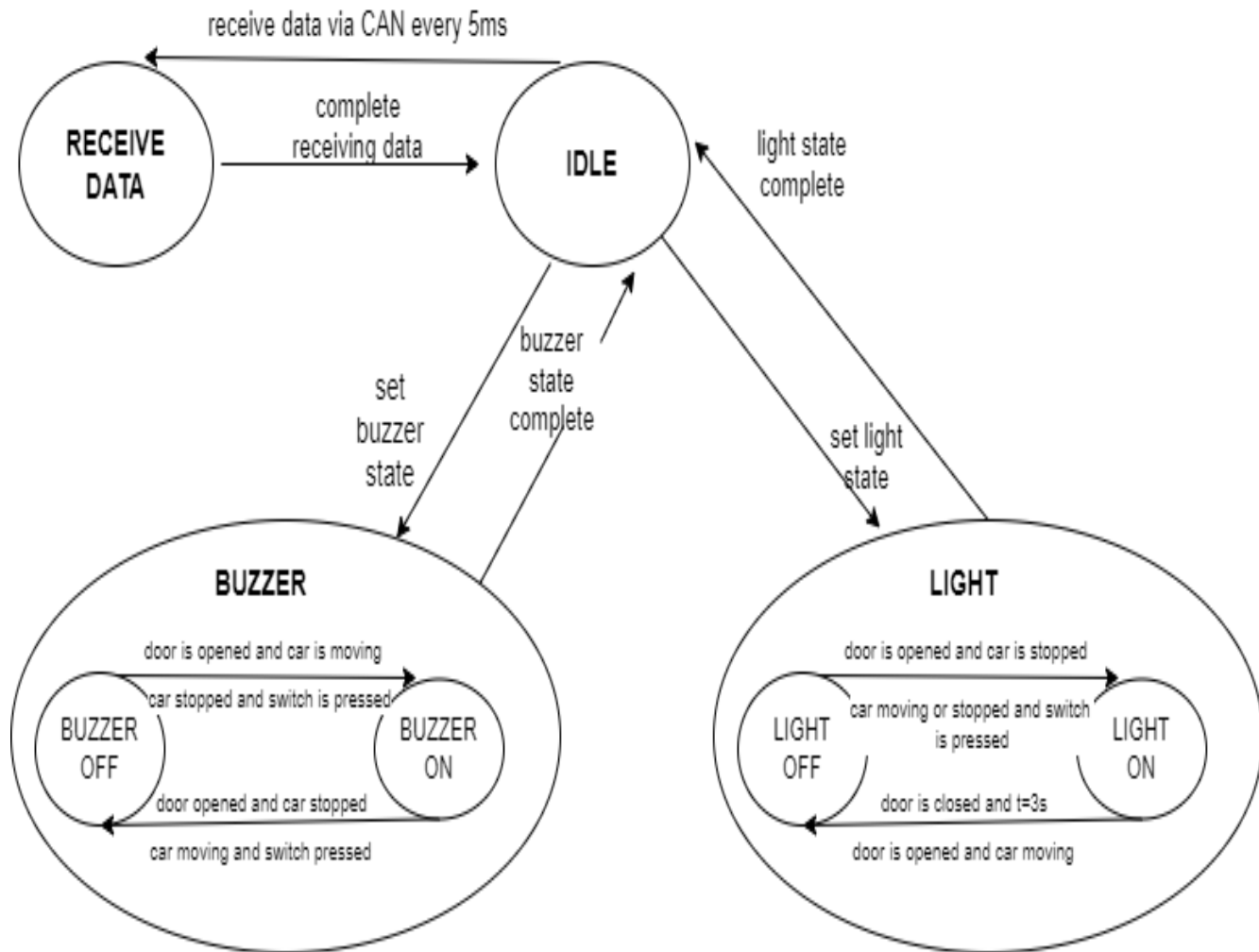
- **Buzzer State Machine**



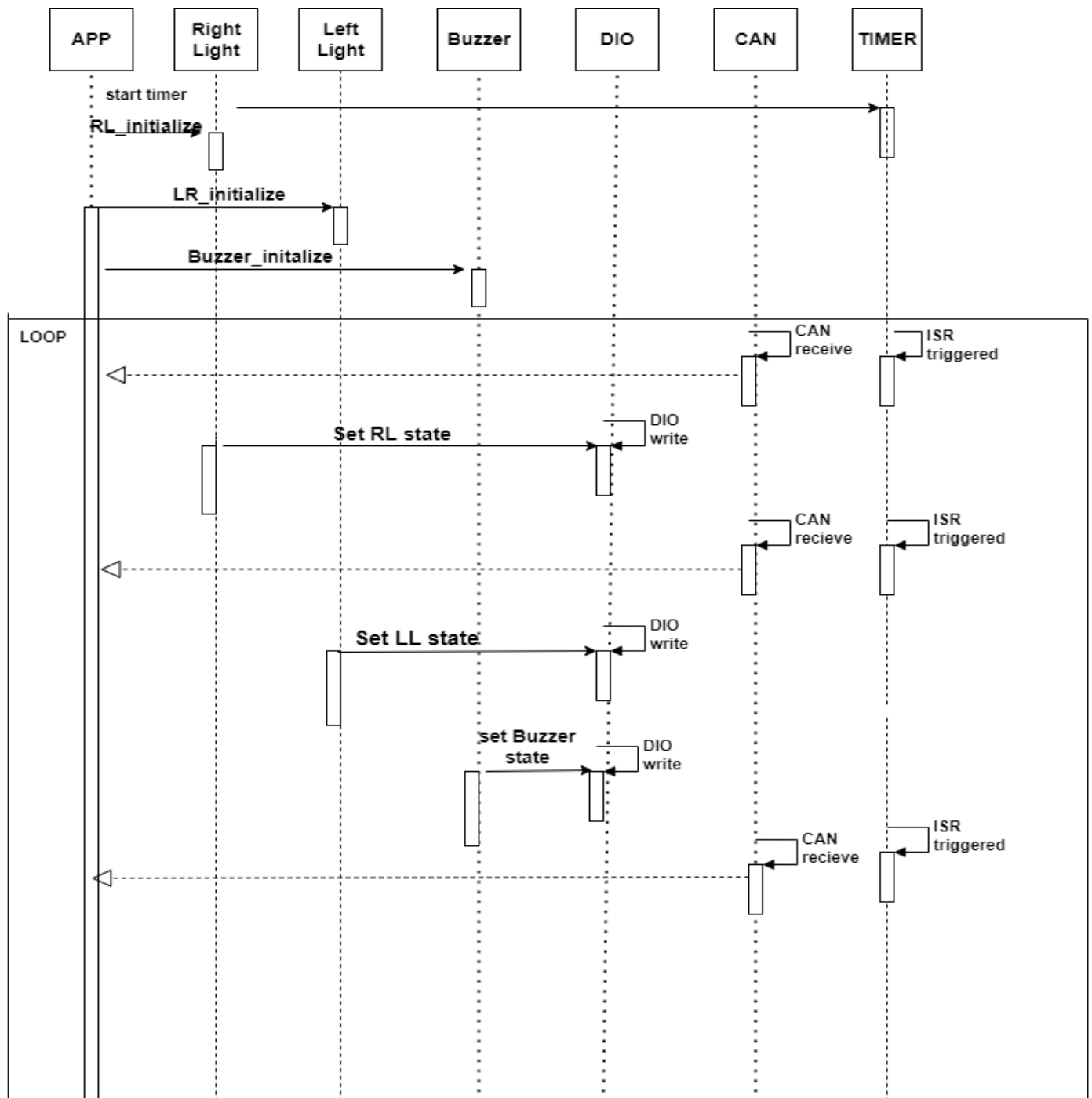
- **Light State Machine**



- ECU2 State Machine



- ECU2 Sequence Diagram



- **ECU2 CPU LOAD**

- Assuming execution time for each task is 1ms

$$cpu_{load} = \frac{\sum task\_execution\_time}{hyperperiod}$$

$$hyperperiod = LCM(tasks' periods) = 5ms$$

Task	Execution_time	Number of exec
Receive task	1ms	1

$$cpu_{load} = \frac{1}{5} = 20\%$$