

Ministry of Communications  
and Information Technology



UDACITY

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Topic: **Automotive Door Control System Design**

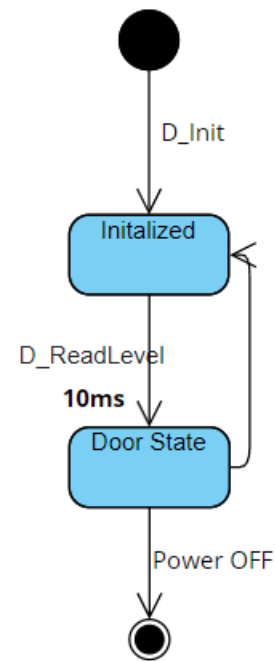
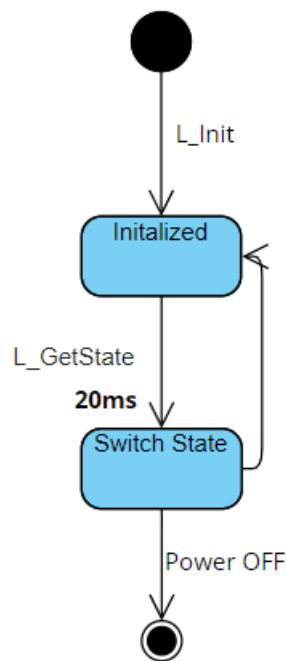
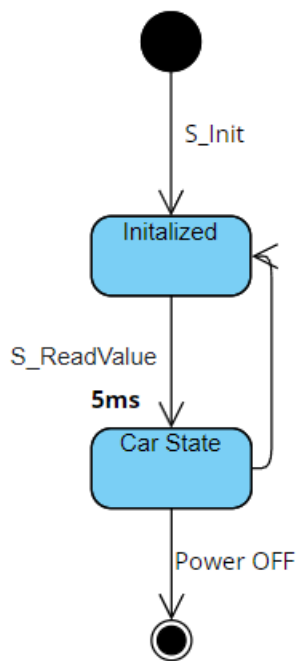
## 1. ECU 1

### a. State Machine diagram for each ECU component

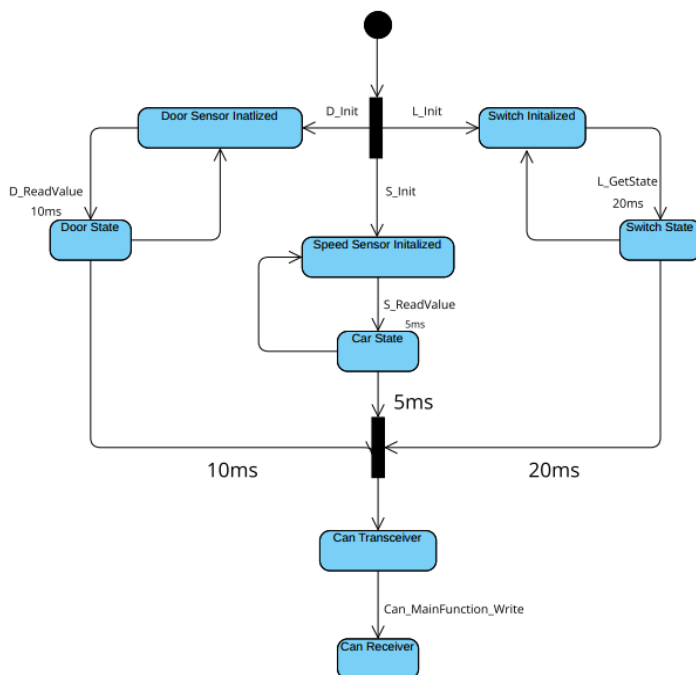
1. Speed Sensor

2. Light Switch

3. Door Sensor



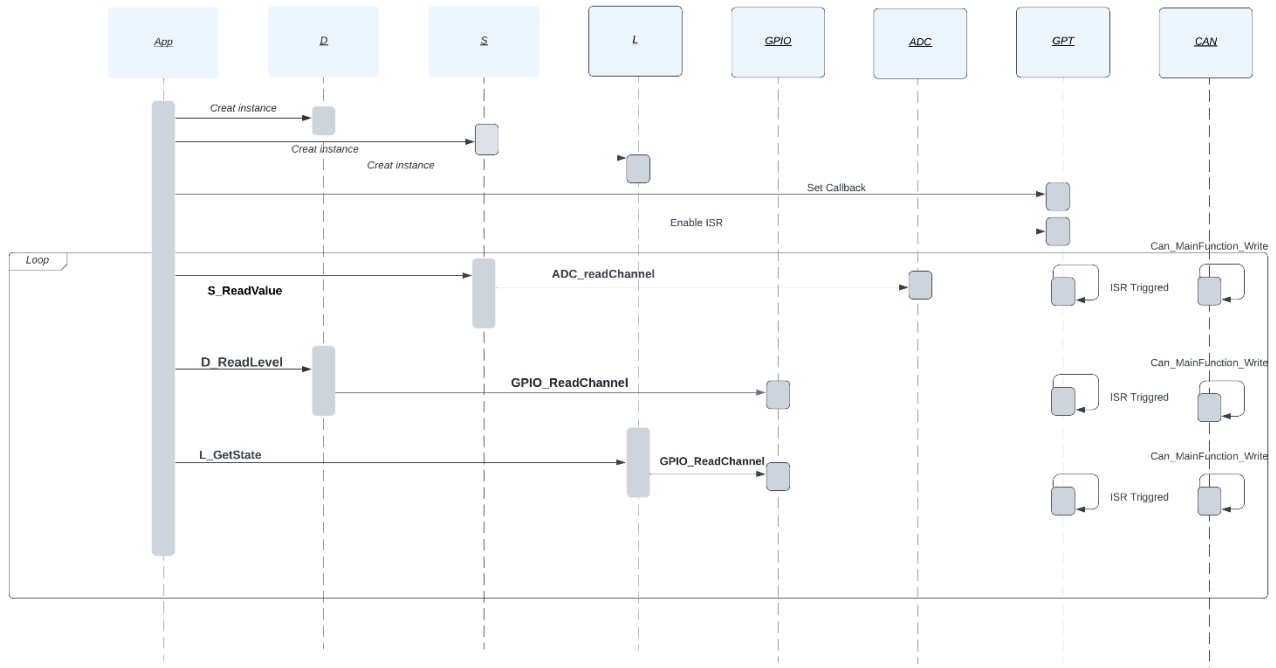
### b. State Machine diagram for the ECU operation



### c. Sequence diagram for the ECU

#### Sequence diagram

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### d. CPU Load

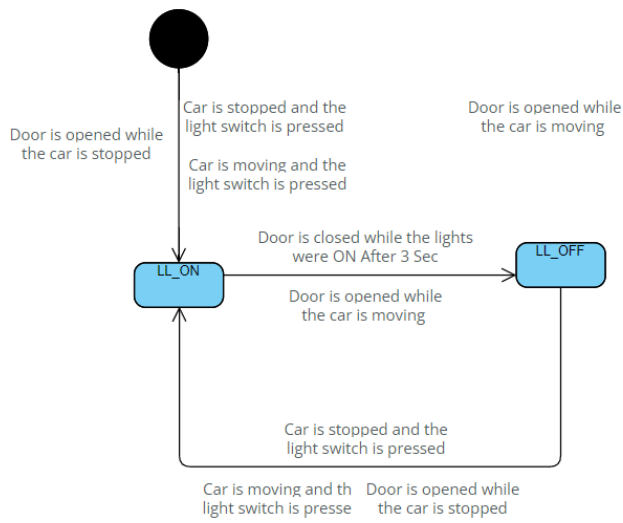
CPU Utilization = 100 - idle time = 100 - 65

CPU Utilization = 35%

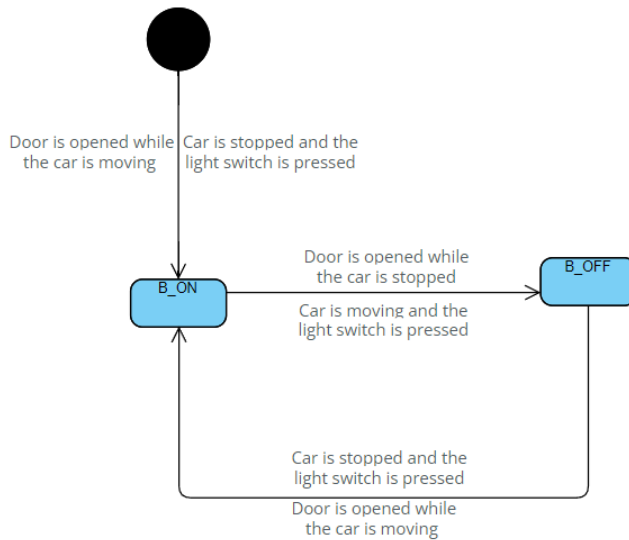
## 2. ECU 2

### a. State Machine diagram for each ECU component

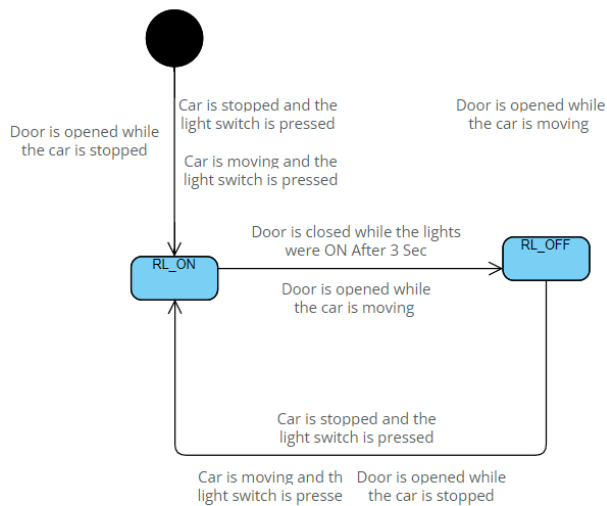
#### 1. Left Light



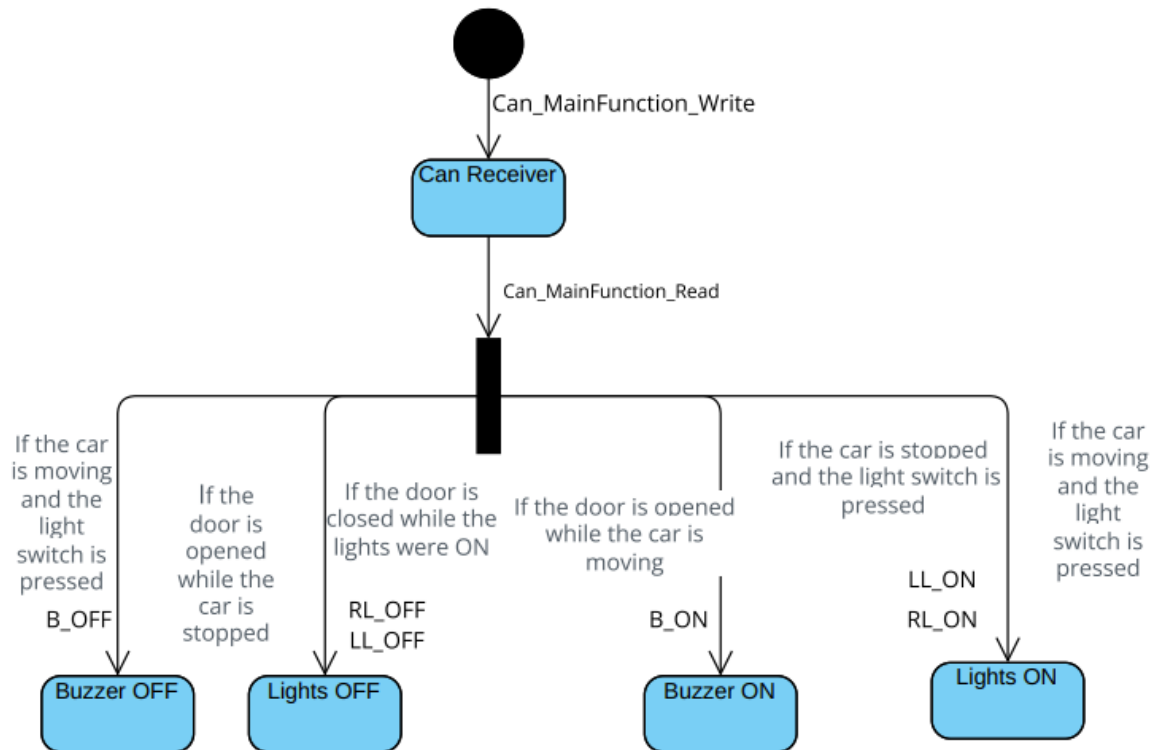
#### 2. Buzzer



### 3. Right Light



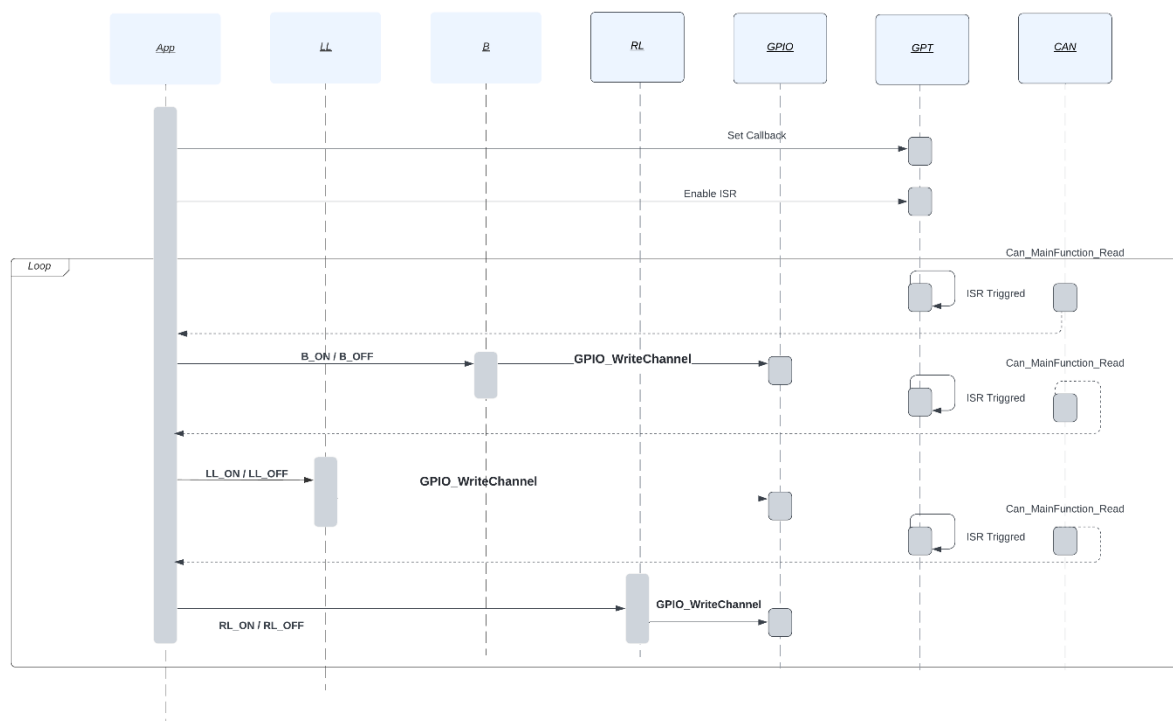
### b. State Machine diagram for the ECU operation



## c. Sequence diagram for the ECU

### Sequence diagram

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## d. CPU Load

CPU Utilization = 100 - idle time = 100 - 65

CPU Utilization = 35%