Project 3 Requirements

- Hardware requirements:

1) Two microcontrollers connected via CAN bus
2) One Door sensor (D)
3) One Light switch (L)
4) One Speed sensor (S)
5) ECU 1 connected to D, S, and L, all input devices
6) Two lights, right (RL) and left (LL)
7) One buzzer (B)
8) ECU 2 connected to RL, LL, and B, all output devices

- Software requirements:

1) ECU 1 will send status messages periodically to ECU 2 through the CAN protocol
2) Status messages will be sent using Basic Communication Module (BCM)
3) Door state message will be sent every 10ms to ECU 2
4) Light switch state message will be sent every 20ms to ECU 2
5) Speed state message will be sent every 5ms to ECU 2
6) Each ECU will have an OS and application SW components
7) If the door is opened while the car is moving → Buzzer ON, Lights OFF
8) If the door is opened while the car is stopped → Buzzer OFF, Lights ON
9) If the door is closed while the lights were ON → Lights are OFF after 3 seconds
10) If the car is moving and the light switch is pressed → Buzzer OFF, Lights ON
11) If the car is stopped and the light switch is pressed → Buzzer ON, Lights ON