- Two ECUs communicating together
- Control car lights according to door state, light sitch State, And Car Speed State.

(Hardware Requirements)

- ECU 1 (Input):
  - One Door sensor (D)
  - One Light switch (L)
  - One Speed sensor (S)
- CAN Bus
- ECU 2 (Output):
  - Two lights, right (RL) and left (LL)
  - One buzzer (B)

(Software requirements)

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