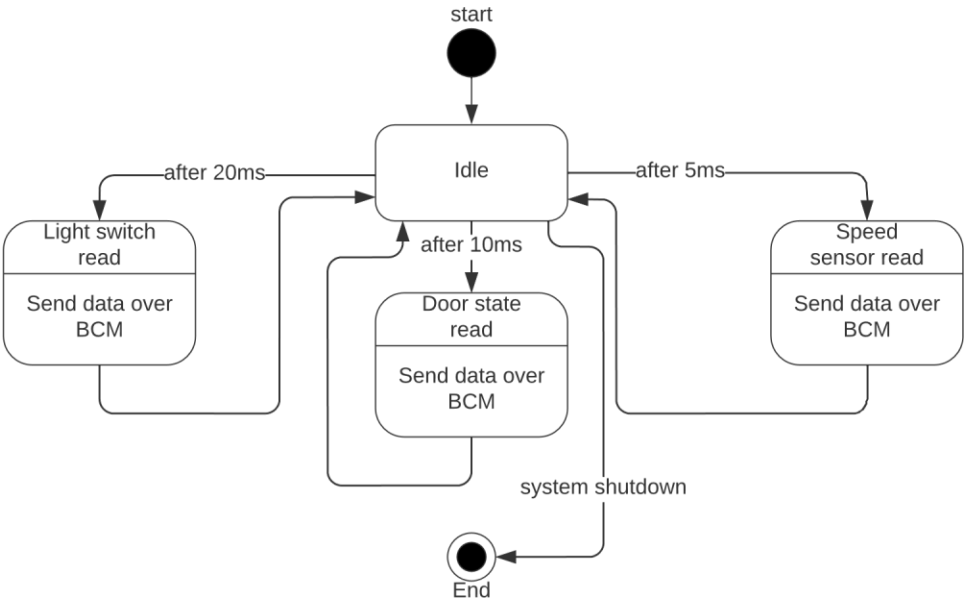
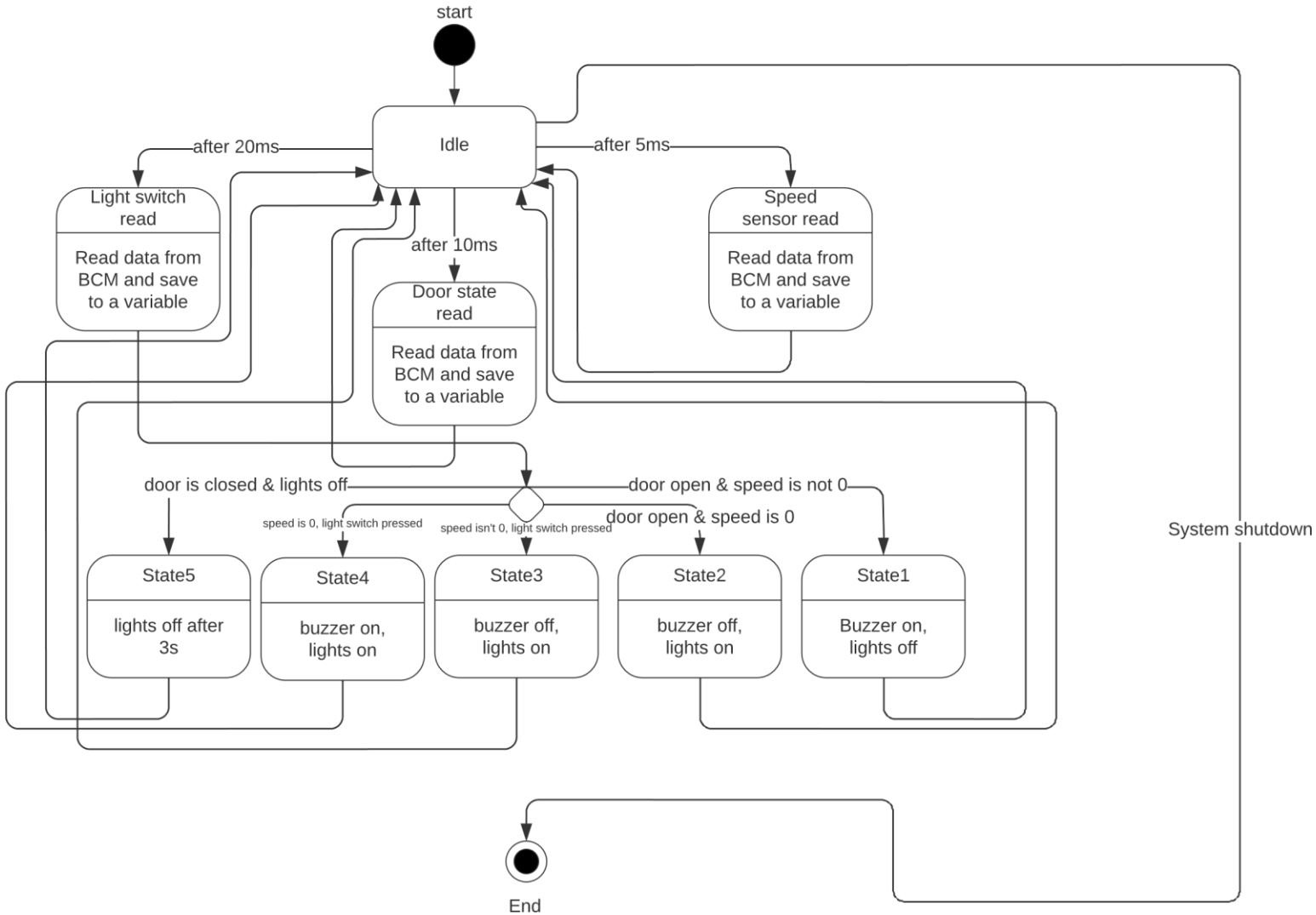
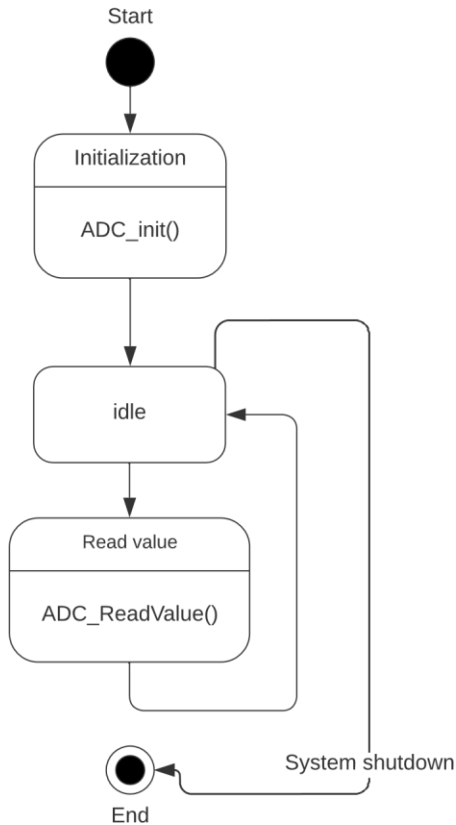
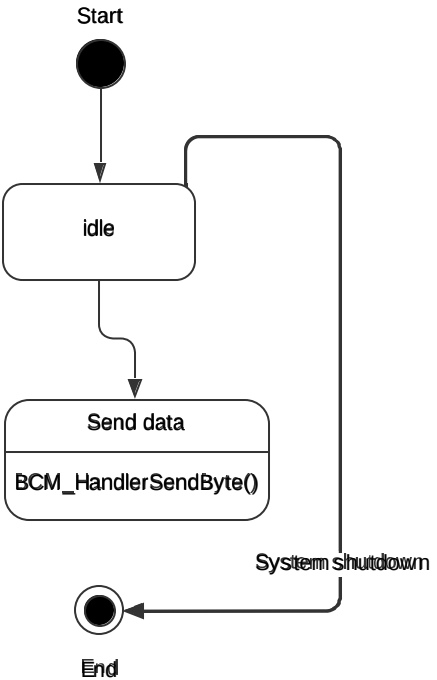
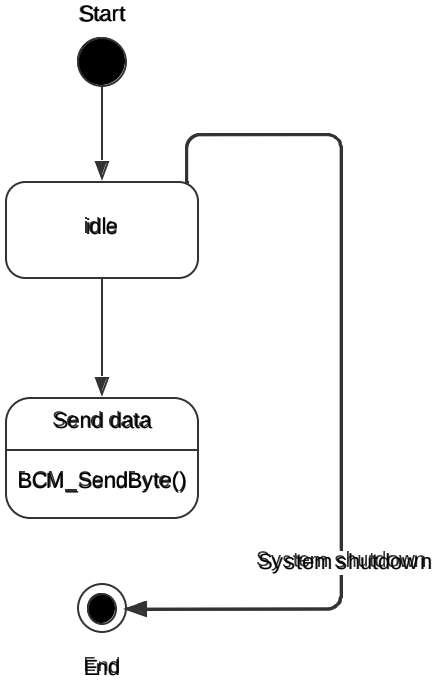
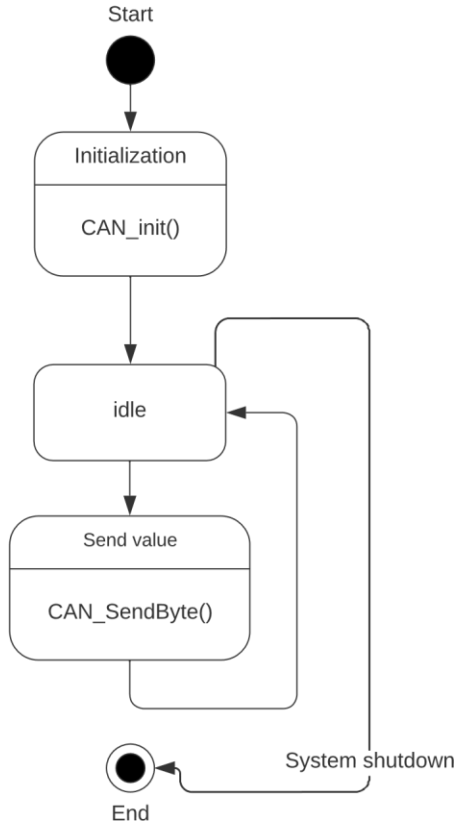

start
Idle
after 20ms
after 5ms
after 10ms
Light switch read
Send data over BCM
Door state read
Send data over BCM
Speed sensor read
Send data over BCM
system shutdown
End

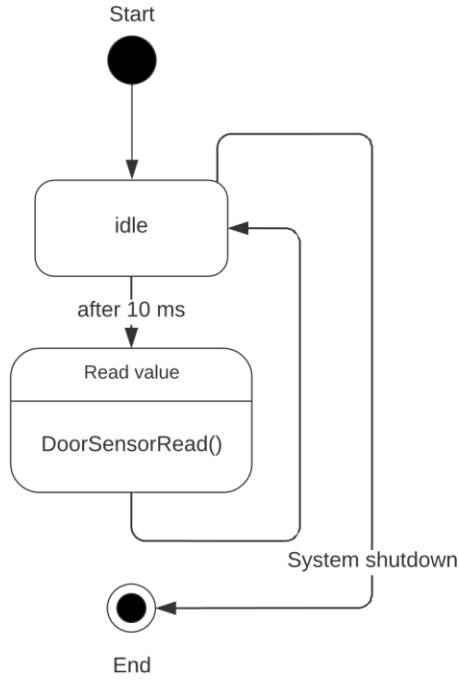

start
Idle
after 20ms
after 5ms
after 10ms
Light switch read
Read data from BCM and save to a variable
Door state read
Read data from BCM and save to a variable
Speed sensor read
Read data from BCM and save to a variable
door is closed & lights off
door open & speed is not 0
door open & speed is 0
speed is 0, light switch pressed
speed isn't 0, light switch pressed
State5
lights off after 3s
State4
buzzer on, lights on
State3
buzzer off, lights on
State2
buzzer off, lights on
State1
Buzzer on, lights off
System shutdown
End

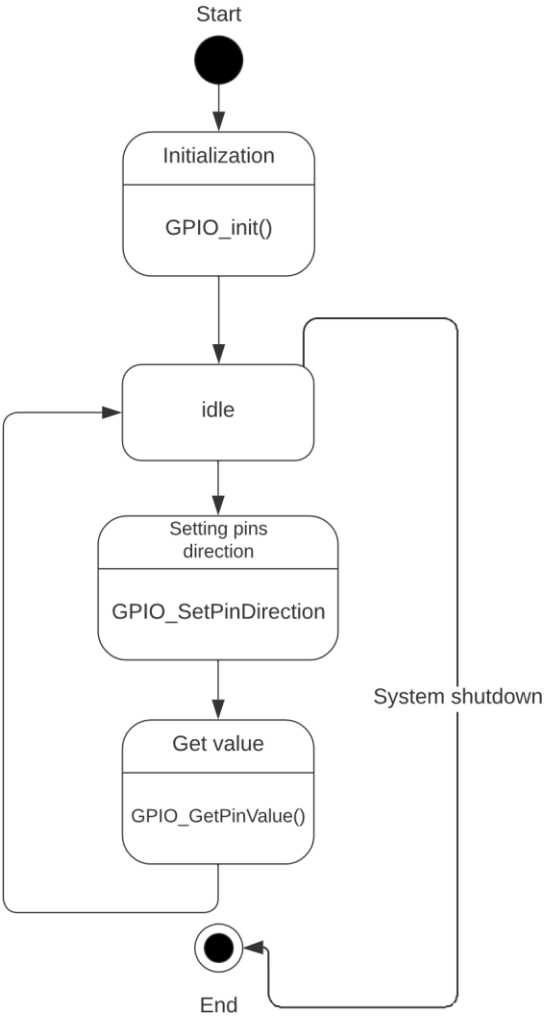

Start
Initialization
ADC_init()
idle
Read value
ADC_ReadValue()
System shutdown
End

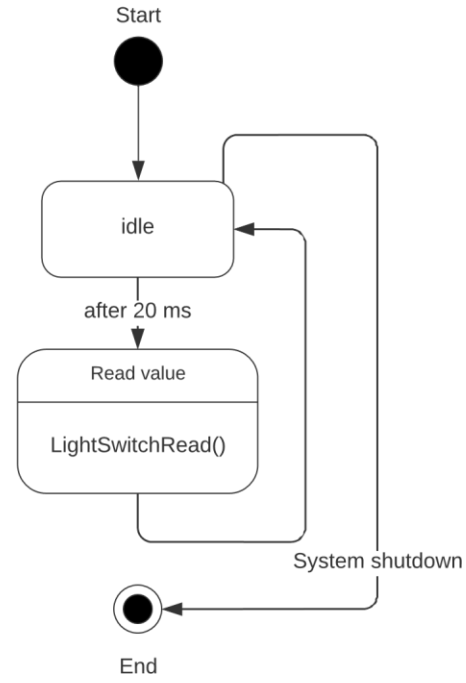

Start
idle
Send data
BCM_HandlerSendByte()
System shutdown
End

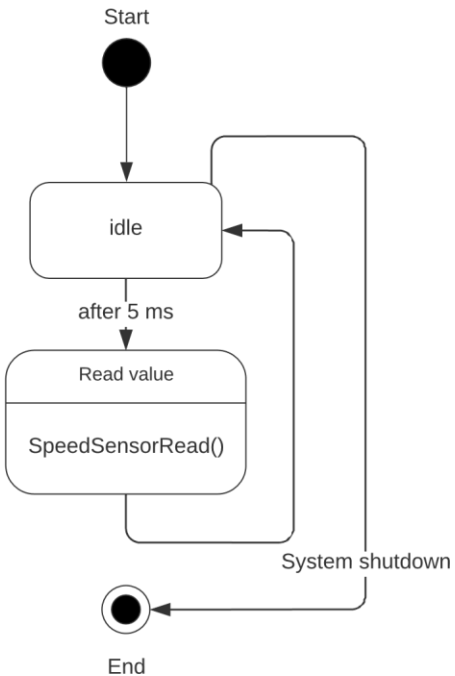

Start
idle
Send data
BCM_SendByte()
System shutdown
End

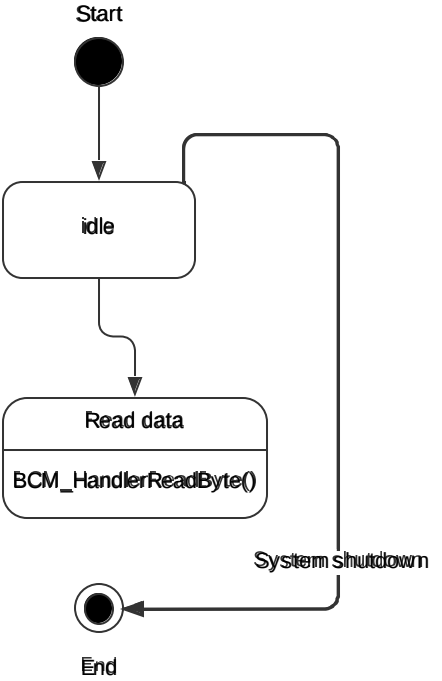

Start
Initialization
CAN_init()
idle
Send value
CAN_SendByte()
System shutdown
End

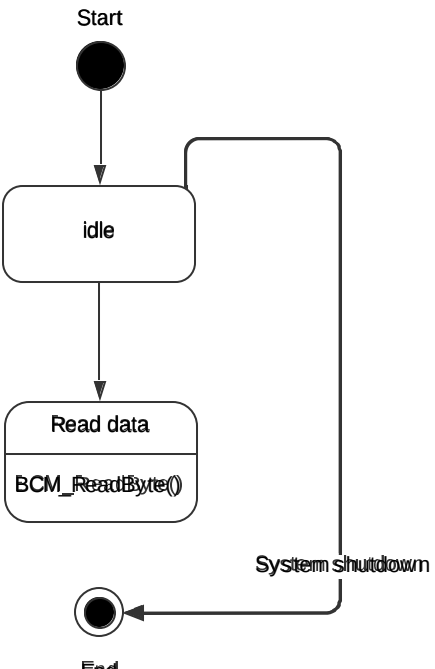

Start
idle
after 10 ms
Read value
DoorSensorRead()
System shutdown
End

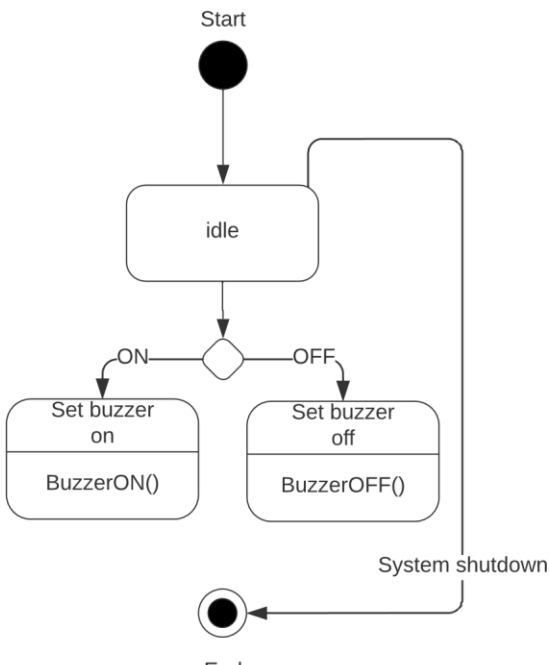

Start
Initialization
GPIO_init()
idle
Setting pins direction
GPIO_SetPinDirection
Get value
GPIO_GetPinValue()
System shutdown
End

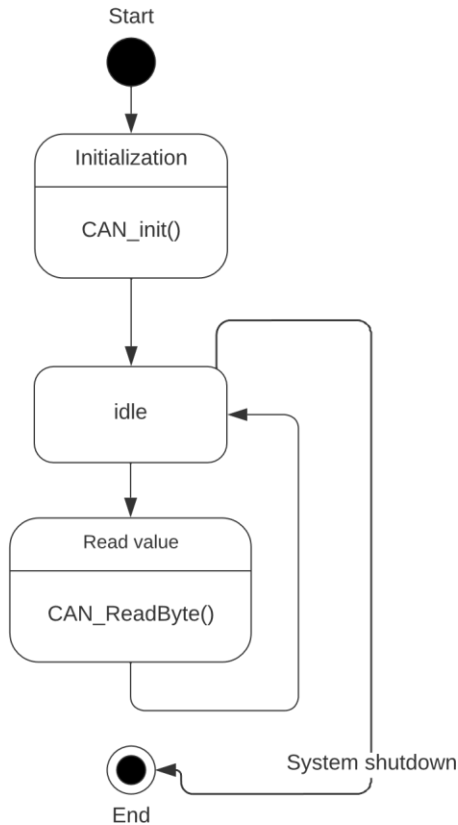

Start
idle
after 20 ms
Read value
LightSwitchRead()
System shutdown
End

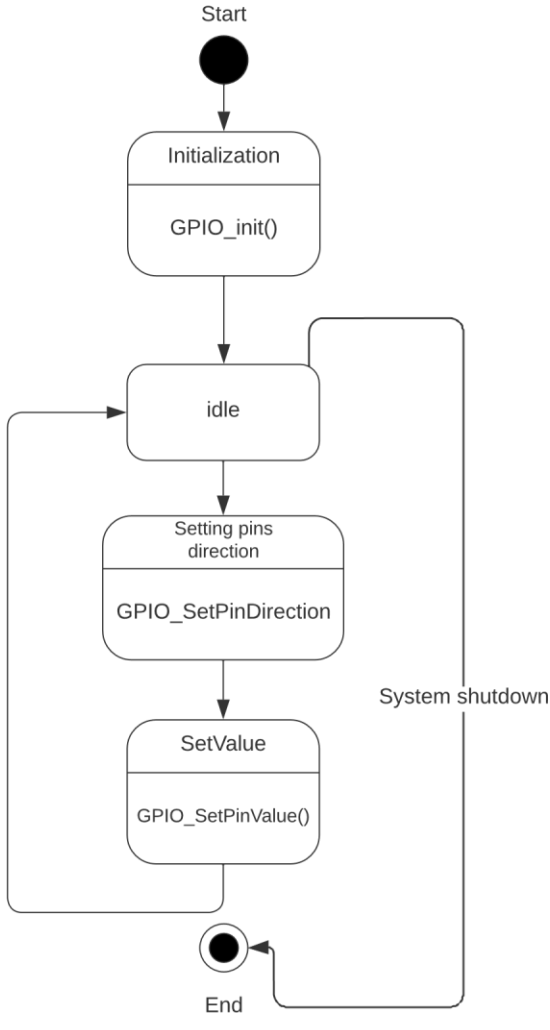

Start
idle
after 5 ms
Read value
SpeedSensorRead()
System shutdown
End

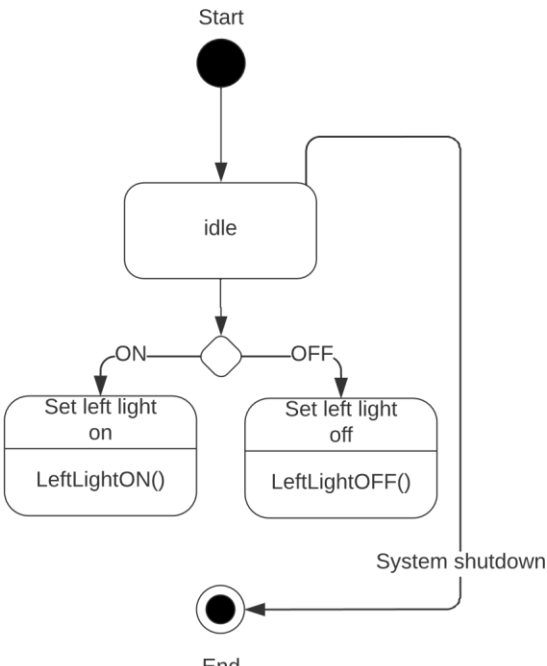

Start
idle
Read data
BCM_HandlerReadByte()
System shutdown
End

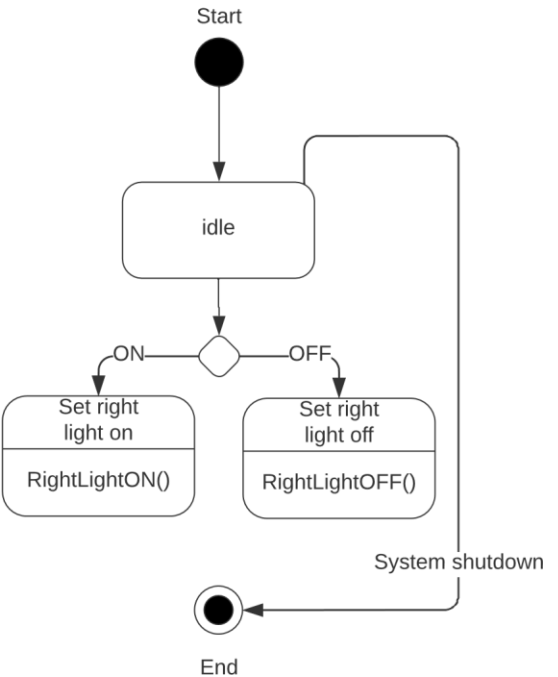

Start
idle
Read data
BCM_ReadByte()
System shutdown
End


Start
idle
ON
OFF
Set buzzer on
BuzzerON()
Set buzzer off
BuzzerOFF()
System shutdown
End

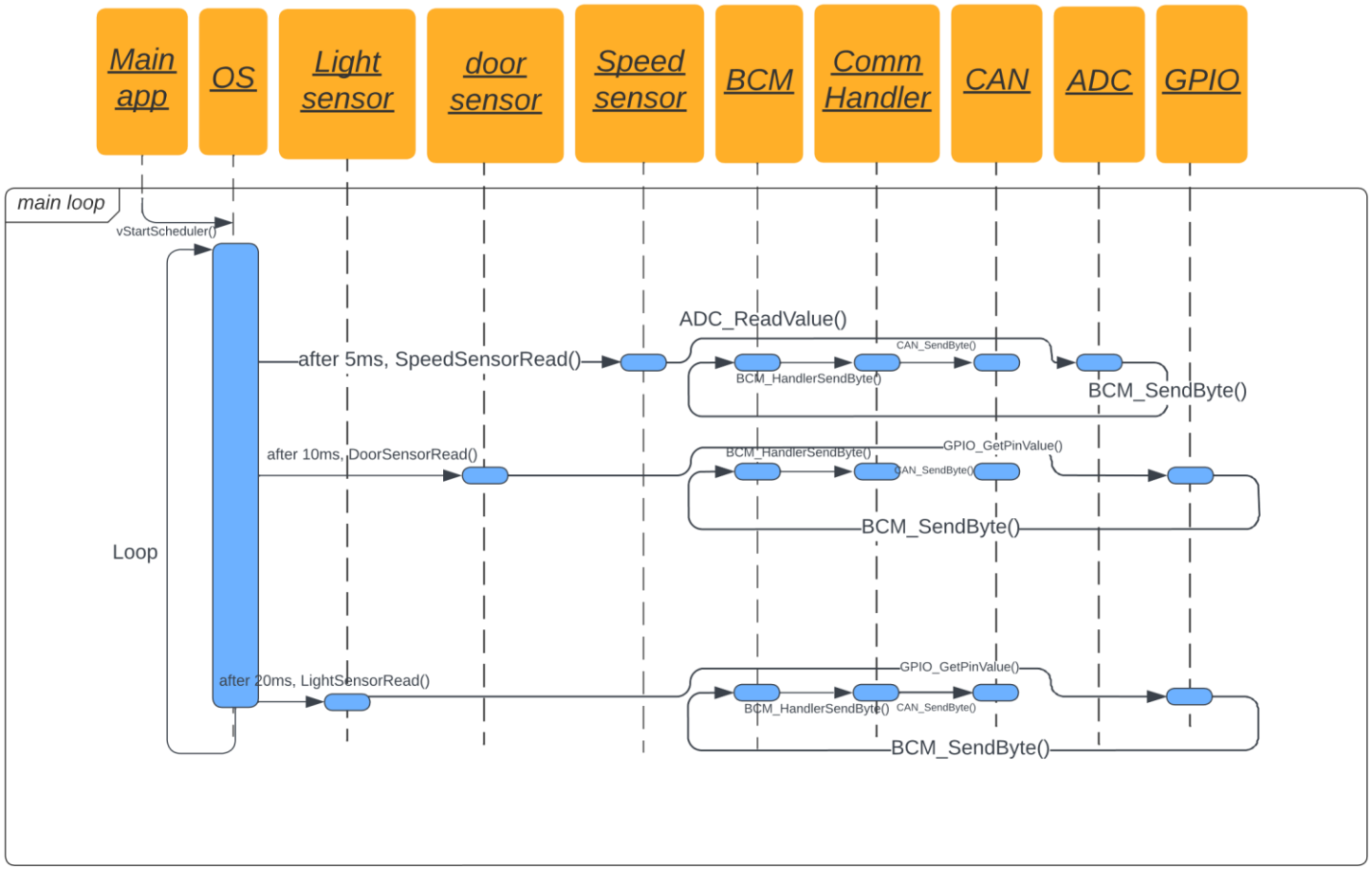

Start
Initialization
CAN_init()
idle
Read value
CAN_ReadByte()
System shutdown
End


Start
Initialization
GPIO_init()
idle
Setting pins direction
GPIO_SetPinDirection
SetValue
GPIO_SetPinValue()
System shutdown
End

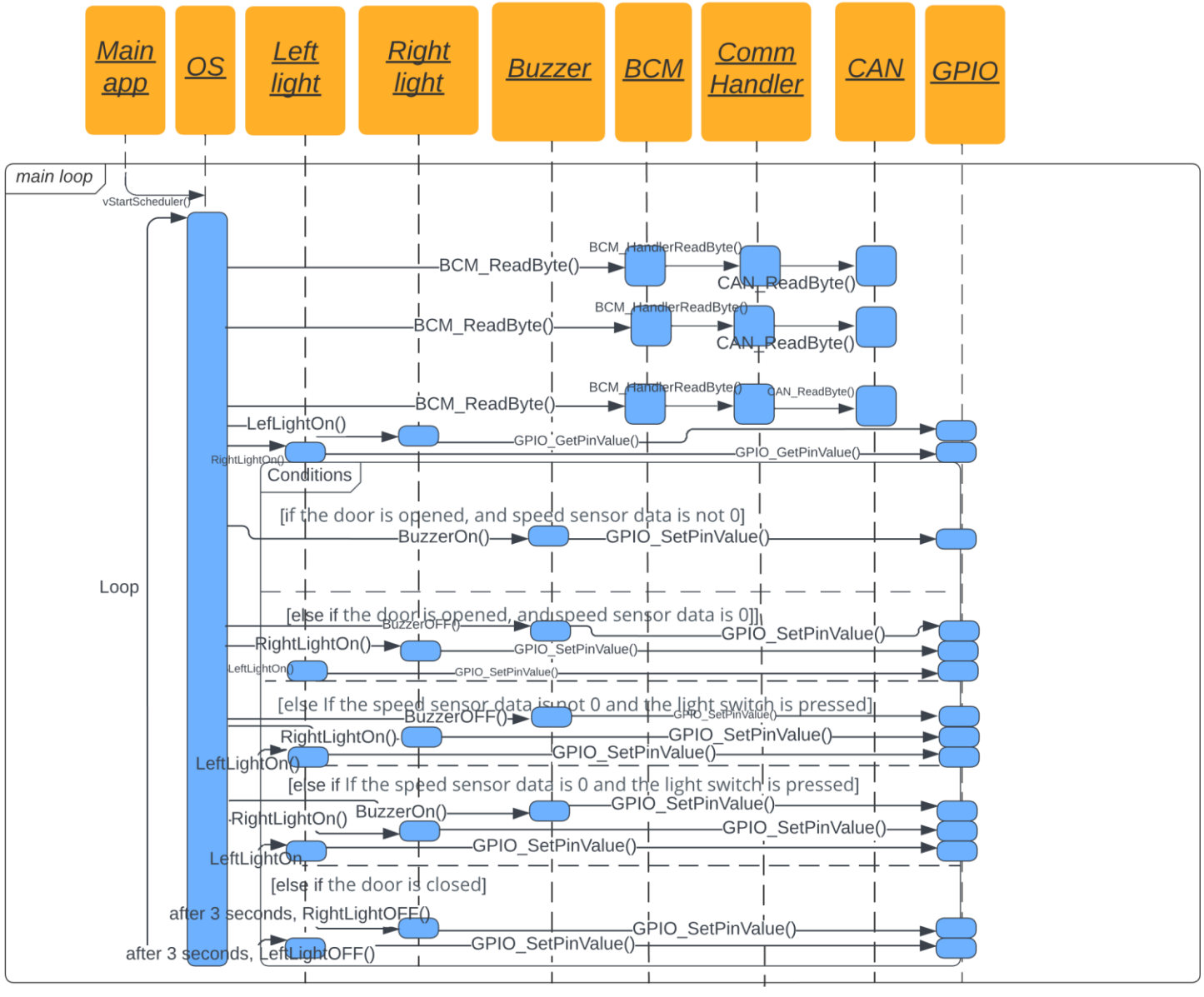

Start
idle
ON
OFF
Set left light on
LeftLightON()
Set left light off
LeftLightOFF()
System shutdown
End


Start
idle
ON
OFF
Set right light on
RightLightON()
Set right light off
RightLightOFF()
System shutdown
End

## Sequence diagram for ECU1



## Sequence diagram for ECU2



Calculating cpu load:
Assuming that periodicity equals deadline and
Assuming all tasks' execution time is 2ms
Applying the tasks on the offline simulator pointed that the cpu load is 65%