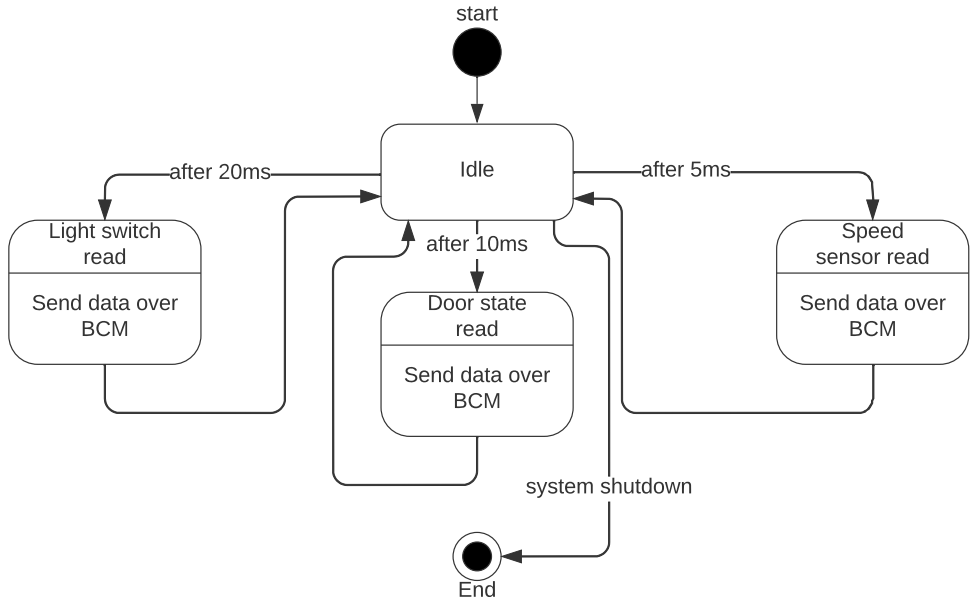


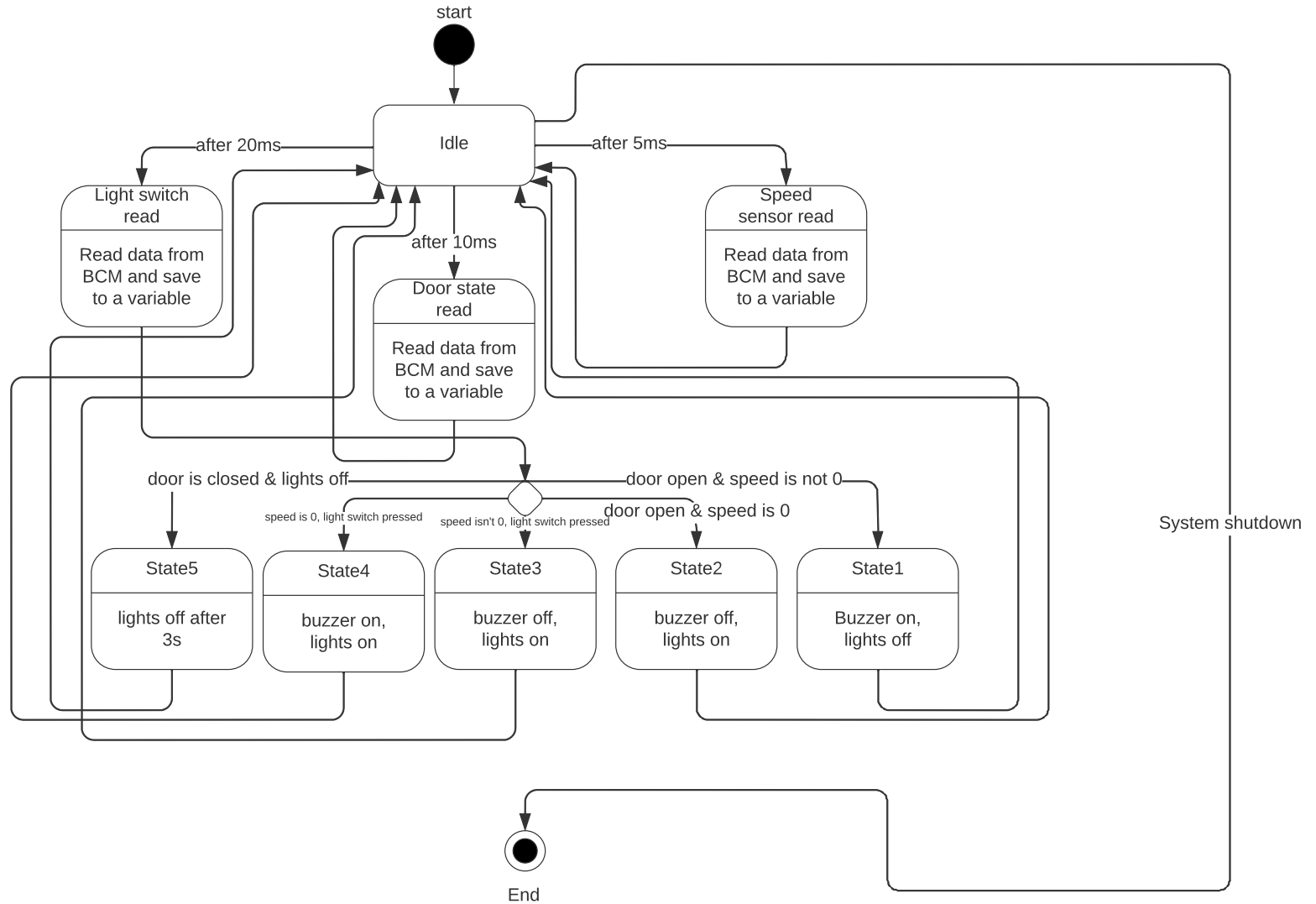
ECU1 operation

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ECU2 operation

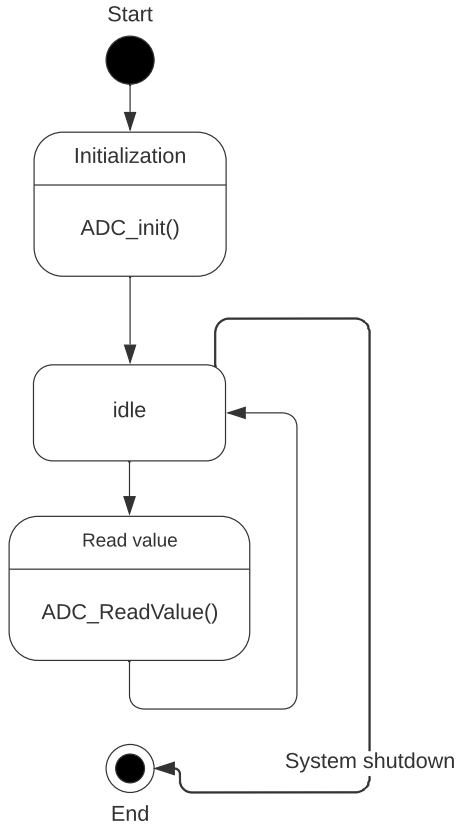
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ECU1 components

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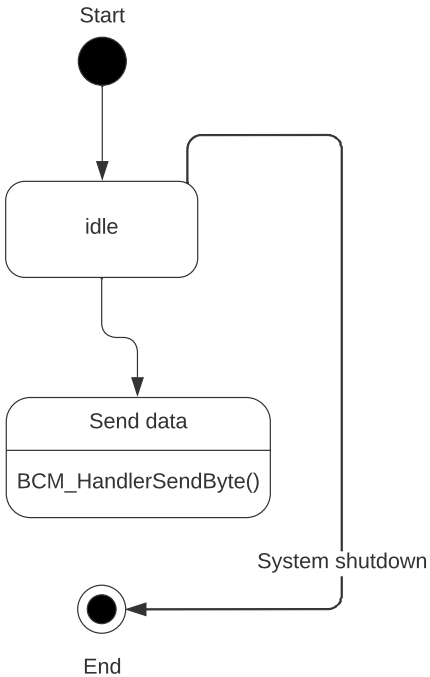
ADC



ECU1 components

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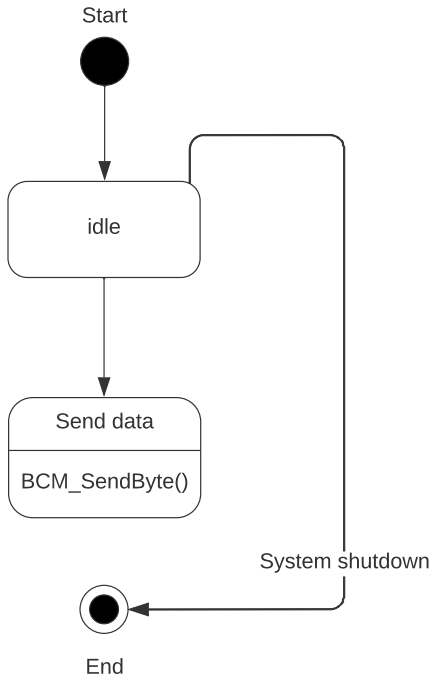
BCM Handler



ECU1 components

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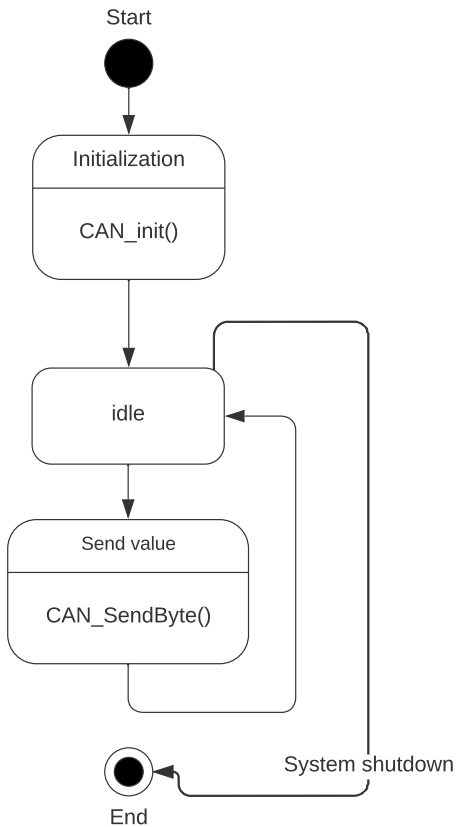
BCM



ECU1 components

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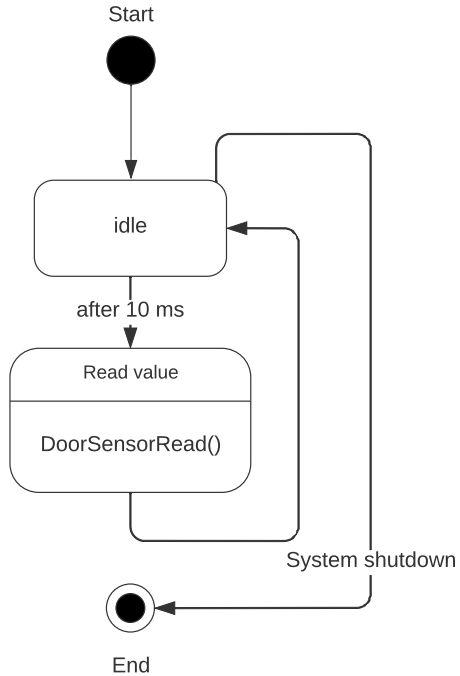
CAN



ECU1 components

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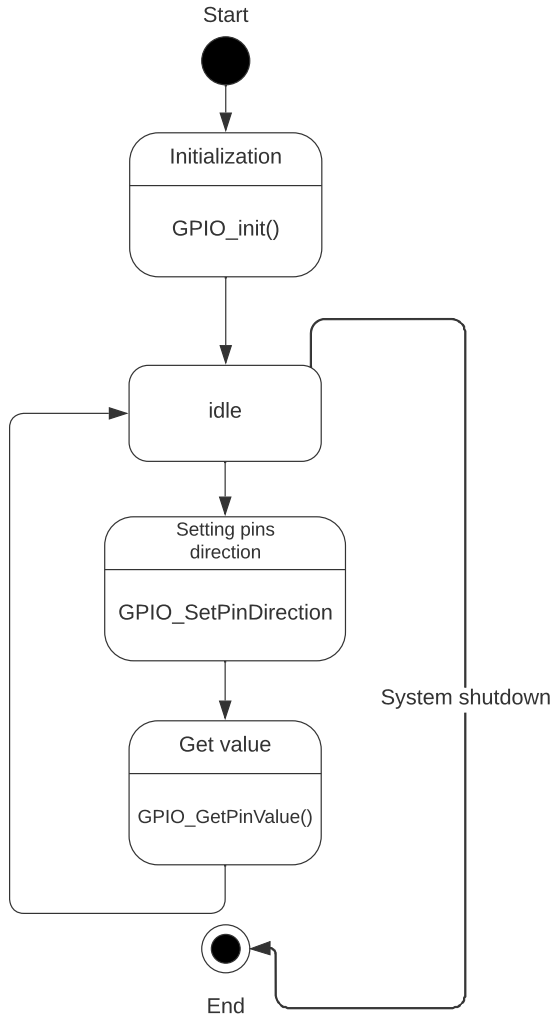
Door sensor



ECU1 components

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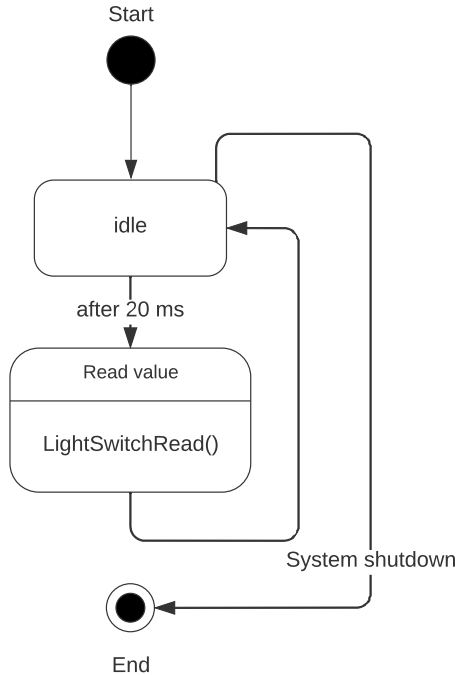
GPIO



ECU1 components

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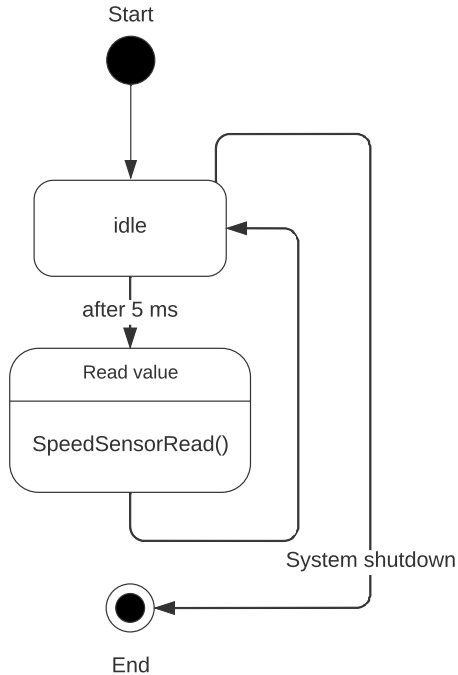
Light switch



ECU1 components

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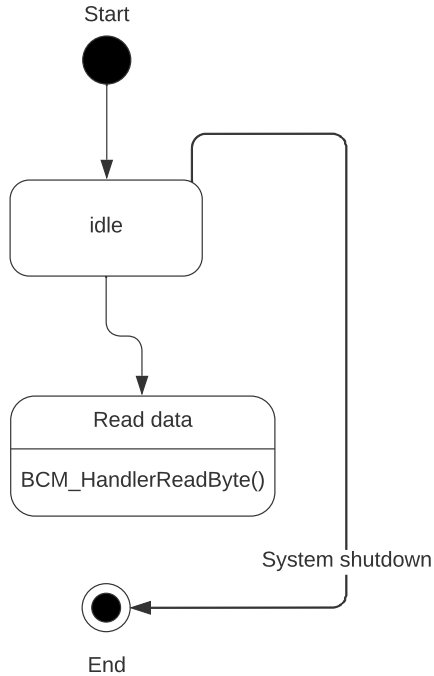
Speed sensor



ECU2 components

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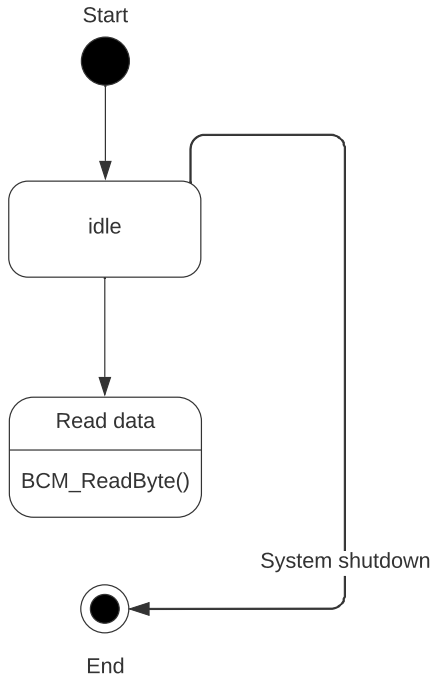
BCM Handler



ECU2 components

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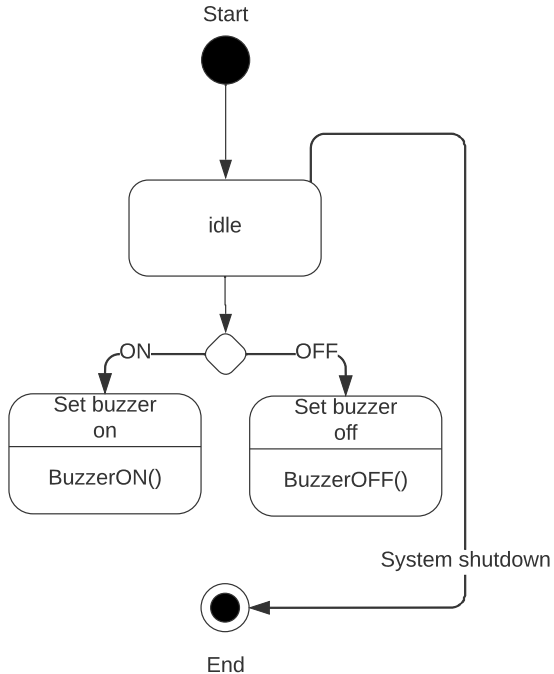
BCM



ECU2 components

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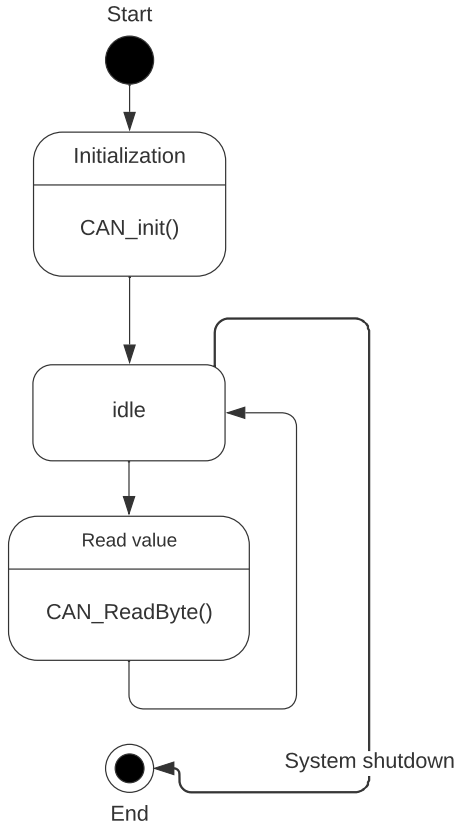
Buzzer



ECU2 components

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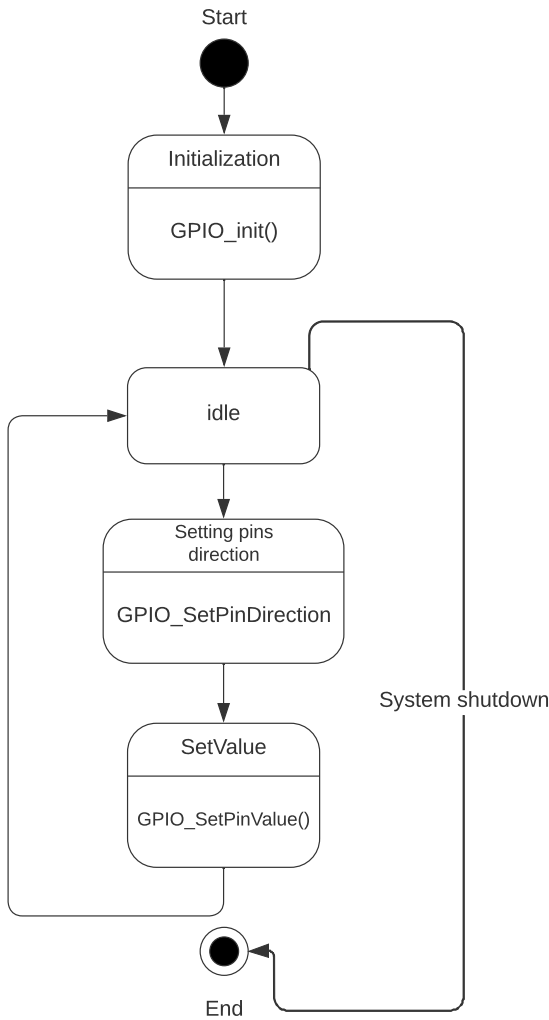
CAN



ECU2 components

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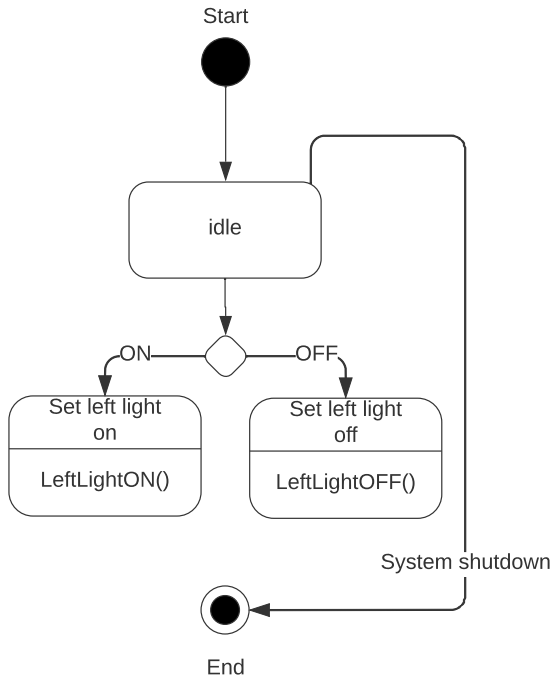
GPIO



ECU2 components

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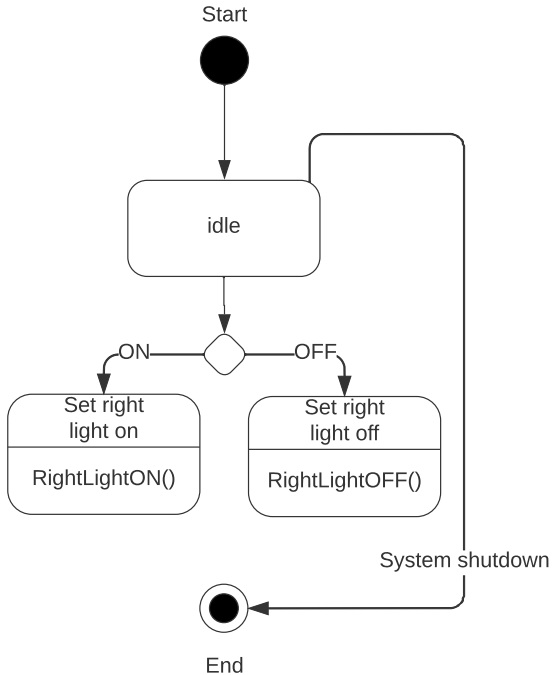
Left light



ECU2 components

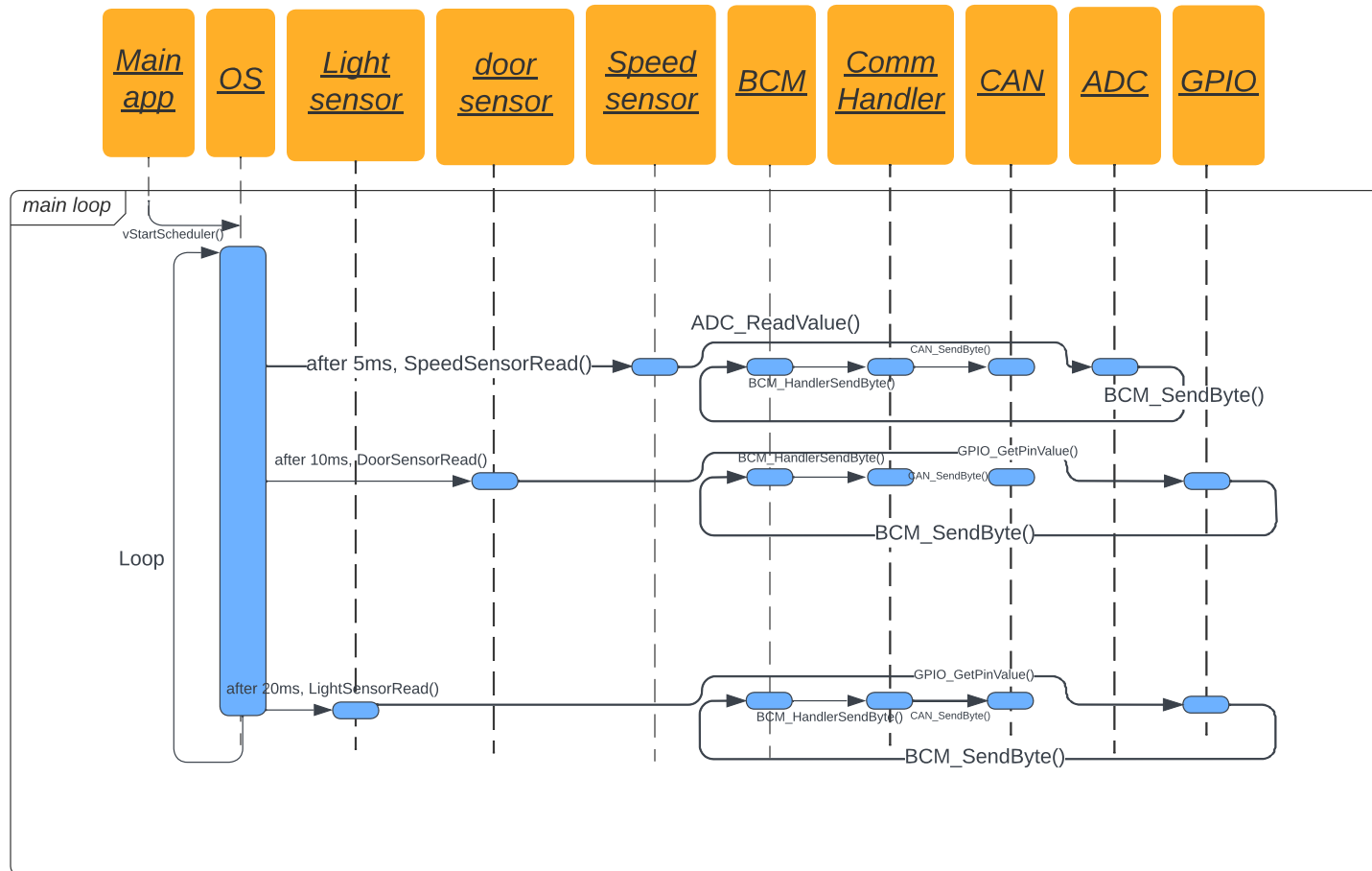
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Right light



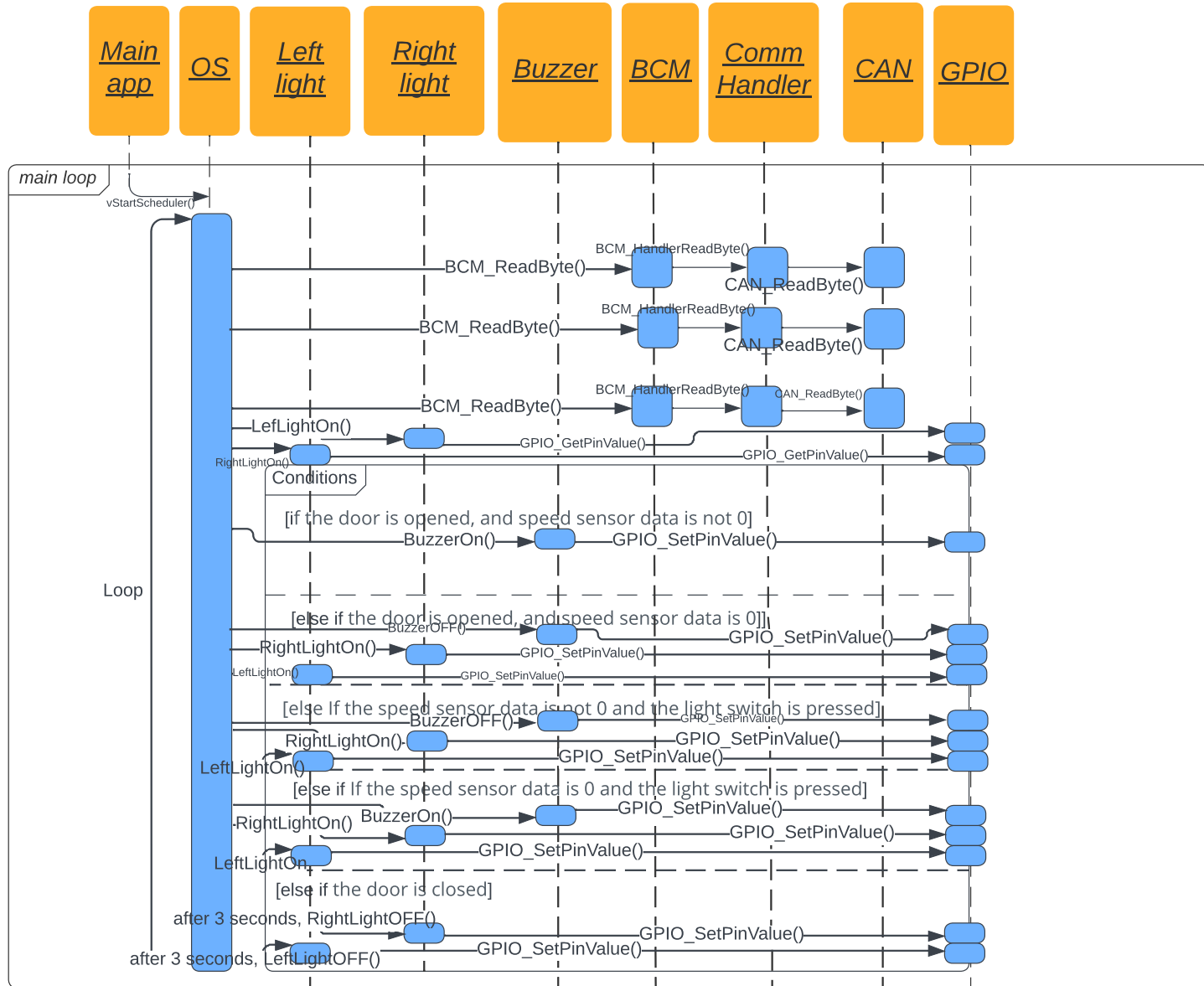
Sequence diagram for ECU1

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Sequence diagram for ECU2

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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%

The image shows two Qt application windows. The 'Model data' window has tabs for General, Scheduler, Processors, and Tasks. The 'Tasks' tab contains a table with the following data:

id	Name	Task type	Abort on miss	Act. Date (ms)	Period (ms)	List of Act. dates (ms)	Deadline (ms)	WCET (ms)	Followed by	priority
1	TASK T1	Periodic	<input checked="" type="checkbox"/> Yes	0	10	-	10	2		0
2	TASK T2	Periodic	<input checked="" type="checkbox"/> Yes	0	20.0	-	20.0	2		0
3	TASK T3	Periodic	<input checked="" type="checkbox"/> Yes	0	5.0	-	5.0	2		0

Below the table is a 'Remove selected task(s)' button. The 'Results' window has tabs for General, Logs, Tasks, Scheduler, and Processors. The 'General' tab shows an 'Observation Window' from 0.00 to 80.00 ms with a 'Configure...' button. Below this is a table with simulation results:

	Total load	Payload	System load
CPU 1	0.6500	0.6500	0.0000
Average	0.6500	0.6500	0.0000

At the bottom of the 'Results' window are 'Add task' and 'Generate Task Set' buttons.