



Autonomous RC Car

State Diagram

Group Member

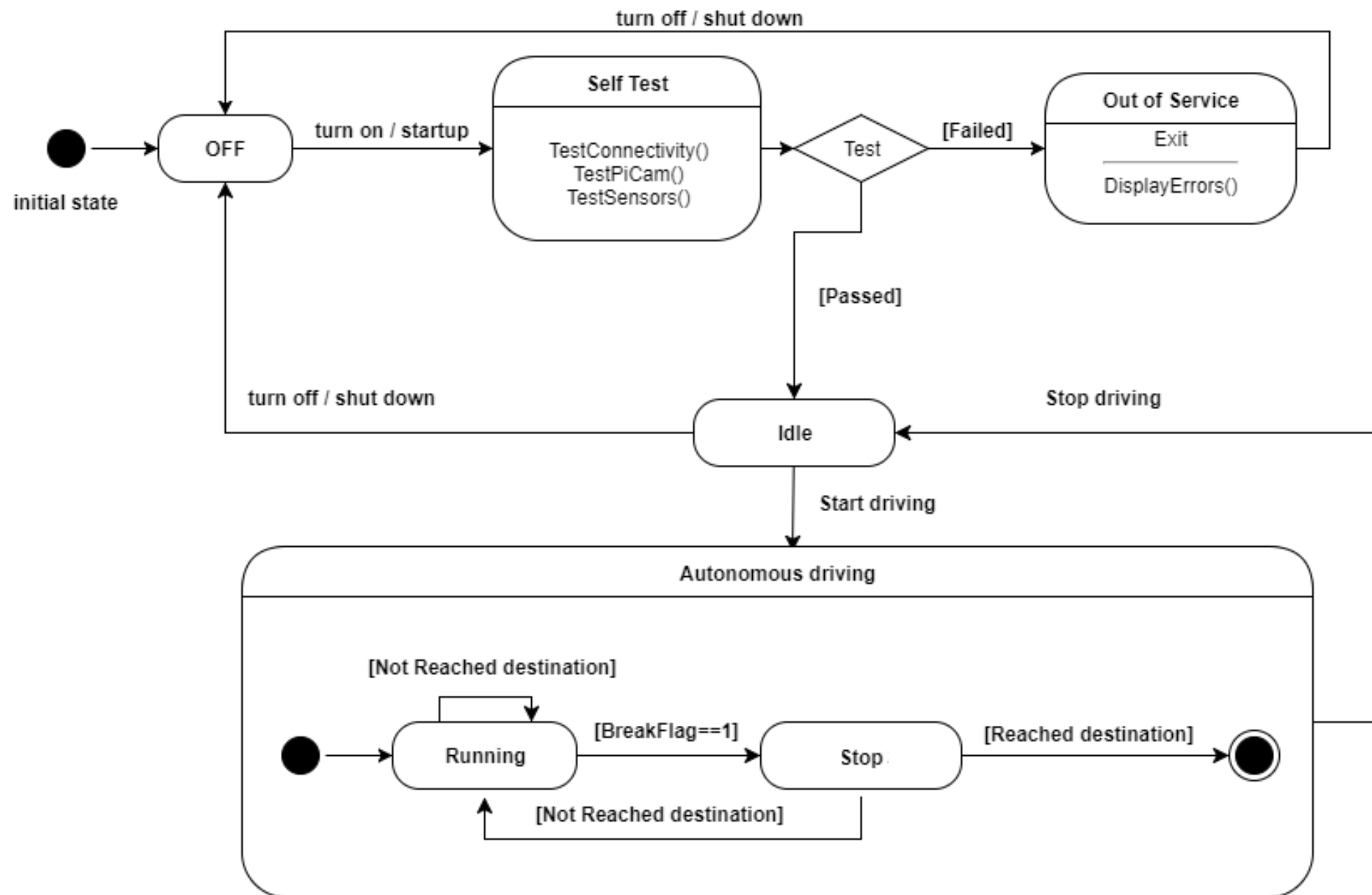
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State diagrams

- Autonomous Car State diagram
- Ultrasonic Sensor State diagram
- Camera State diagram

Autonomous Car State diagram

Sates	Description
S0 - OFF	The RC Car is switched off
S1 - Self Test	Checks the complete Car and Sensors that they are working properly
S2 - Out of Service	RC Car cannot come to working state due to any problem
S3 - Idle	RC Car is Ready for running
S4 - Autonomous driving	RC Car automatically towards destination
S5 - Running	RC Car is running autonomously
S6 - Stop	RC Car reached destination



[Not Reached Destination]

Running

Detecting Signals

[Alert==1 or TrafficSignal==1]

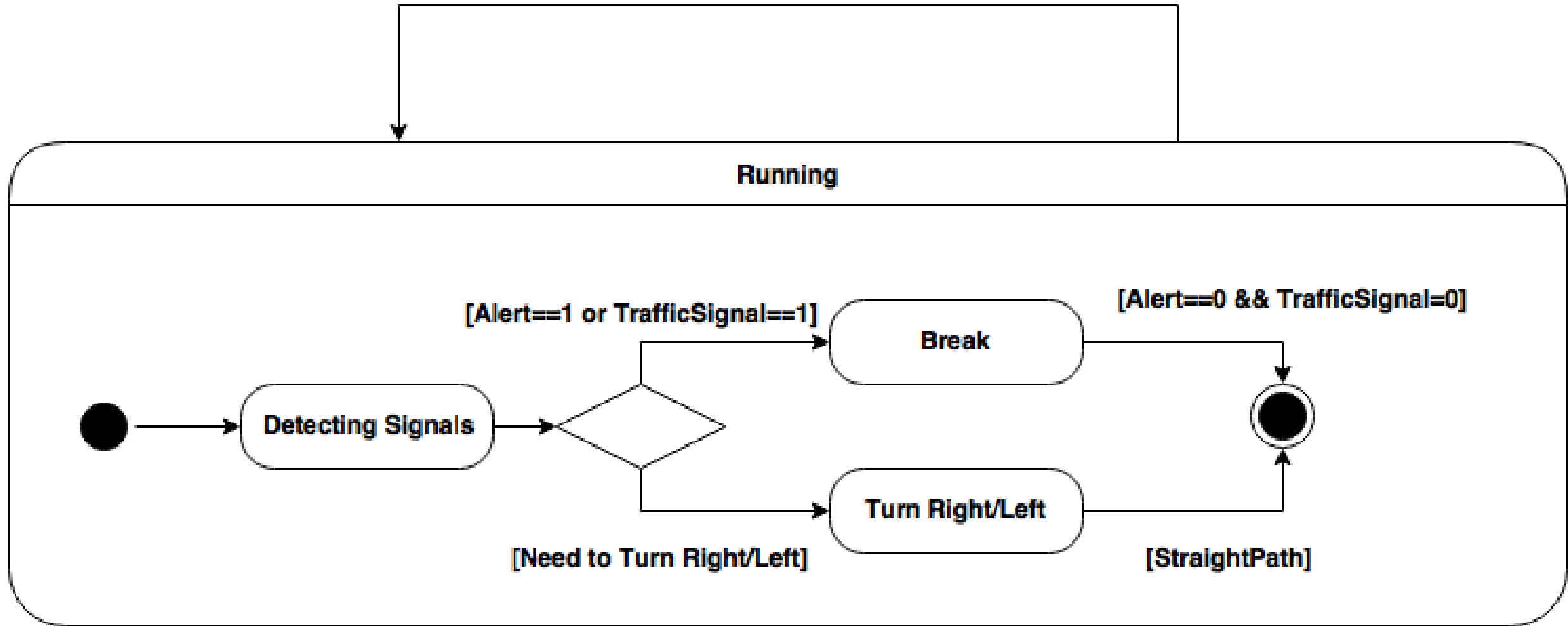
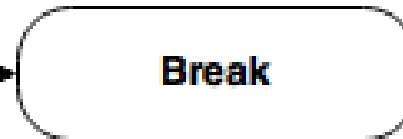
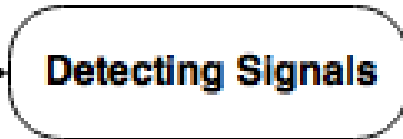
Break

[Alert==0 && TrafficSignal=0]

Turn Right/Left

[Need to Turn Right/Left]

[StraightPath]

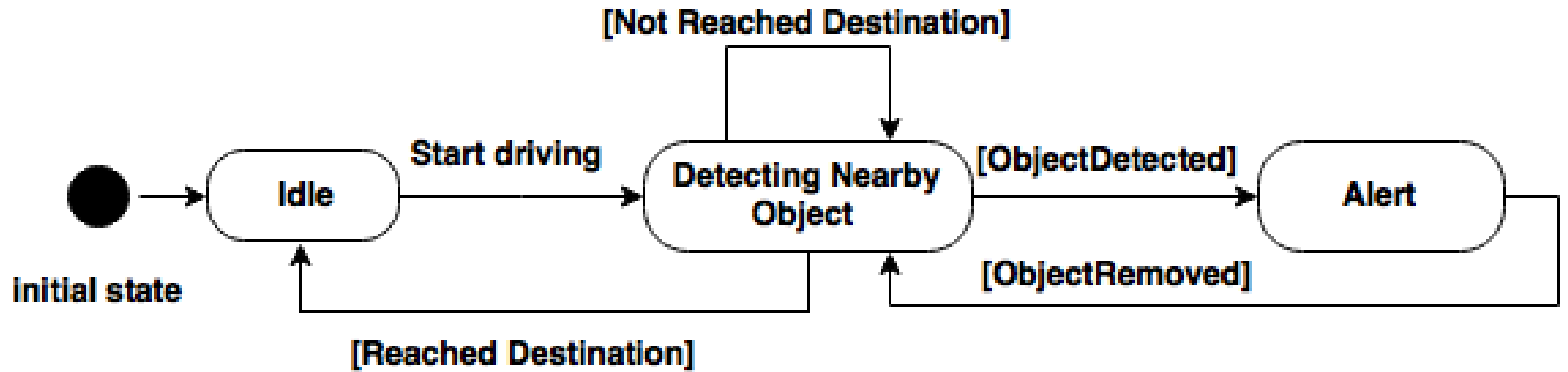


State Table

Input	Current State	Next State	Output
Turn on	S0-OFF	S1-Self Test	0
Test[Failed]	S1-Self Test	S2-Out of Service	0
Turn off	S2-Out of Service	S0-OFF	0
Test[Passed]	S1-Self Test	S3-Idle	0
Start driving	S3-Idle	S4-Autonomous driving	0
[Not Reached]	S5-Running	S5-Running	0
[BreakFlag=1]	S5-Running	S6-Stop	0
[Not Reached]	S6-Stop	S5-Running	0
Stop driving	S4-Autonomous driving	S3-Idle	1
Turn off	S3-Idle	S0-OFF	0

Ultrasonic Sensor State diagram

State No.	State
S0	Idle
S1	Detecting Nearby Object
S2	Alert

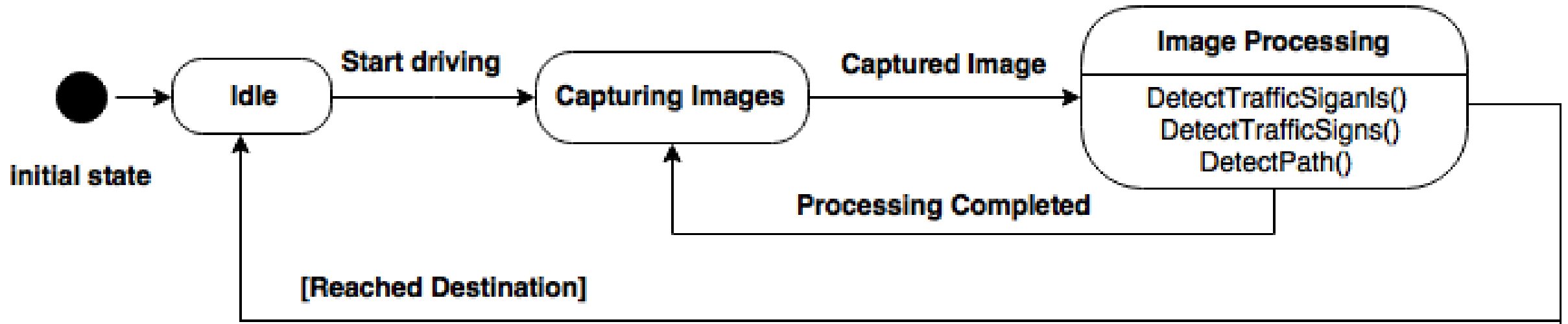


State Table

Input	Current State	Next State	Output
Start driving	S0-Idle	S1-Detecting Nearby Object	0
[Object Detected]	S1-Detecting Nearby Object	S2-Alert	0
[Not Reached]	S1-Detecting Nearby Object	S1-Detecting Nearby Object	0
[Object Removed]	S2-Alert	S1-Detecting Nearby Object	0
[Reached Destination]	S1-Detecting Nearby Object	S0-Idle	1

Camera State diagram

State No.	State
S0	Idle
S1	Capturing Images
S2	Image Processing



State Table

Input	Current State	Next State	Output
Start driving	S0-Idle	S1-Capturing Images	0
Captured Image	S1-Capturing Images	S2-Images Processing	0
Processing Completed	S2-Images Processing	S1-Capturing Images	0
[Reached Destination]	S2-Images Processing	S0-Idle	1

Thanks!

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