



The
BRITISH UNIVERSITY
IN EGYPT

SQA (22CSSE04H)

Group 4

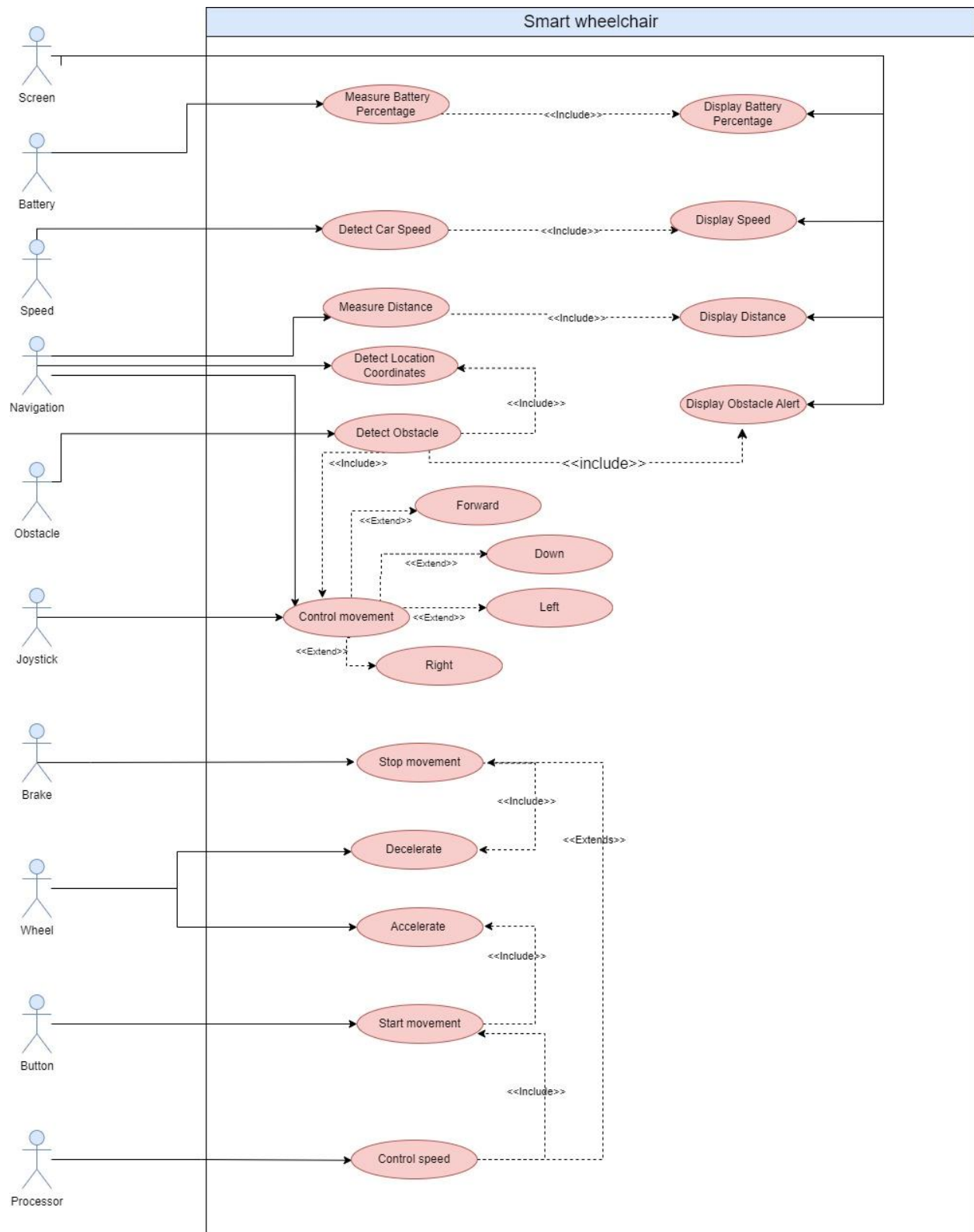
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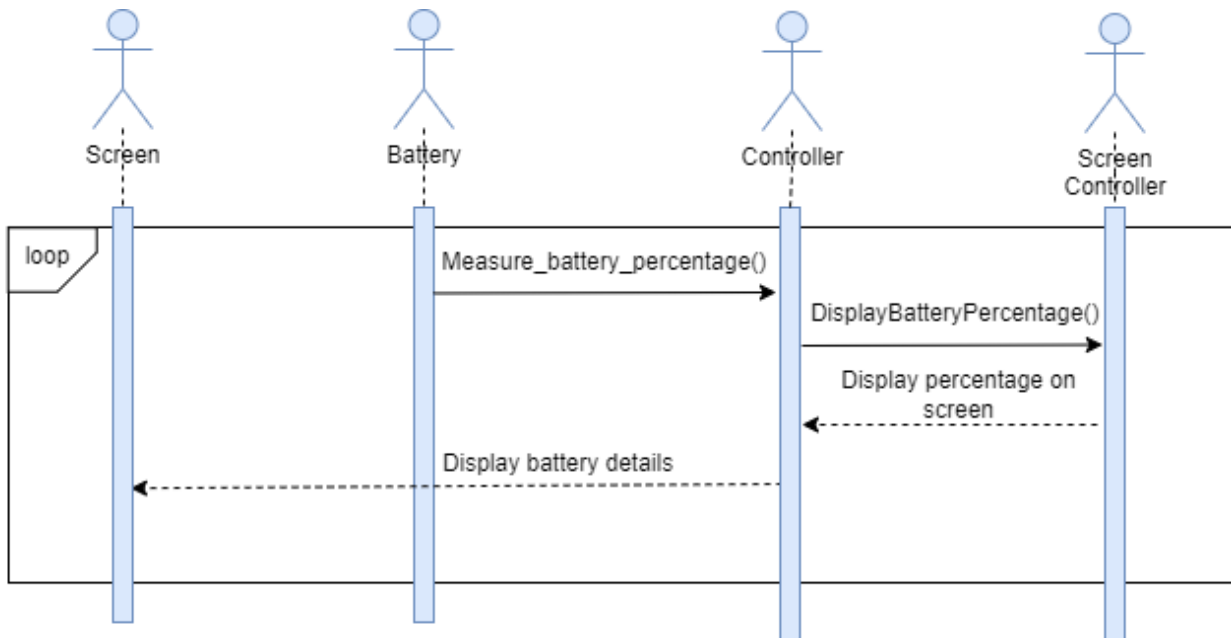
Diagrams

UseCase

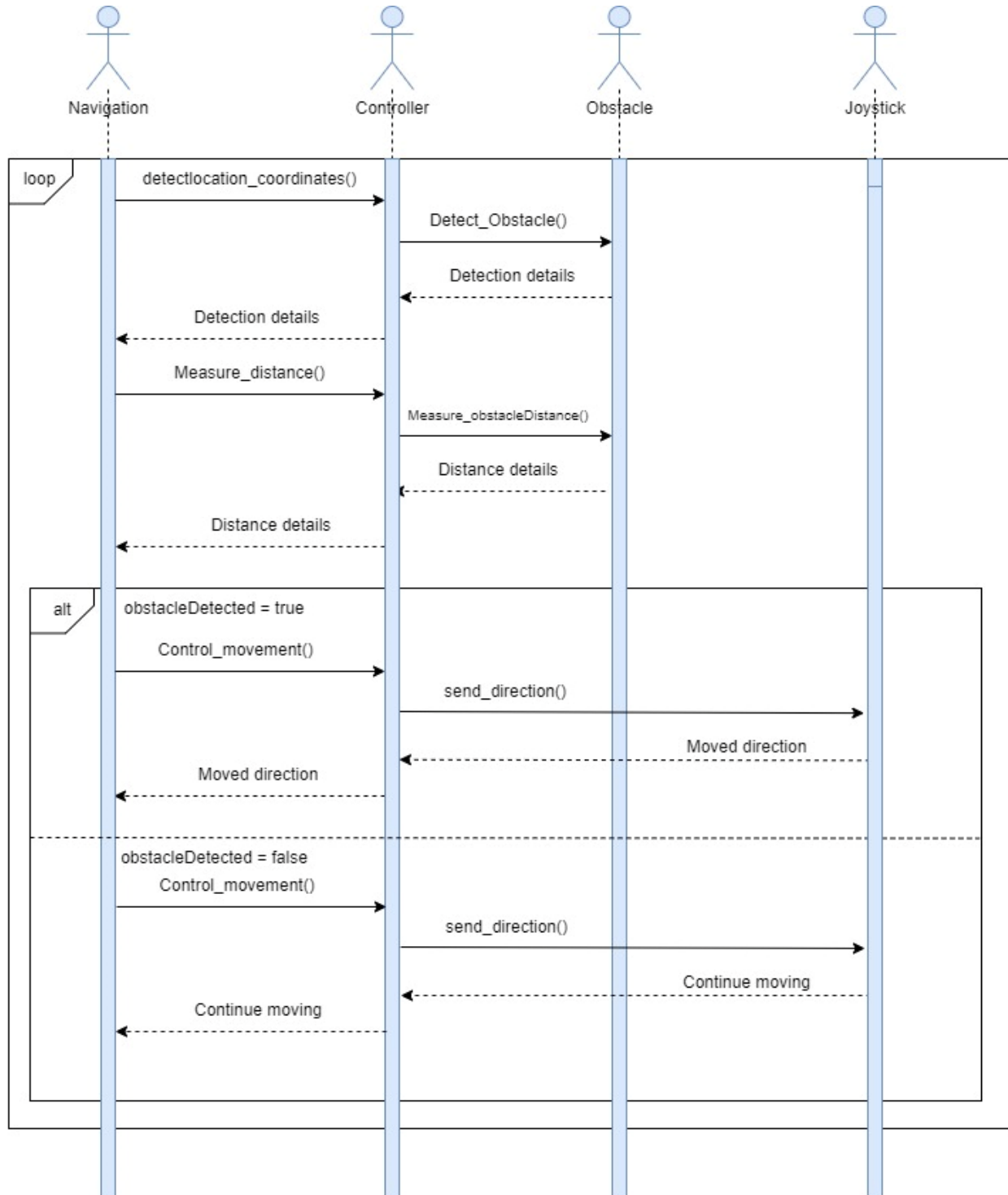


Sequence diagrams

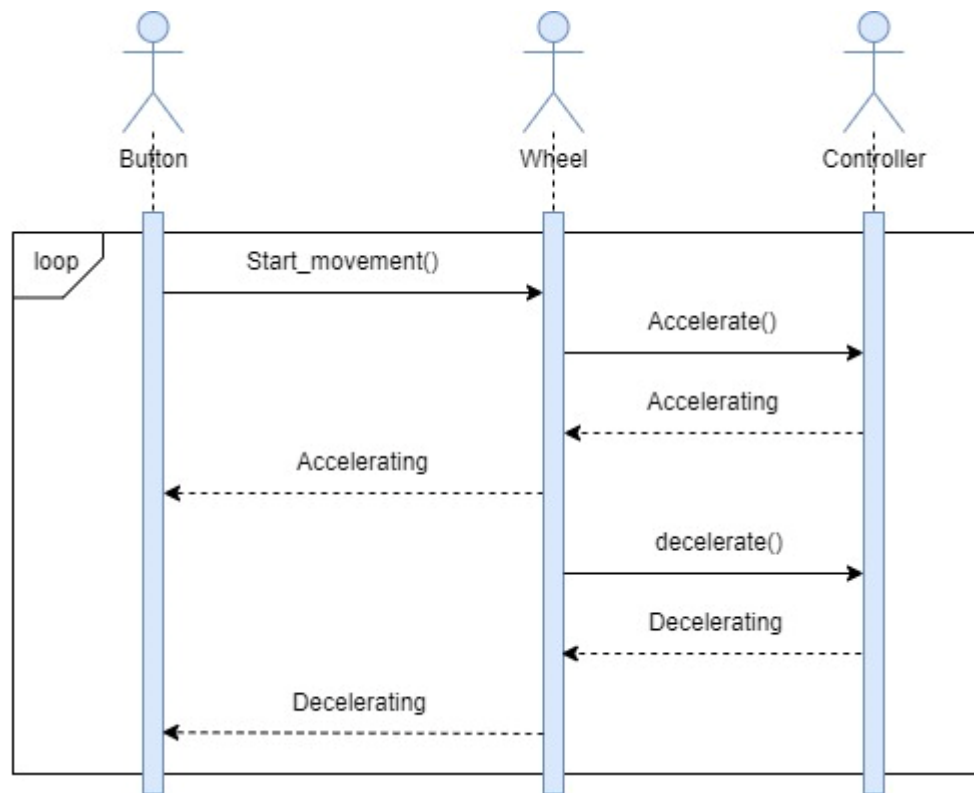
Detect battery percentage



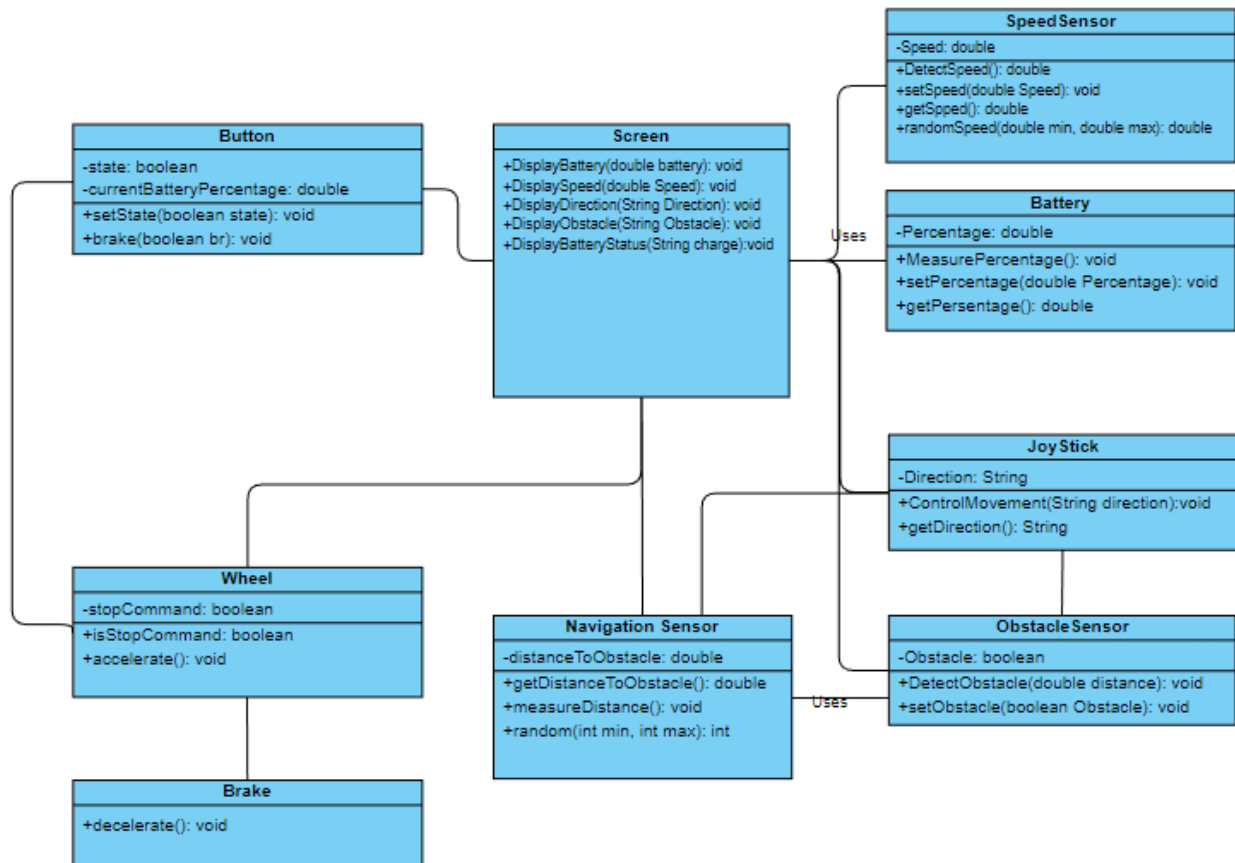
System Sequence



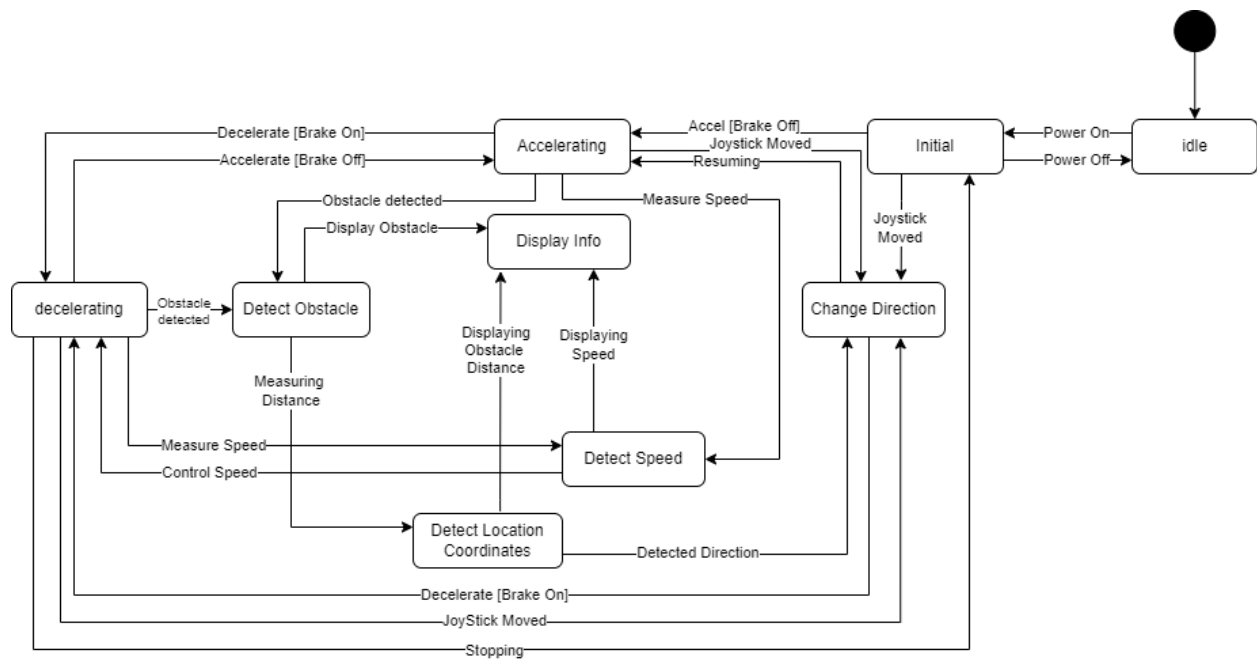
Control Movement



Class Diagram

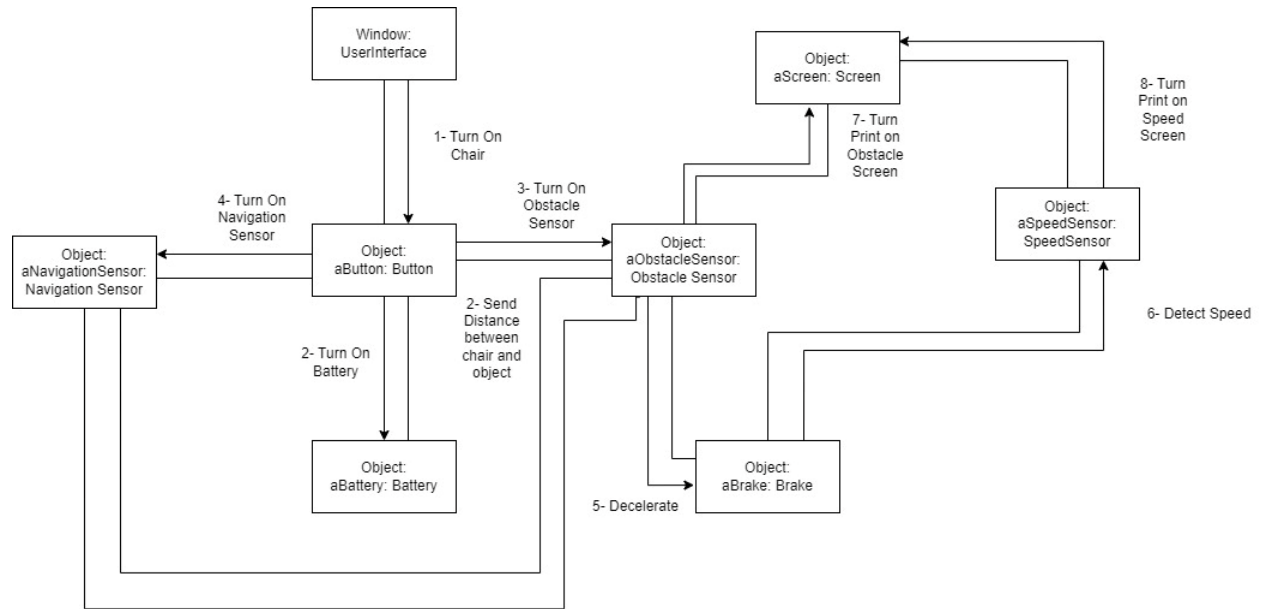


State Machine

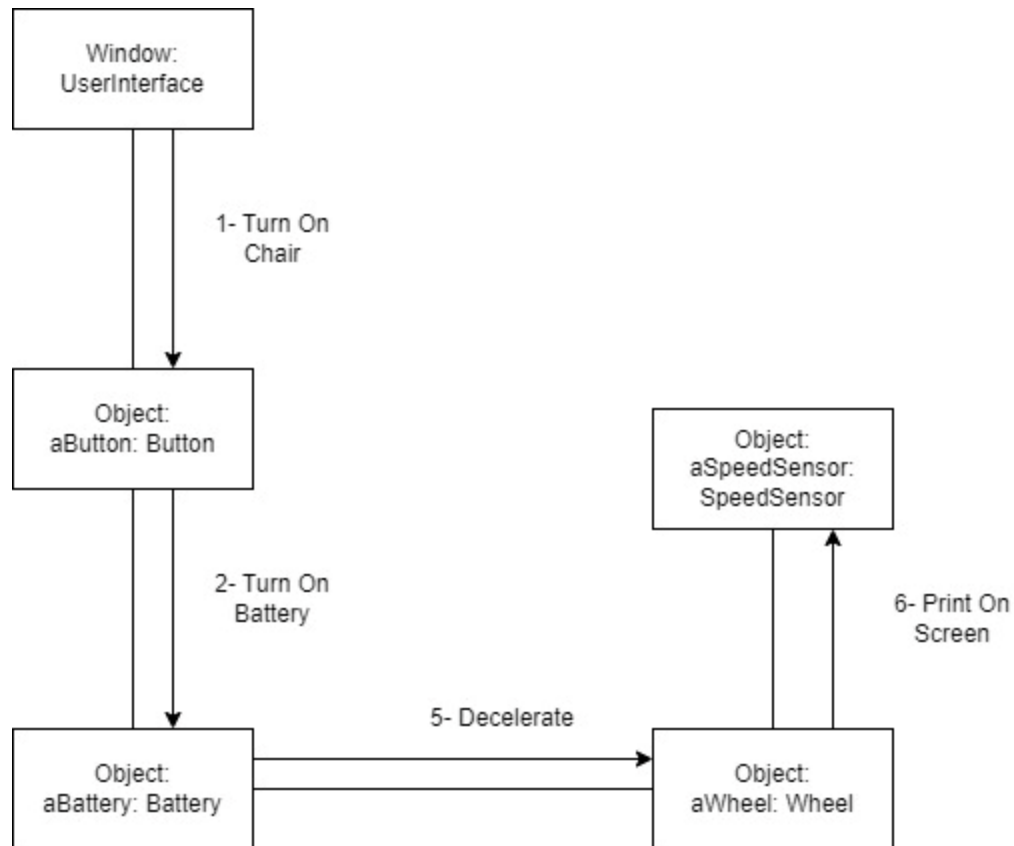


Collaboration Diagram

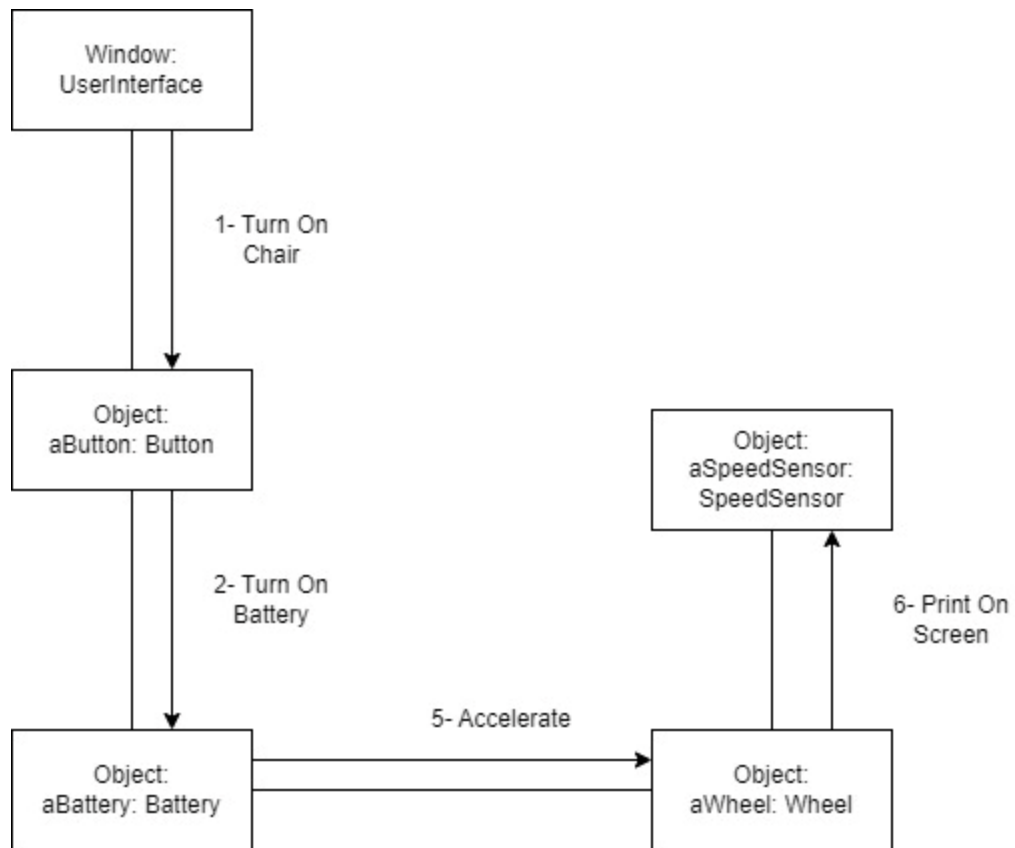
Obstacle Detection



Decelerate



Accelerate



Table

Event	Response	Response Time
Accelerate	Increase the chair's speed	0.3ms
Control Movement	Change the chair's direction	0.8ms
Decelerate	Decrease the chair's speed	0.3ms
Detect Obstacle	Detect the presence of obstacles within the chair's perimeter.	0.7ms
Detect Speed	Identify the chair's moving speed	0.1ms
Measure Battery Percentage	Identify the chair's battery percentage	0.2ms
Measure Distance	Calculate the distance between the chair and the found obstacle	0.5ms
Power Event	Enable or disable the chair (On and Off)	0.3ms