Cairo University
Faculty of Computers and Artificial Intelligent

CS251

Software Engineering 1

Project Name: Software Design

Team Names:

ID	Name
20200558	Mennatullah Sayed Abo-Elhgag
20201080	Reham Hatem Mohamed
20200813	Youssef Diaa El-Sayed
20200510	Marwan Tarek Awad

Month: May

Year: 2022

CS251: Phase 1 – <RYM>

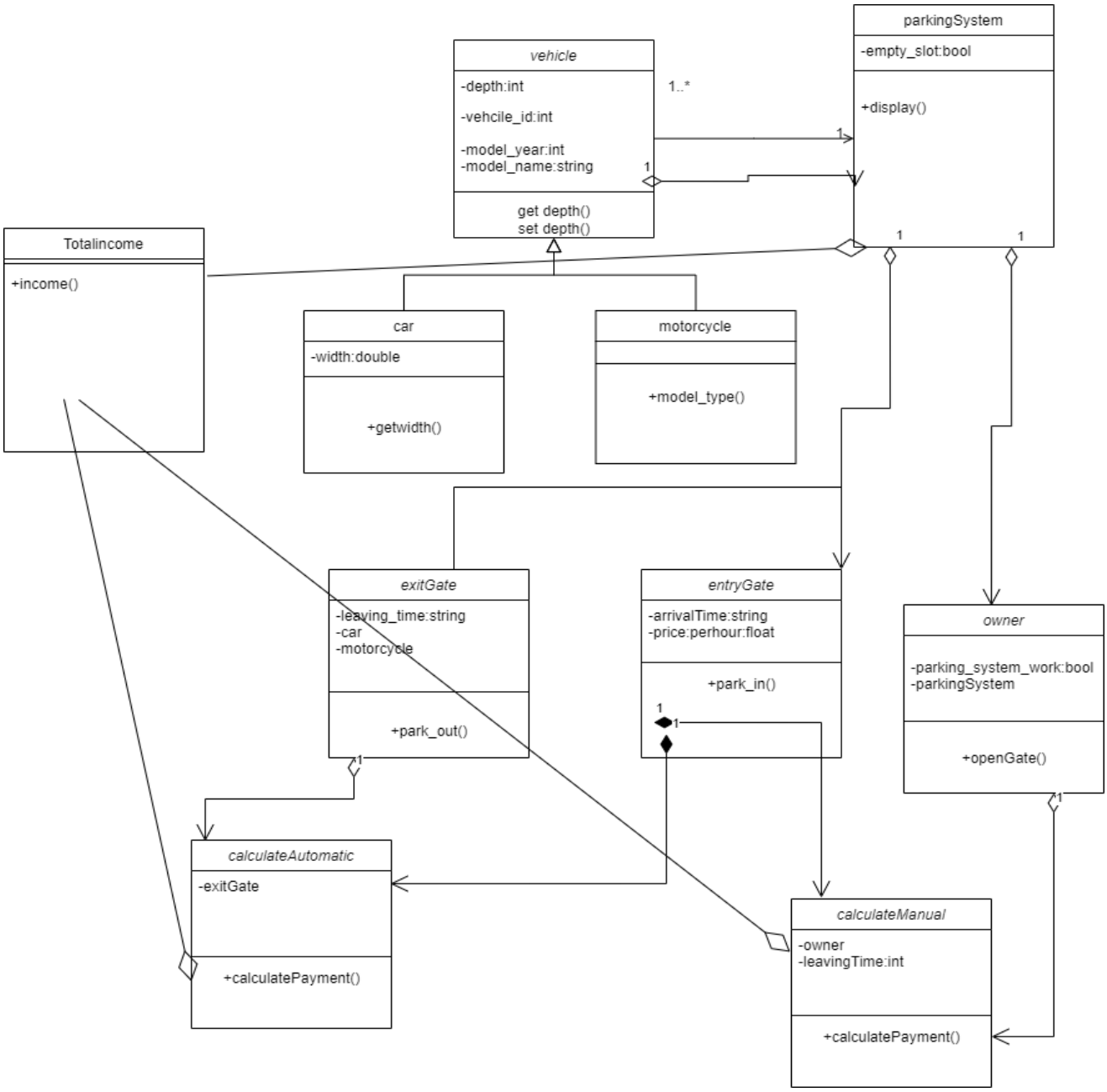
Software Design Specification

Document Purpose and Audience

This document is related to a software project which is talking about parking area, and it includes class diagrams, sequence diagrams.

System Models

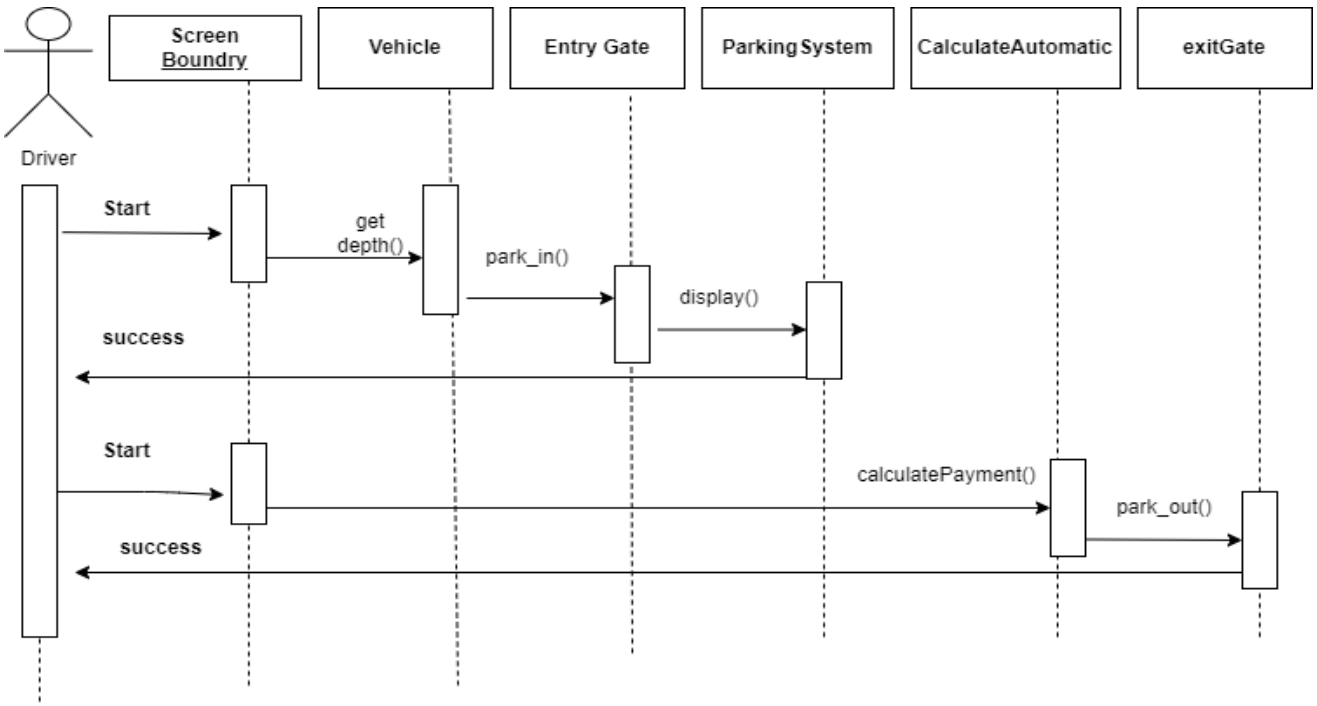
1. Class diagrams



List down your classes and describe them:

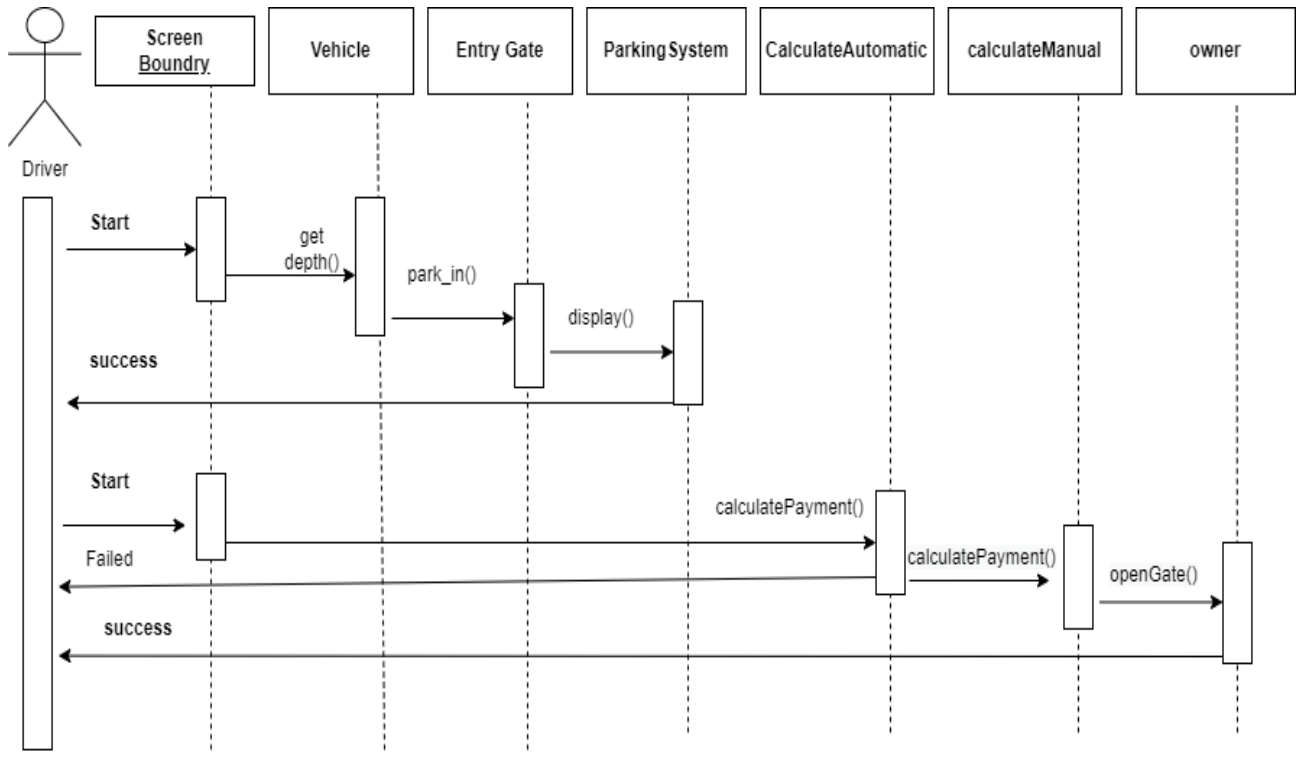
Class ID	Class Name	Description & Responsibility
1	**parkingSystem**	Responsible for displaying the empty spaces of the owner
2	**Vehicle**	Responsible for vehicle length, year of issue, model name and identification card (ID)
3	**Totalincome**	Responsible for total income
4	**Car**	Responsible for the width of the vehicle type of car
5	**Motorcycle**	Responsible for the type of motorcycle
6	***exitGate***	Responsible for park out (Exit)
7	***entryGate***	Responsible for determining the time of arrival and whether there is a place to park the car and determining the most appropriate place to park it in relation to its space (Park in)
8	**owner**	Responsible for the number of security men and knowing if the system is working or not. In the event of a system failure, the security men open the exit gate and calculate the parking price.
9	**calculateAutomatic**	Responsible for setting the price by the system
10	***calculateManual***	Responsible for setting the price by the owner in the event of a system failure

2. Sequence diagrams



Class - Sequence Usage Table

Class Name	Sequence Diagrams	Overall used methods
vehicle	1(means Seq Ids 1 used vehicle class)	get depth ()
entryGate	2 (means seq ids 2 used *entryGate* class)	park_in ()
parkingSystem	3 (means seq ids 3 used parkingSystem class)	display ()
calculateAutomatic	4 (means seq ids 4 used *calculateAutomatic* class)	calculatePayment ()
exitGate	5 (means seq ids 5 used *exitGate* class)	park_out ()



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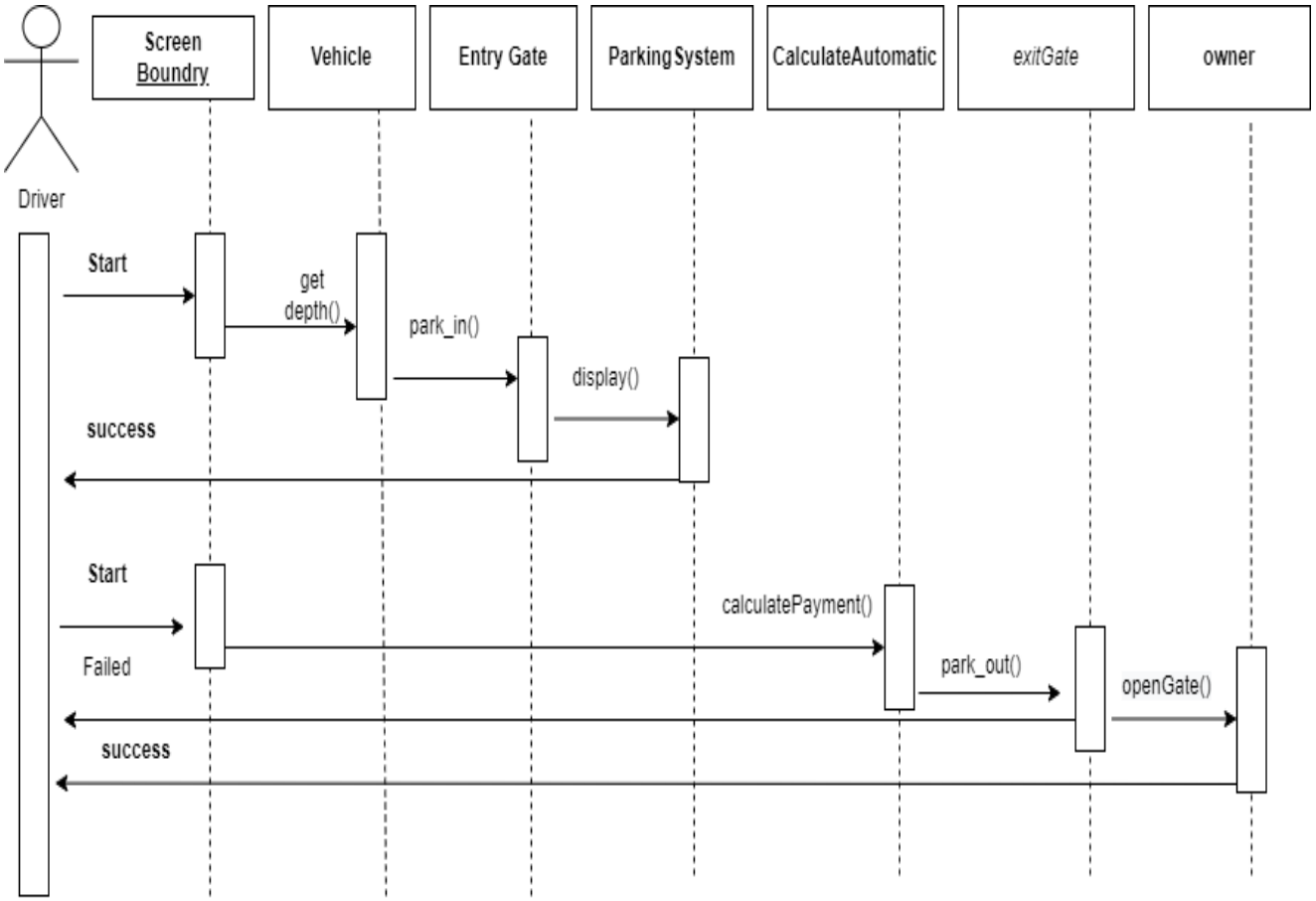
calculateManual	5 (means seq ids 5 used calculateManual class)	calculatePayment ()
owner	6 (means seq ids 6 used *owner* class)	openGate ()



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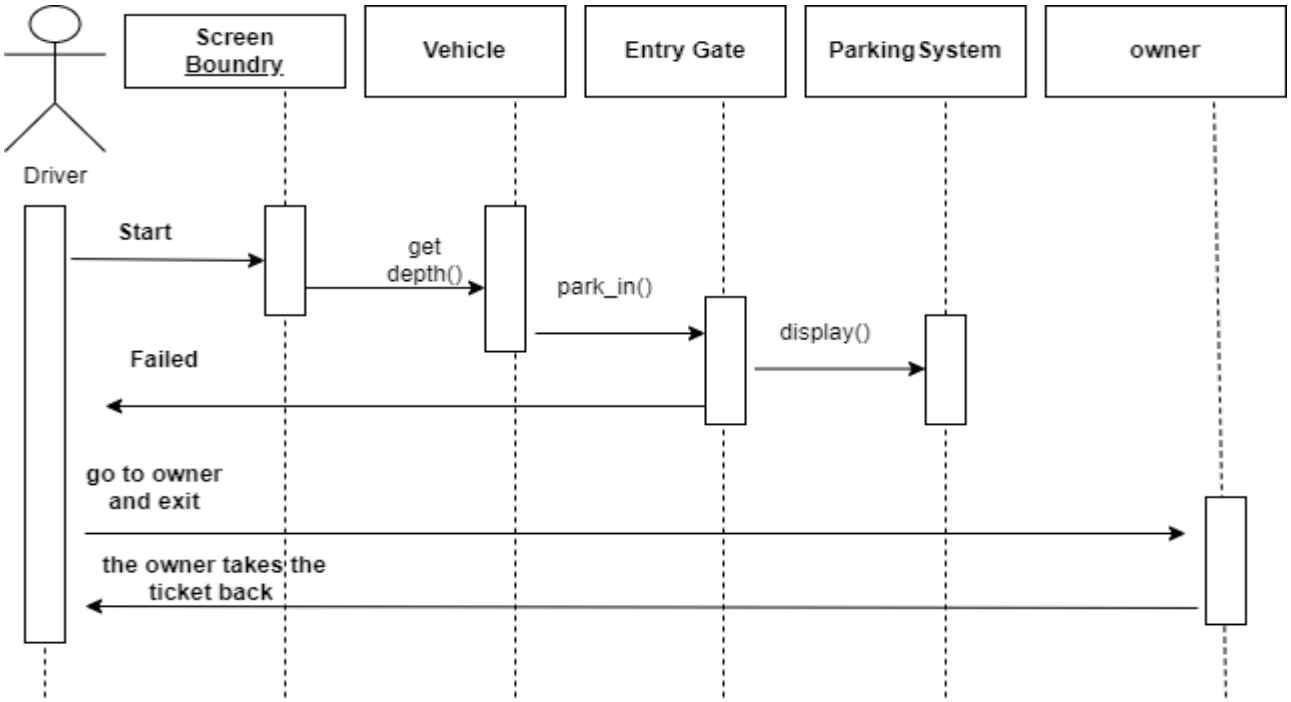

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Ownership Report

Item	Owners
Class diagram	**Youssef Diaa El-Sayed**
Sequence diagram	**Mennatullah Sayed Abo-Elhgag**