Cairo University  
Faculty of Computers and Artificial Intelligent

**CS251**

**Software Engineering I**

Project Name

Software Design

Team Names

Month & Year

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# Team

|  |  |  |  |
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# 

# Document Purpose and Audience

# This document includes Design Specifications for Parking Garage application. who will read it project manager and garage owner.

**In order to understand the design of the software before it’s implemented**.

# 

# System Models

## I. Class diagram

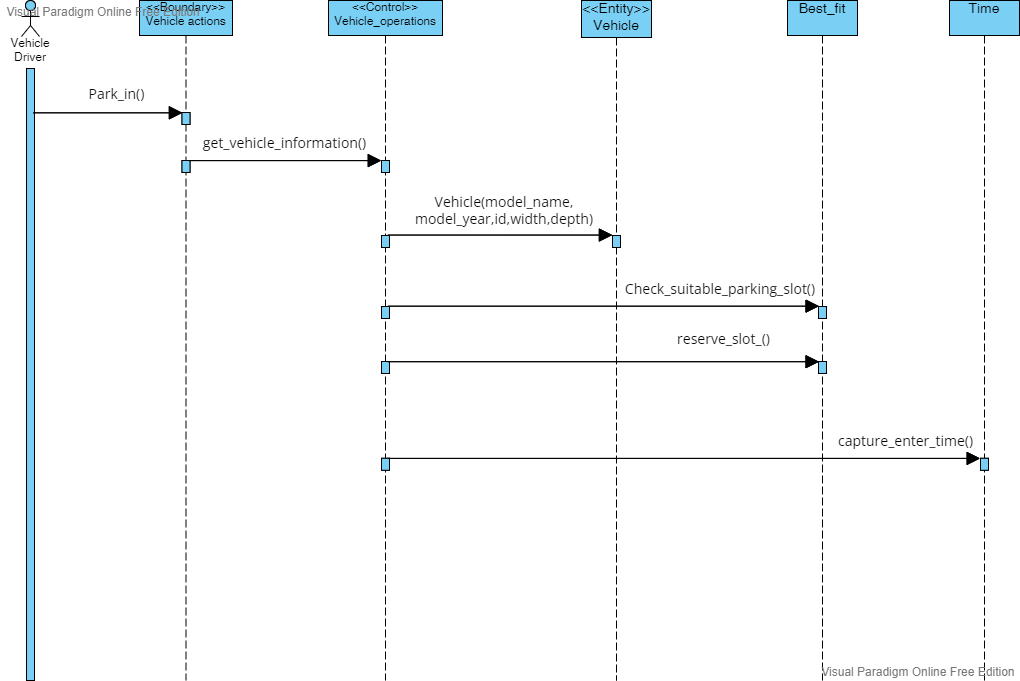
**Class table**

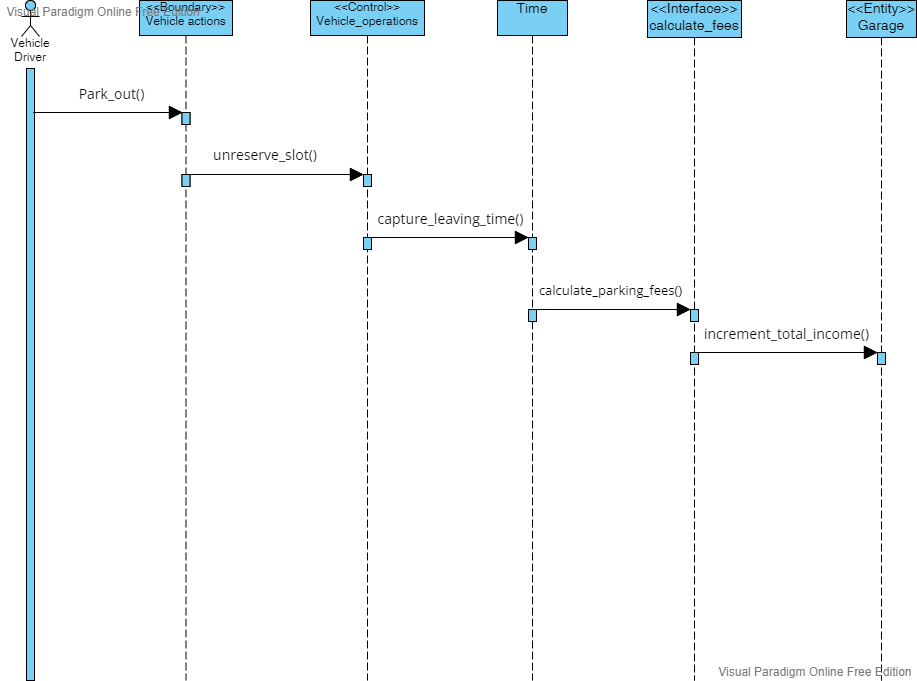
| **Class ID** | **Class Name** | **Description & Responsibility** |
| --- | --- | --- |
| 1 | Garage owner actions | Shows all actions that the owner can do. |
| 2 | Garage operations | Responsible for the handling calculations and checking the actions that the owner wants to do. |
| 3 | vehicle | Storing each vehicle information. |

## ­

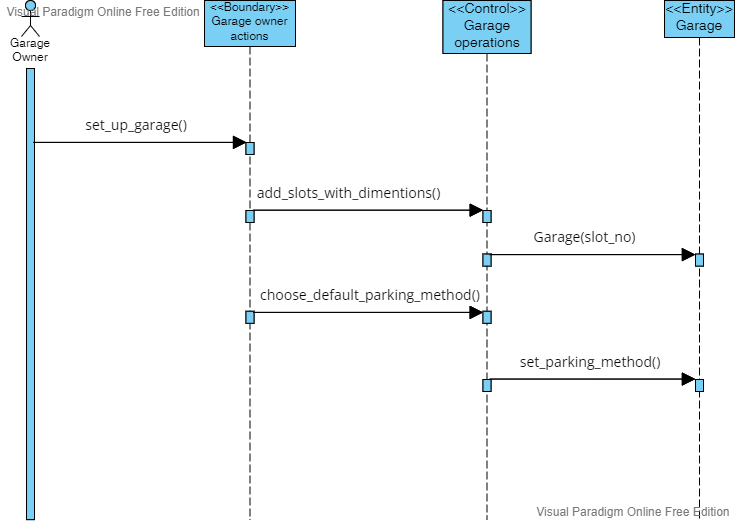
## II. Sequence diagrams

**Sequence diagram id:1**

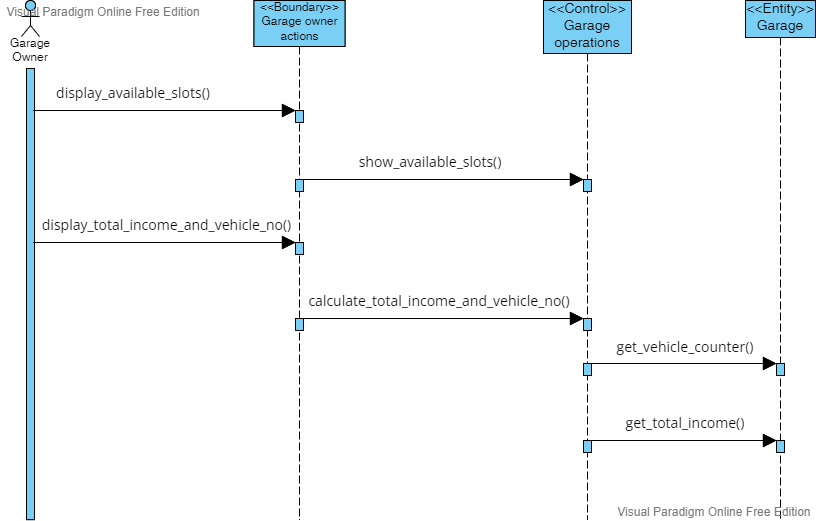
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**Sequence diagram id:2**

**Sequence diagram id:3**

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**Sequence diagram id:4**

****

### Class - Sequence Usage Table

| **Class Name** | **Sequence Diagrams** | **Overall used methods** |
| --- | --- | --- |
| Garage | 2, 3, 4 | increment\_total\_income ()  set\_parking\_method ()  get\_vehicle\_counter ()  get\_total\_income ()  set\_slot\_no () |
| Garage operations | 3 ,4 | add\_Slots\_with\_dimentions ()  choose\_default\_parking\_method ()  show\_available\_slots ()  calculate\_total\_income\_and\_vehicle\_no () |
| Garage owner actions | 3 ,4 | Set\_up\_garage ()  display\_available\_slots ()  display\_total\_income\_and\_vehicle\_no () |
| Vehicle | 1 | set\_vehcile\_id ()  set\_model\_name ()  set\_model\_year ()  set\_vehcile\_width ()  set\_vehicle\_depth () |
| Vehicle actions | 1, 2 | Park\_in ()  Park\_out () |
| Vehicle operations | 1, 2 | get\_vehicle\_information ()  unreserve\_slot () |
| Time | 1, 2 | Capture\_entering\_time ()  Capture\_leaving\_time () |
| Best\_fit | 1 | Check\_suitable\_parking\_slot ()  Reserve\_slot () |
| Calculate\_fees | 2 | Calculate\_parking\_fees () |

# Ownership Report

|  |  |
| --- | --- |
| **Item** | **Owners** |
| Class diagram | *Ahmed, Omar, Hoda, Hadeer* |
| Sequence diagram | *Ahmed, Omar, Hoda, Hadeer* |