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 is to create a class diagram and sequence diagram of the sequence, it is directed to Ahmed and Kareem to create the java source code, in addition to the TAs**

# System Models

## I. Class diagrams

Diagram

Description automatically generated

| **Class ID** | **Class Name** | **Description & Responsibility** |
| --- | --- | --- |
| C1 | Main | Runs main function and holds objects of other classes |
| C2 | GarageSlots | Manages slots of the garage from holding data to filing the data about slots |
| C3 | Options | Shows options to the user |
| C4 | Functionality  *Interface* | An interface for functionalities |
| C5 | ParkiIn  *Interface* | An interface for parkIn classes |
| C6 | ParkInFirst | Park a vehicle using first come first method |
| C7 | ParkInBest | Park a vehicle using best fit method |
| C8 | ParkOut | Park out a vehicle |
| C9 | TotalIncome | Display total income to the garage owner |
| C10 | TotalVehicles | Display number of vehicles parked in the garage |
| C11 | AvailableSlots |  |
| C12 | ParkingSlot | A class which holds |
| C13 | Vehicle | A class which holds data about the Vehicles |
| C14 | Dimension | A collection of width and depth variables in a class |
| C15 | Time | A collection of time and date variables in a class |

## II. Sequence diagrams

Diagram

Description automatically generated

Diagram

Description automatically generated

### Class - Sequence Usage Table

| **Class Name** | **Sequence Diagrams** | **Overall used methods** |
| --- | --- | --- |
| main | 1,2 | main |
| parkInFirst | 2 | parkIn |
| ParkInBest | 2 | parkIn |
| ParkOut | 2 | parkOut |
| TotalIncome | 2 | totaIncome |
| TotalVehicle | 2 | totalVehicles |
| AvailableSlots | 2 | availableSlots |
| GarageSlots | 1 | fillParkingSlot |
| Options | 1 | showOptions, doFunctionality |

# Ownership Report

|  |  |
| --- | --- |
| **Item** | **Owners** |
| Class Diagram, Sequence Diagram | *Yasser Mohammed* |
| Functional, non-functional Requirements and Use Case Diagram | *Ahmed Mohammed Majeed* |
| Java source code | *Ahmed Ayman, Kareem Mohamed* |