Cairo University  
Faculty of Computers and Artificial Intelligent

**CS251**

**Software Engineering I**

Parking Garage Application

Software Design

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| **Name** | **ID** |
| Abdelrahman Mohamed Ramadan | 20200293 |
| Ziyad Ashraf Ali (s24) | 20200197 |
| Nouran Ahmed Abdelaziz | 20200609 |

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# Team

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| --- | --- | --- | --- |
| **ID** | **Name** | **Email** | **Mobile** |
| 20200609 | Nouran Ahmed Abdelaziz | noranahmed5617@gmail.com | 01115743944 |
| 20200293 | Abdelrahman Mohamed Ramadan | abdra1396@gmail.com | 01145062539 |
| 20200197 | Ziyad Ashraf Ali | ziyadazab36@gmail.com | 01026603488 |

# Document Purpose and Audience

**Document Purpose:** The purpose of this document is to specify the Parking Garage Application design, using class diagrams, sequence diagrams, and their tables that specify them.

**Document Audience:** The Customer.

# 

# System Models

## Class diagrams

Diagram

Description automatically generated

| **Class ID** | **Class Name** | **Description & Responsibility** |
| --- | --- | --- |
| **1** | **App** | Class App is the one which controls the other classes, its responsible for capturing the arrival and the departure time, and for calculating the fees. |
| **2** | **vehicle** | Class vehicle is responsible for entering the driver’s vehicle data. |
| **3** | **Slots** | Class Slots is responsible for Entering slots dimensions, choosing which slot the driver will park in, displaying the available slots, and for parking in and out. |
| **4** | **Display** | Class Display is responsible for displaying slots, fees, and the total income. |

## 

## II. Sequence diagrams

**Park in sequence diagram, ID : 1.**

Diagram

Description automatically generated

**Park out sequence diagram, ID : 2.**

**Diagram

Description automatically generated**

**Set up sequence diagram, ID : 3.**

**Diagram

Description automatically generated**

### Class - Sequence Usage Table

| **Class Name** | **Sequence Diagrams** | **Overall used methods** |
| --- | --- | --- |
| **App** | IDs: 1, 2, 3 | SelectConfiguration()  EnterMaxOfSlots()  CaptureDepartureTime()  CaptureArrivalTime()  CalculateFees() |
| **Slots** | IDs: 1, 2, 3 | EnterSlotDimension()  ParkOut()  ParkingIn()  chooseSlot()  checkAvailableSlots() |
| **Display** | IDs : 1, 2, 3 | DisplayConfiguration()  DisplayFees()  DisplayTotalincome()  DisplaySlots() |
| **vehicle** | IDs: 1 | EnterVehicleData() |

# Ownership Report

|  |  |
| --- | --- |
| **Item** | **Owners** |
|  |  |
|  |  |