



CourseName: Software Engineering I

Course Code: CS251

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ProjectName: Automated Garage System

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CS251: Phase 2 – ISGSs

Project: <Automated Garage System>

Software Design Specification

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Authors	Error! Bookmark not defined.



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Team

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Document Purpose and Audience

- This document will talk about the design of the system (Automated Garage System) and subsystems included describing (UML Diagram of Classes - Sequence Diagram - Entity Relation Diagram - In Addition To Adding Basics Ideas About Gui Being Used In System) .
- Audience : CEO - Project Manager - Developers - Analyst .



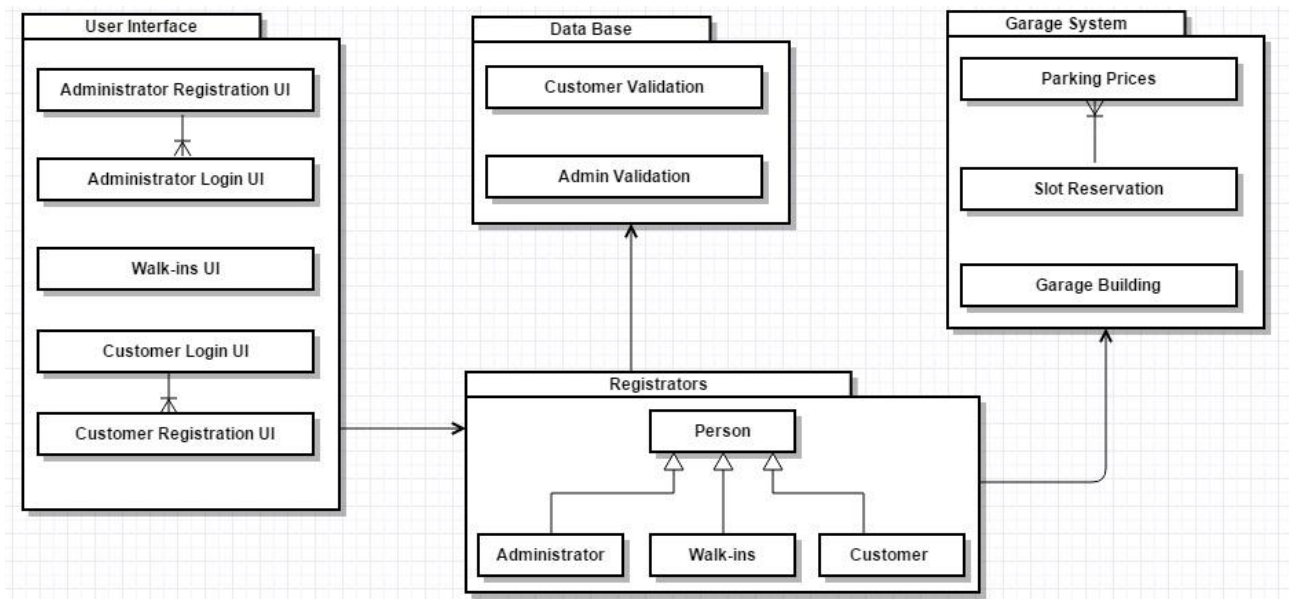
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System Models

System Decomposition



This system decomposition is consist of 4 packages , the first one is the UI package which include the five classes : Administrator Registration Form , Administrator Login Form , Walk-ins Form , Customer Registration Form and Customer Login Form where the relation between two classes admin registration form and admin login form is one to many and the second package is the Registrators package which consist of 4 classes { Walk-ins , Customer , Administrator which in inherits from Person class } and the third package is the Data Base which contain two class { Car Owner Validation And Admin Validation } where each one contains methods for any kind of communications on database and the fourth package is the Garage System which include three classes parking prices , slot reservation and garage building which between the two classes parking prices and slot reservation one to many relation .

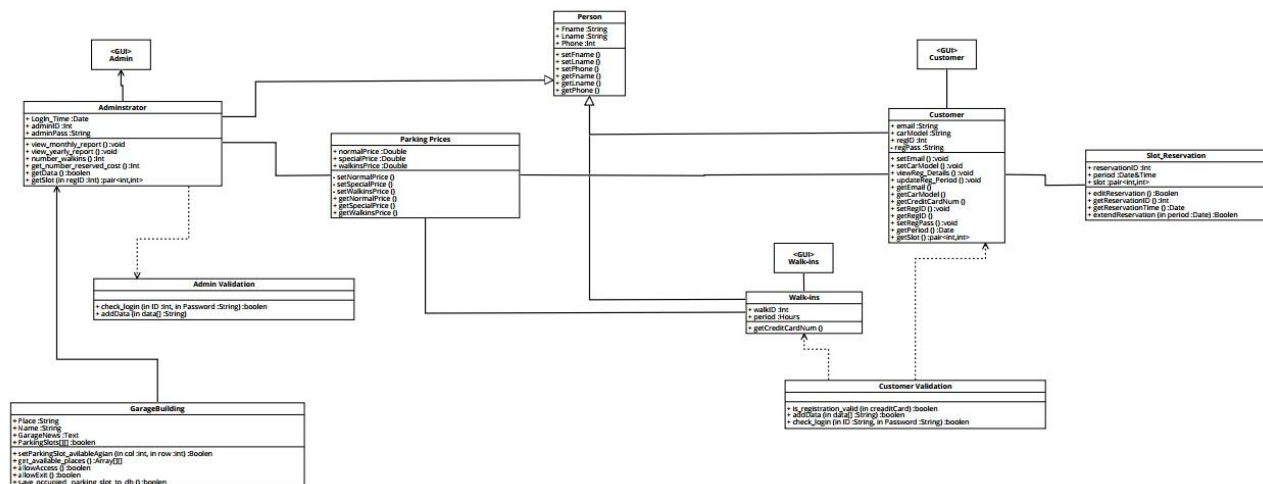


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Class diagrams:



Class ID	Class Name	Subsystem ID	Description
1	Administrator Registration Form	1	Form For Administrator To Register.
2	Administrator Login Form	1	Form For Administrator To Login
3	Walk-ins Form	1	Form For Walk-ins.
4	Monthly Car Owner Registration Form	1	Form For Monthly Car Owner To Register.
5	Monthly Car Owner Login Form	1	Form For Monthly Car Owner To Login.
6	Car Owner Validation	2	Class Which Include Methods For Any Kind Of Usage On Database To Car Owner Data.
8	Administrator Validation	2	Class Which Include Methods For Any Kind Of Usage On Database To Administrator.
9	Person	3	Class Person Is Super Class Of Walk-ins, Monthly Car Owner And Administrator.
10	Administrator	3	Class That Describes Administrator Attributes And Behavior In System.
11	Walk-ins	3	Class That Describes Walk-ins In System.



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Class ID	Class Name	Subsystem ID	Description
12	Monthly Car Owner	3	Class That Describes Car Owner Attributes And Behavior In System
13	Parking Prices	4	Class Specifies Prices On Slot To Three Categories { Normal , Special , Walk-ins }.
14	Slot Reservation	4	Class Describe Each Reservation Made By Reservation ID And Time And Slot Selected From Building.
15	Garage Building	4	Class That Describe Garage Building With Number Of Slots And Name And Place .

Important Algorithm

Algorithm For Making Statistics To Get Daily Reports.

1. Admin Log In.
2. System Check Current Data In Database.
3. Admin Request For Monthly Report.
4. System Retrieve Number Of People Who Registered On Specific From Database.
5. System Also Retrieve Amount Of Money Achieved On Specific From Database.
6. Create A Report From Data Retrieved.
7. Print A Report And Submit It To System Owner.



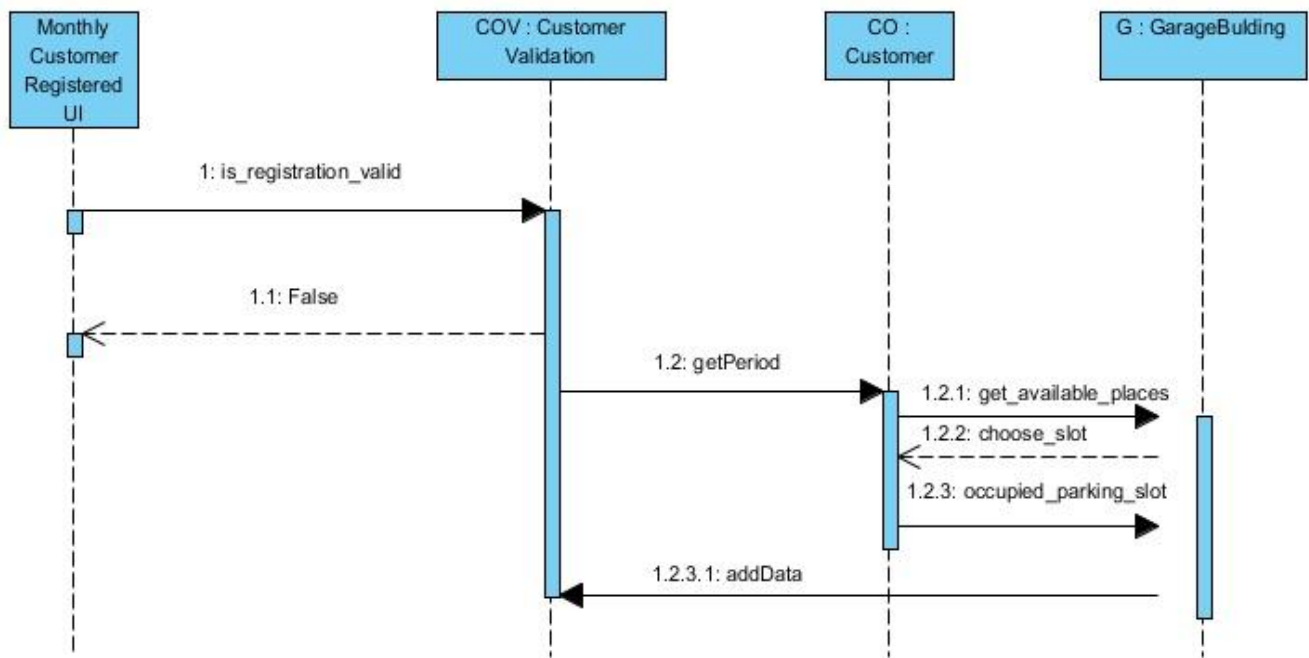
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Sequence diagrams

Sequence Diagram ID: 1



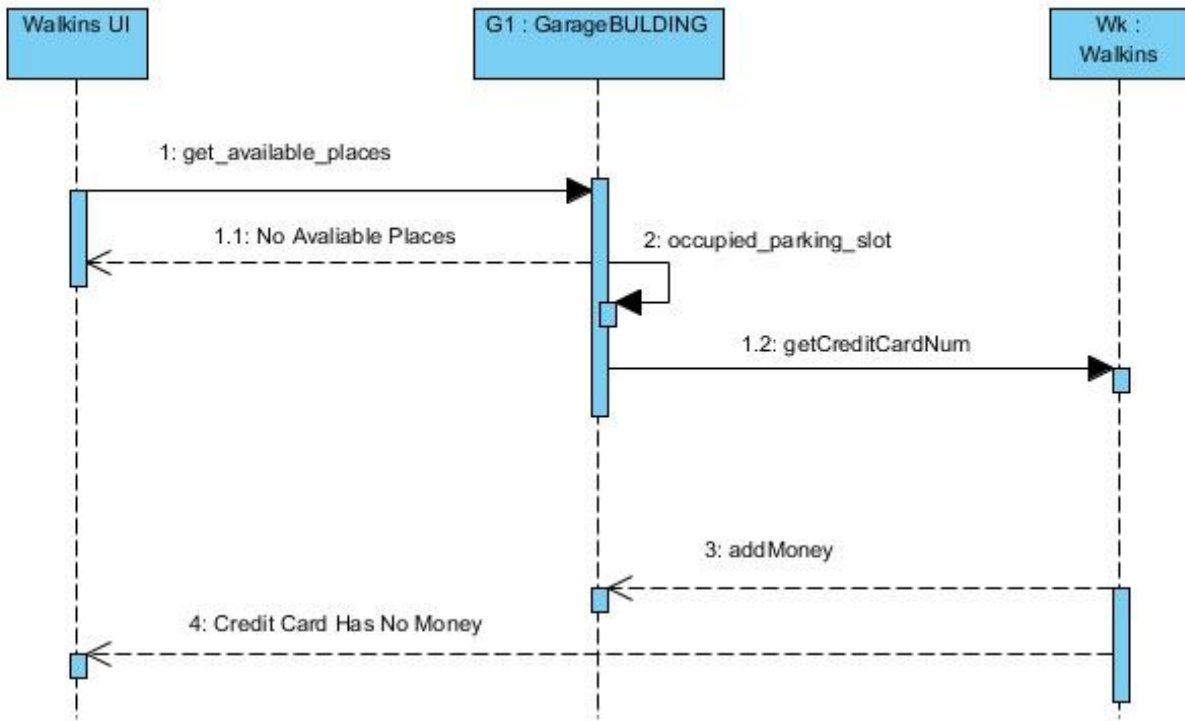


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Sequence Diagram ID: 1.1



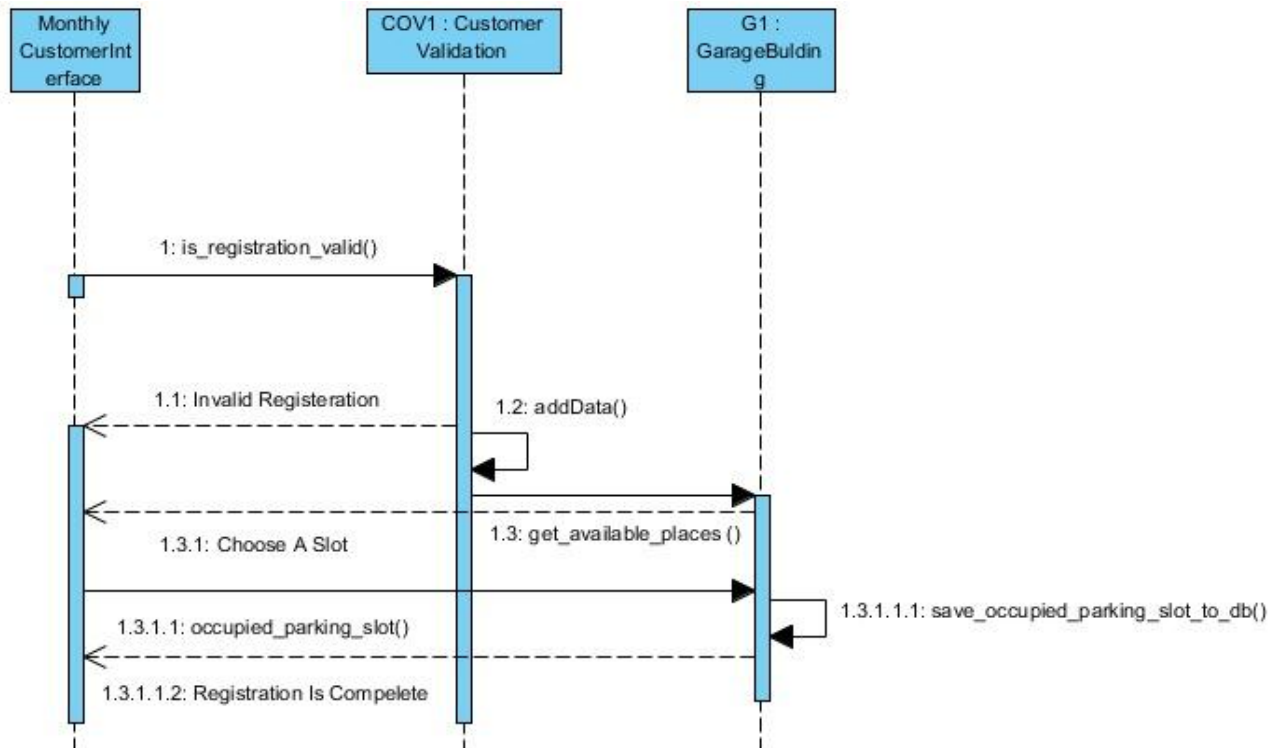


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Sequence Diagram ID: 1.2



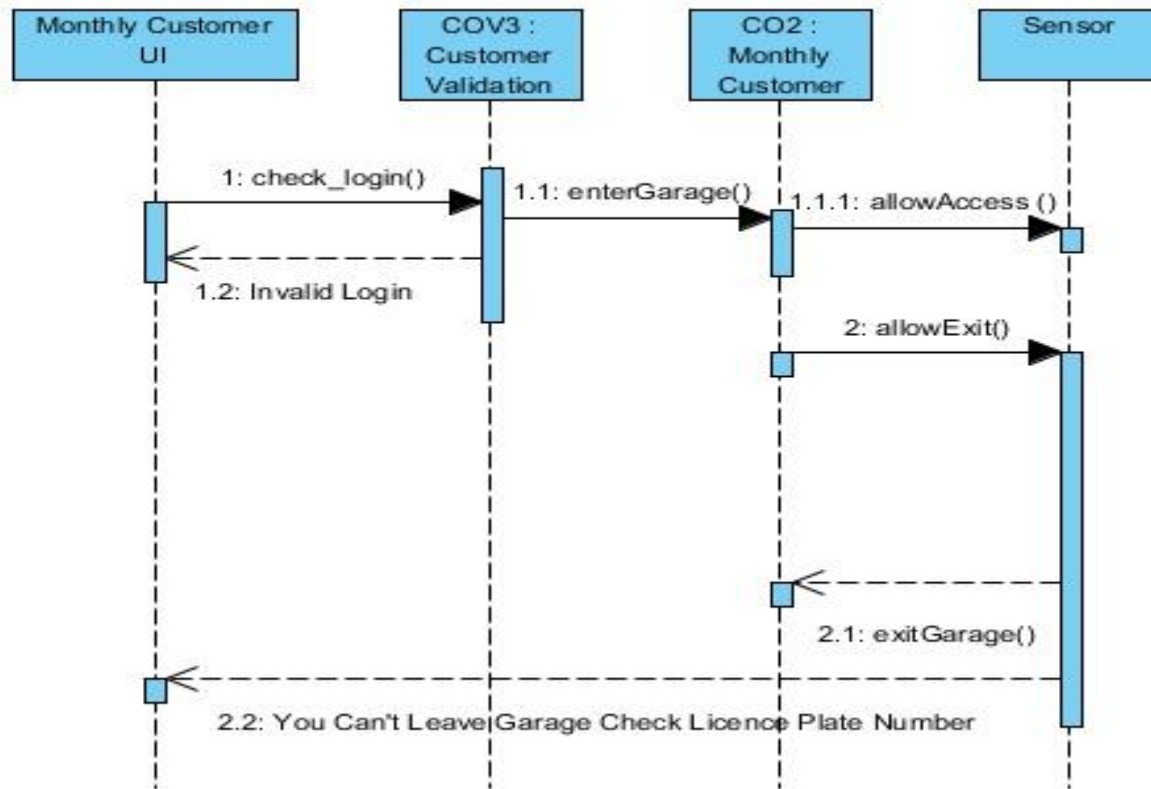


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Sequence Diagram ID: 2



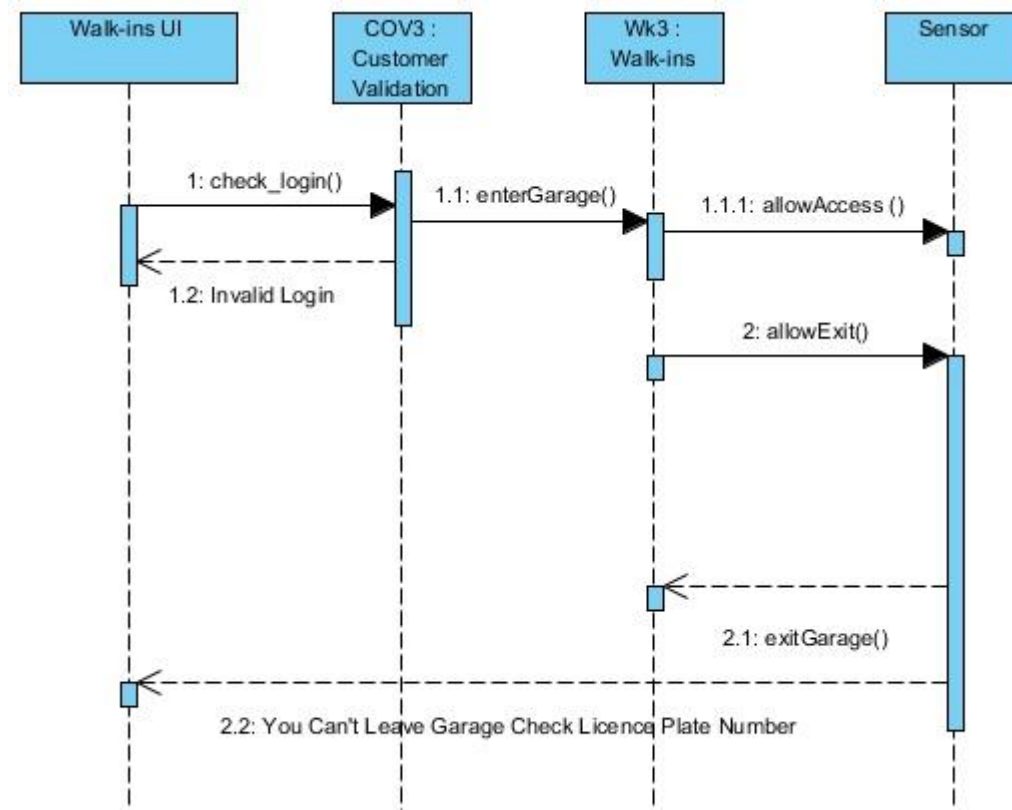


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Sequence Diagram ID: 2.1



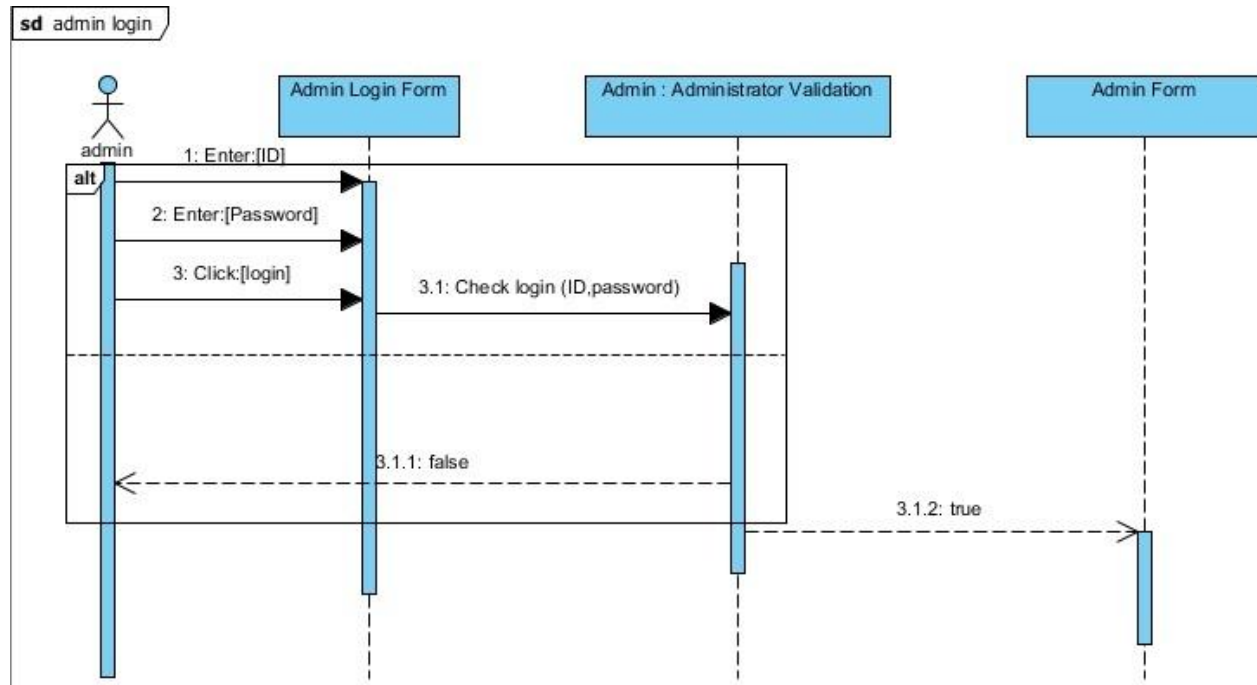


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Sequence Diagram ID: 3



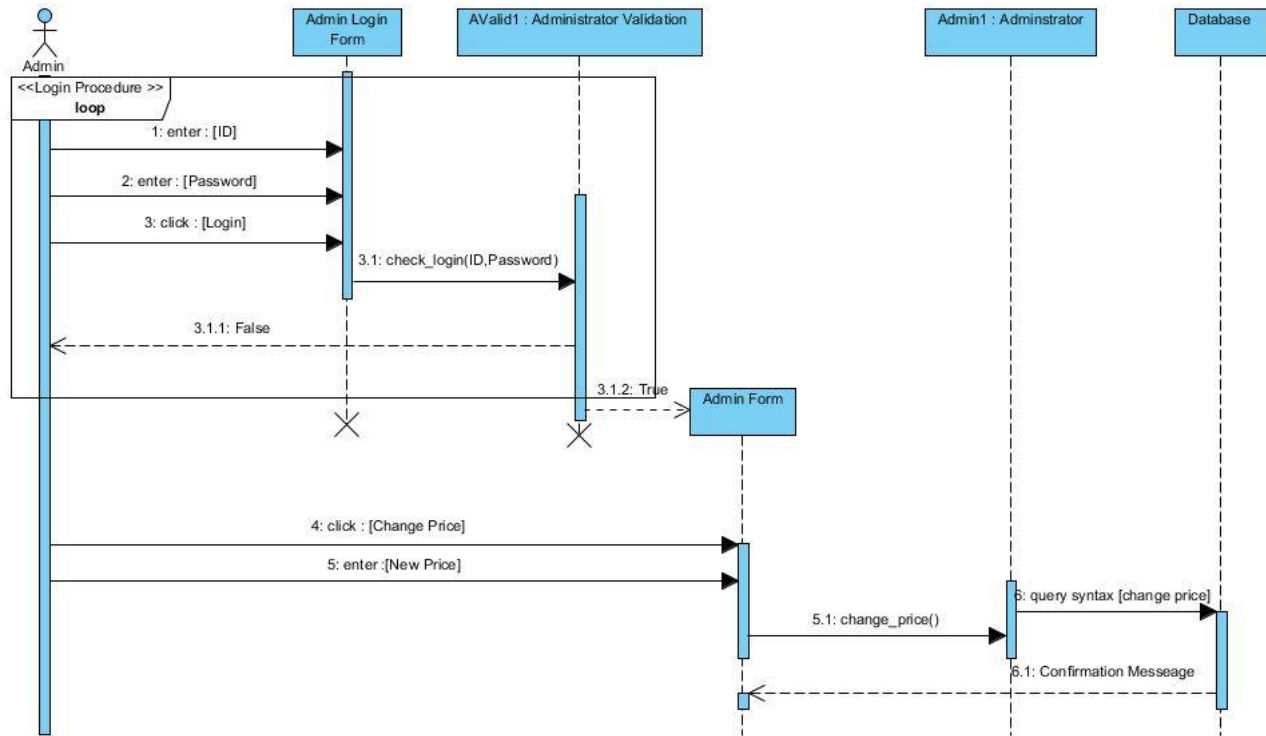


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Sequence Diagram ID: 3.1



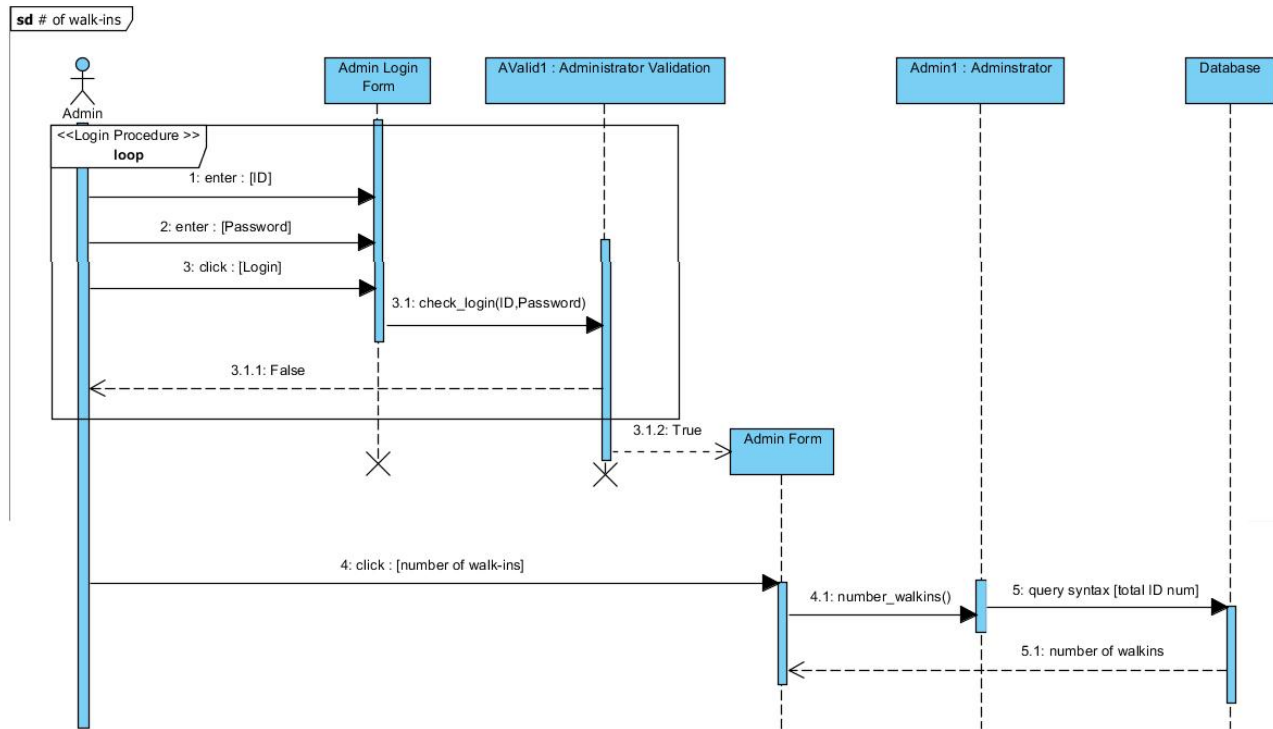


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Sequence Diagram ID: 3.2



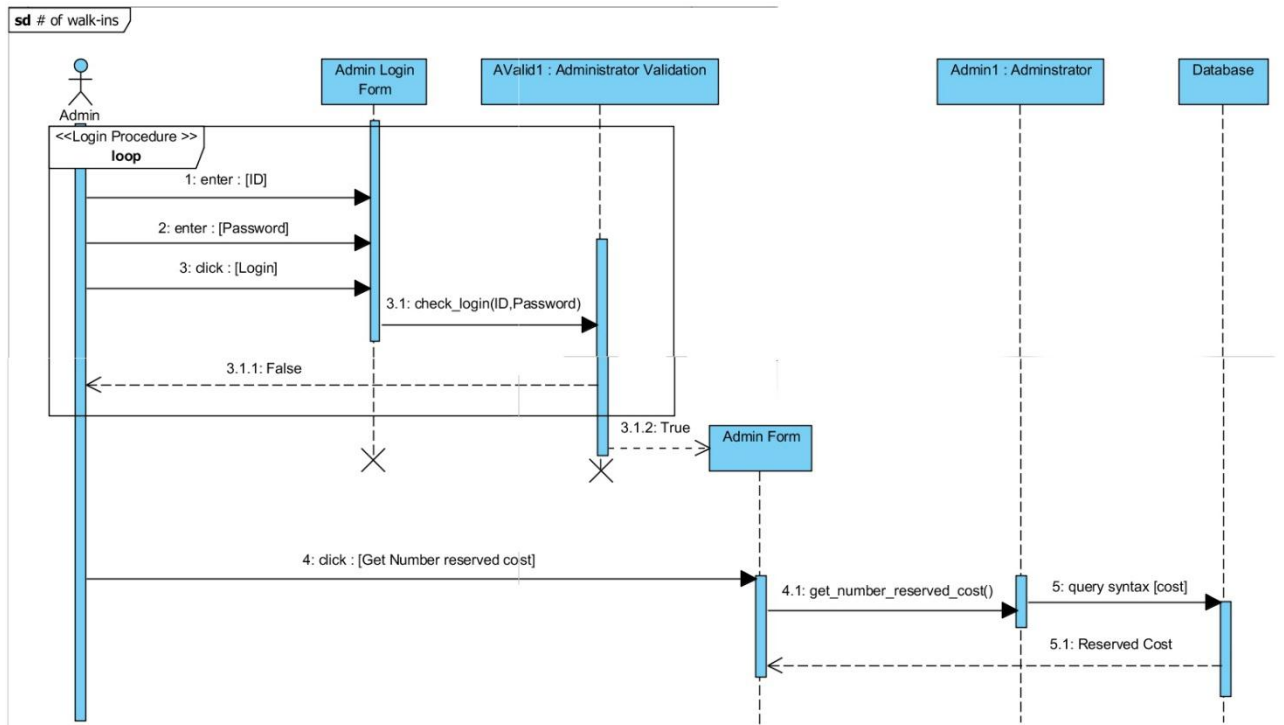


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Sequence Diagram ID: 3.3



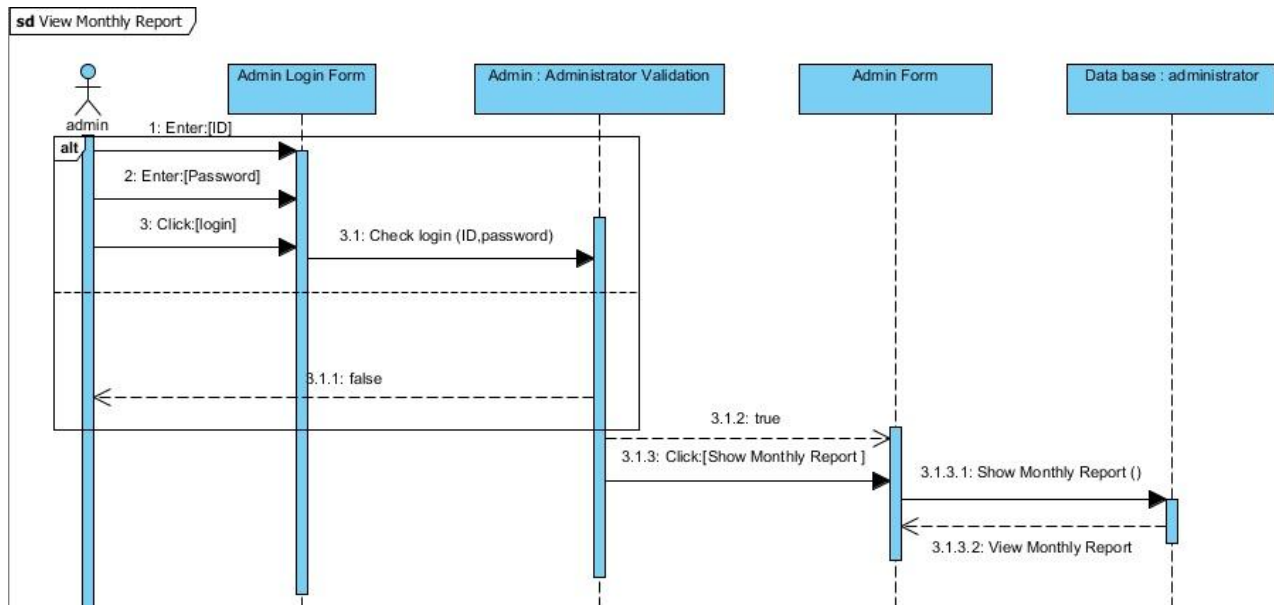


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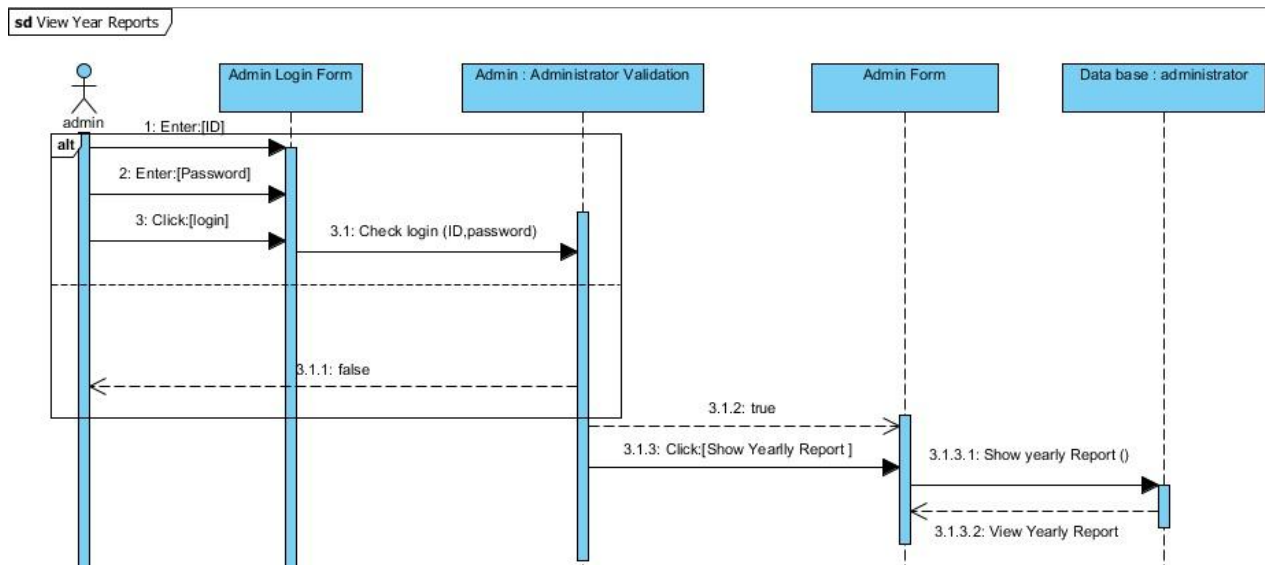
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Sequence Diagram ID: 3.4



Sequence Diagram ID: 3.5





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Class - Sequence Usage

Class Name	Sequence Diagrams	Overall used methods
Customer	1	Is_resigstration_valid , getperiod ,getavaliabe places, chooseslot,occubied_parking_slot
Walk-ins	1.1	get_avaliabe_places , occupied_parking_slot , getCreditCardNum, addmoney
Customer, Customervaldiation, GarageBulding	1.2	Is_resigstration_valid, get_avaliabe_places , occupied_parking_slot , add Data
Customer, Customervaldiation	2	Check_login, enterGarage,allowAcces, allowExit,exit Garage
Walk-ins, Customervaldiation	2.1	Check_login, enterGarage,allowAcces, allowExit,exit Garage
Admin, AdminValdiation , AdminLoginForm	3	GetData , Check login
Admin, AdminValdiation , AdminLoginForm	3.1	GetData , Check_login, Change_price
Admin, AdminValdiation , AdminLoginForm	3.2	GetData , Check_login, Number_walkIns
Admin, AdminValdiation , AdminLoginForm	3.3	GetData , Check_login, get_number_reserved_cost
Admin, AdminValdiation , AdminLoginForm	3.4	GetData , Check_login, view_monthly_report
Admin, AdminValdiation , AdminLoginForm	3.5	GetData , Check_login, view_Yearly_report

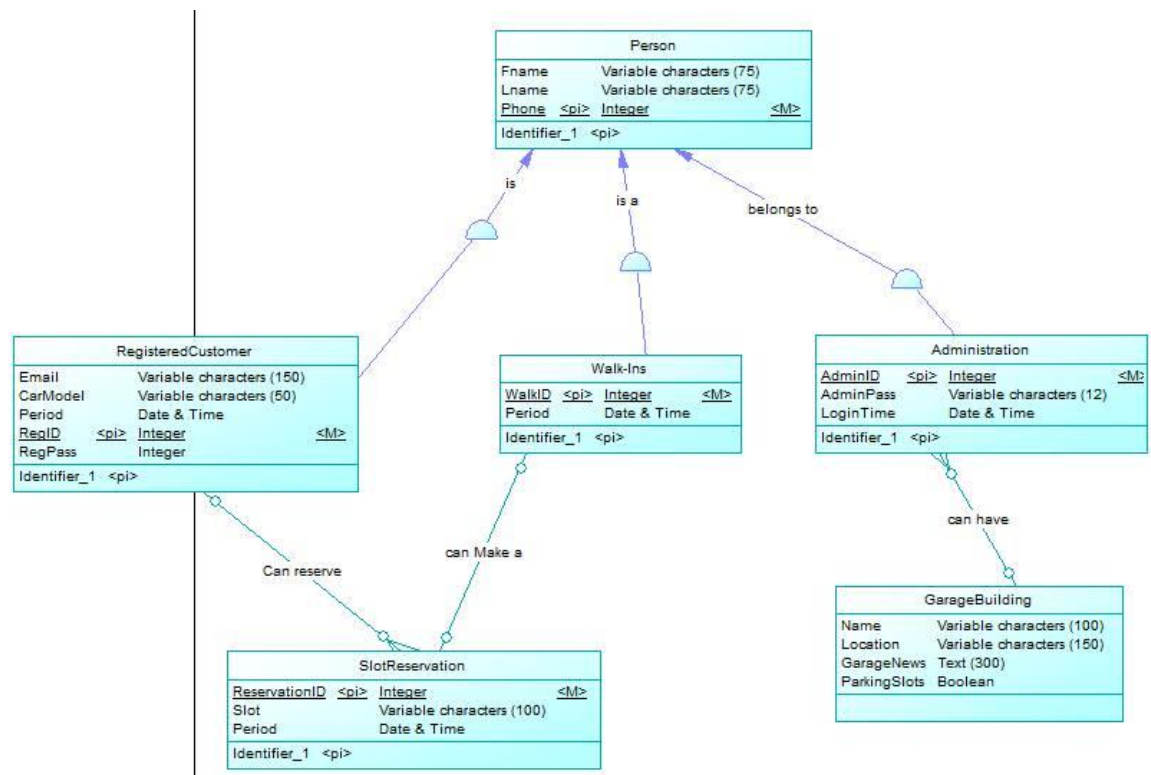


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Physical Entity-Relationship Diagram





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User Interface Design

Screen 1 – Admin Login Screen

The image shows a mockup of an 'Admin Form' for a login screen. It consists of a light gray rectangular container. Inside, there is a white rounded rectangle. At the top left of this white area is the text 'Admin Form'. Below it are two input fields: the first is labeled 'ID' and the second is labeled 'Password'. Both fields are light gray with rounded corners. Below the password field is a green rectangular button with the word 'Login' in white text.



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Screen 2 – Admin Home Page Screen

Admin Panel



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Screen 3 – Customer Registration Screen



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Signup Form

Period

Hour

Day

Month

Card number

Expiration date

Cardholder name

CVC/CVV

The last 3 or 4 digits on back of the card

☐ I Agree to the terms of use

Sign Up

Have an account with us? [Login here](#)



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Screen 4 – Customer Registration Configuration Screen

Signup Confirmation

Login ID

xxxxxxxxxxxxxxxx

Reservation ID

xxxxxxxxxxxxxxxx

Done!



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Screen 5 – Customer Login Screen

Login Form

Login ID

Password

Login

Forgot your password? [Reset here](#)

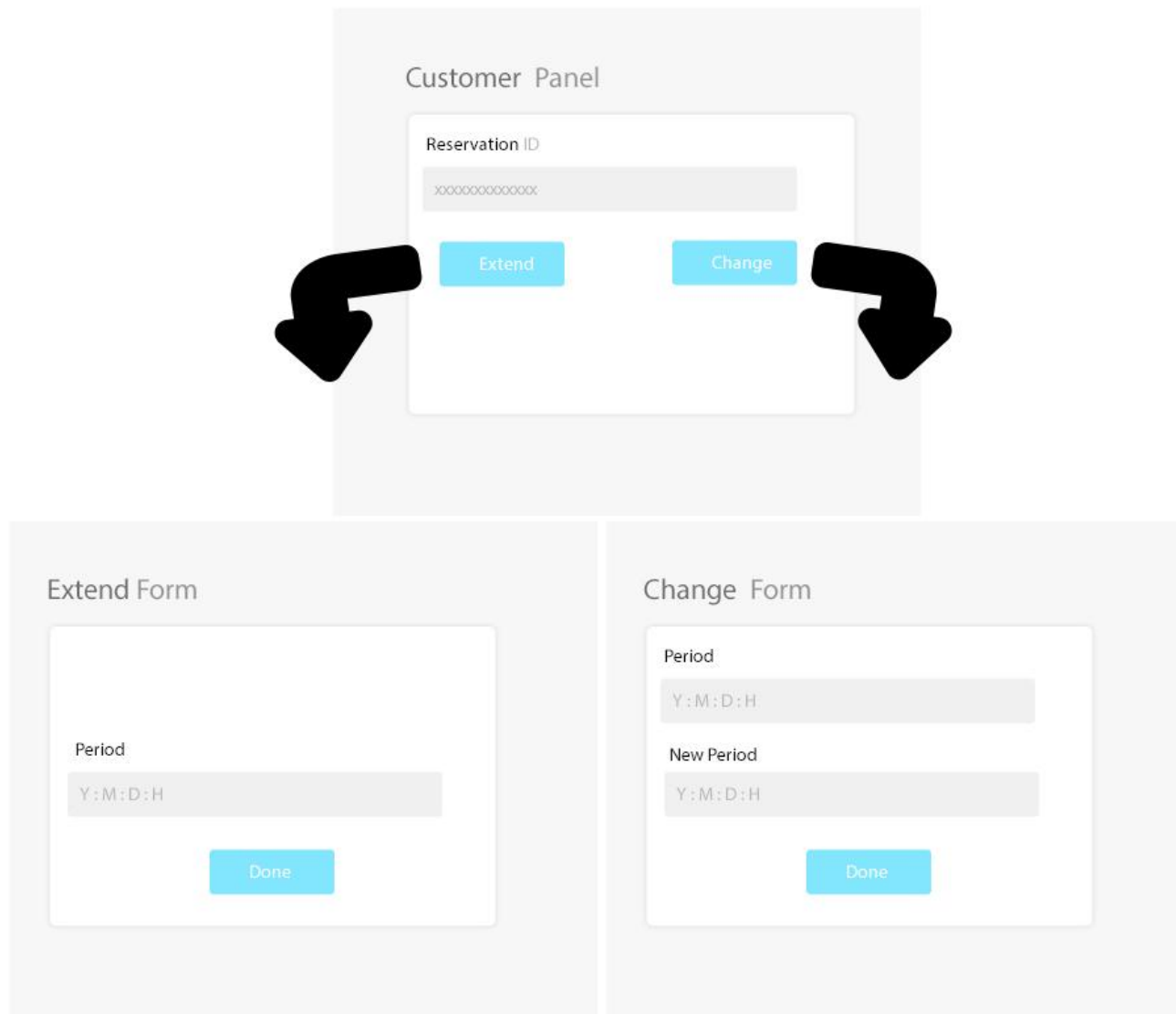


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Screen 6 – Customer Home Page Screen





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Screen 7 – Walk-ins Registration Screen


Walk-in Form

Period Hours

Card number

Expiration date: 03 2015

Cardholder name



CVC/CVV

The last 3 or 4 digits on back of the card



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Screen 8 – Walk-ins Registration Configuration Screen

Signup Confirmation

Walk-in ID

XXXXXXXXXXXX

Done!



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Ownership Report

Item	Owners
User Interface , Class Uml	Mohammed Shaker
System Decomposition , Sequence Diagram	Mohammed Boghdady
Class Uml , User Interface	Mohammed Ahmed Hamdy
System Decomposition , Sequence Diagram	Mohammed Gaber