

Cairo University

Faculty of Computers and Artificial Intelligence



CS251

Software Engineering I

Gofo

Software Design Specifications

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CS251: Phase 2 – <Team Name> Project: <Project Name>

Software Design Specification

Contents

Team	3
Document Purpose and Audience	3
System Models	4
I. Class Diagram(s).....	4
II. Class Descriptions	5
III. Sequence diagrams.....	6
Class - Sequence Usage Table.....	10
IV. State Diagram	11
Tools	11
Ownership Report	11



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Project: <Project Name>

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Document Purpose and Audience

This document is shows different system models (class diagram, sequence diagram, state diagram) and the implementation code for a software system named GOFO that can help football players and people who loves playing football to easily contact playground owners, and can Book any playground easily.



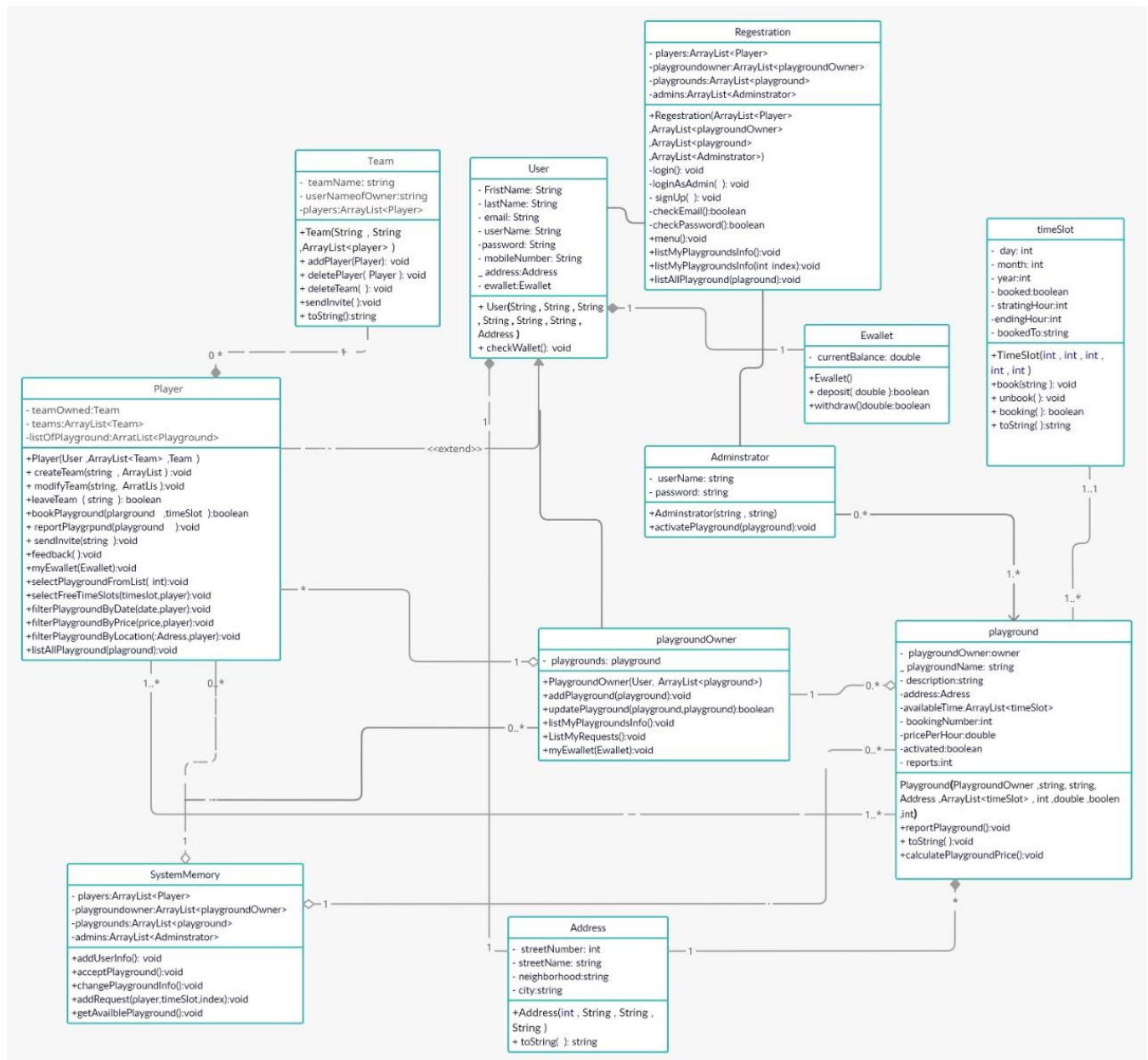
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Project: <Project Name>

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System Models

I. Class Diagram(s)





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Project: <Project Name>

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II. Class Descriptions

Class ID	Class Name	Description & Responsibility
1	User	An abstract class that holds the common properties between a Player, a Playground Owner and Administrator
2	Player	A class that inherits User, and allows player to book playgrounds and do player functionalities.
3	PlaygroundOwner	A class that inherits User, and allows an owner to add (own) playgrounds and control them
4	Playground	A class that hold the attributes and operations that are done on a Playground, and it is owner by a PlaygroundOwner
5	Team	A class that is meant to group players together to form a team, and has a team owner Player and team member Players.
6	EWallet	A class that has the responsibility of controlling financial operations in the system, and can be connected to an outside method like Fawry, and any User must have one eWallet.
7	address	A class that hold an address information divided into pieces in order to make the process of searching for playgrounds in a specific area easier, and it's owned by Users.
8	Administrator	A class that inherits from User and can do special operations concerning playgrounds such as delete or suspend a playground
9	TimeSlot	A class that is meant to store time slot data which is a date and a starting hour and an ending hour.
10	Registration	A boundary class for enabling users to sign up and login to the system,
11	SystemMemory	A class that is meant to data for all users [player, playground Owner, requests]

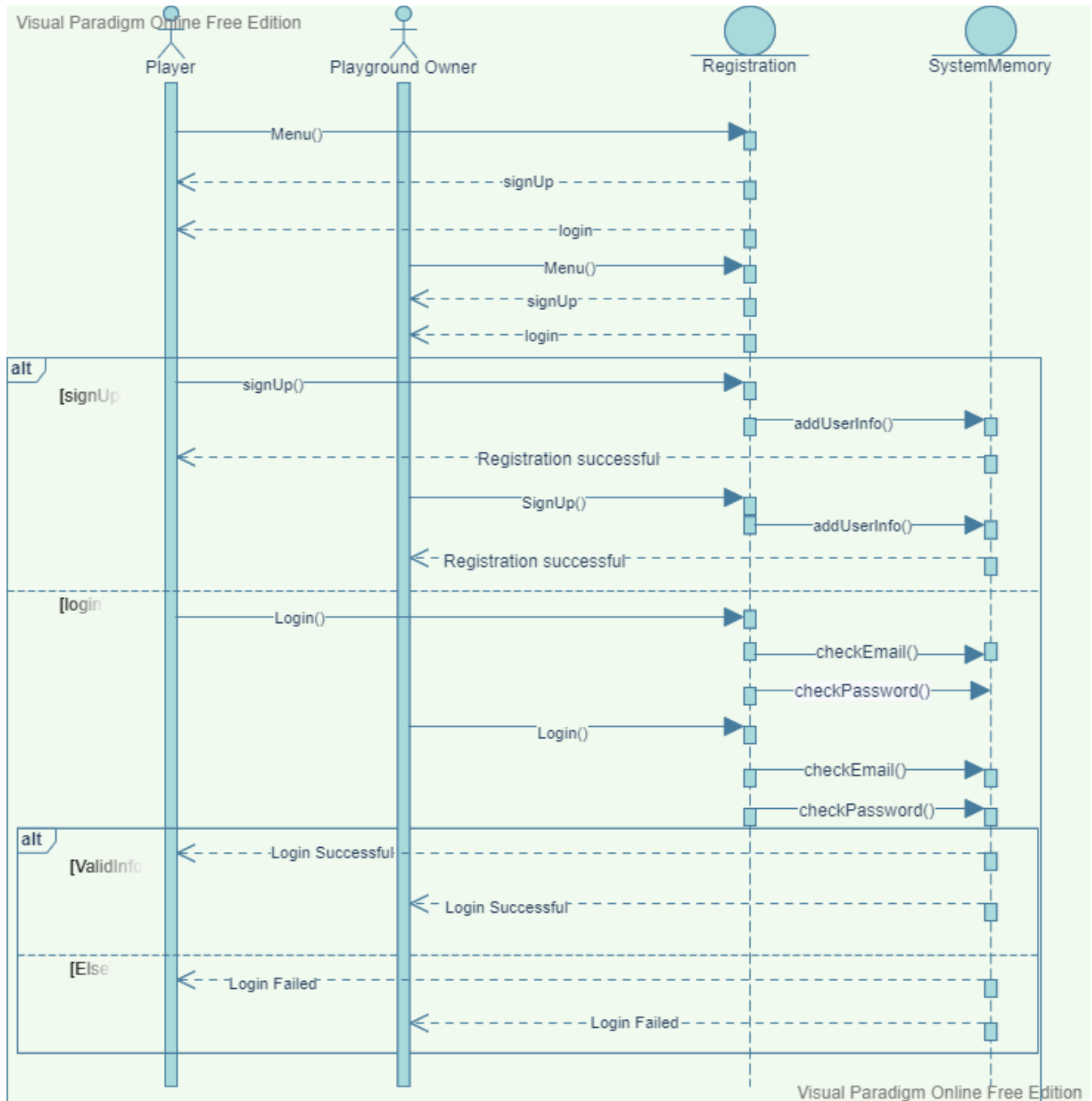


CS251: Phase 2 – <Team Name>

Project: <Project Name>

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III. Sequence diagrams

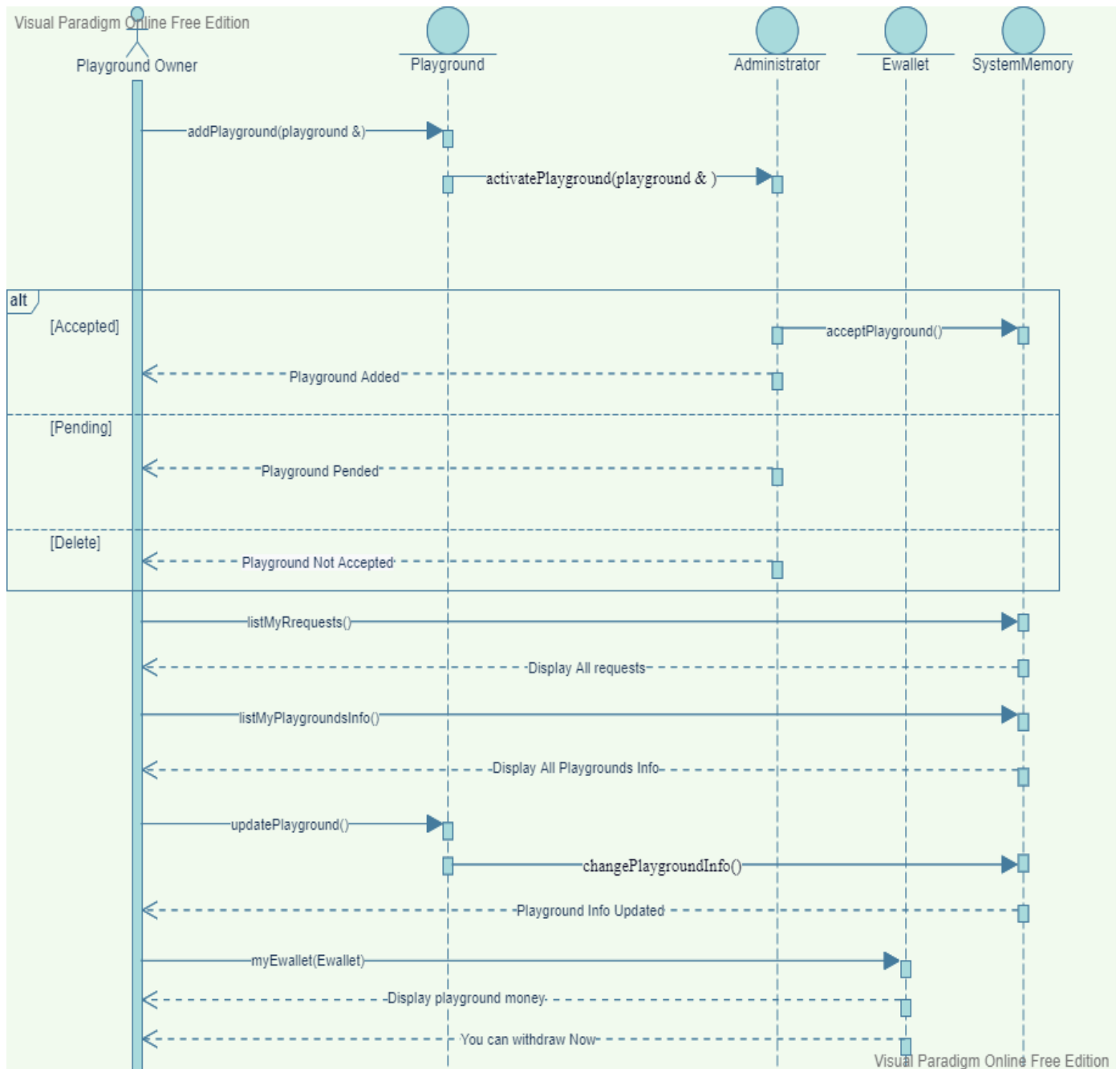




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Project: <Project Name>

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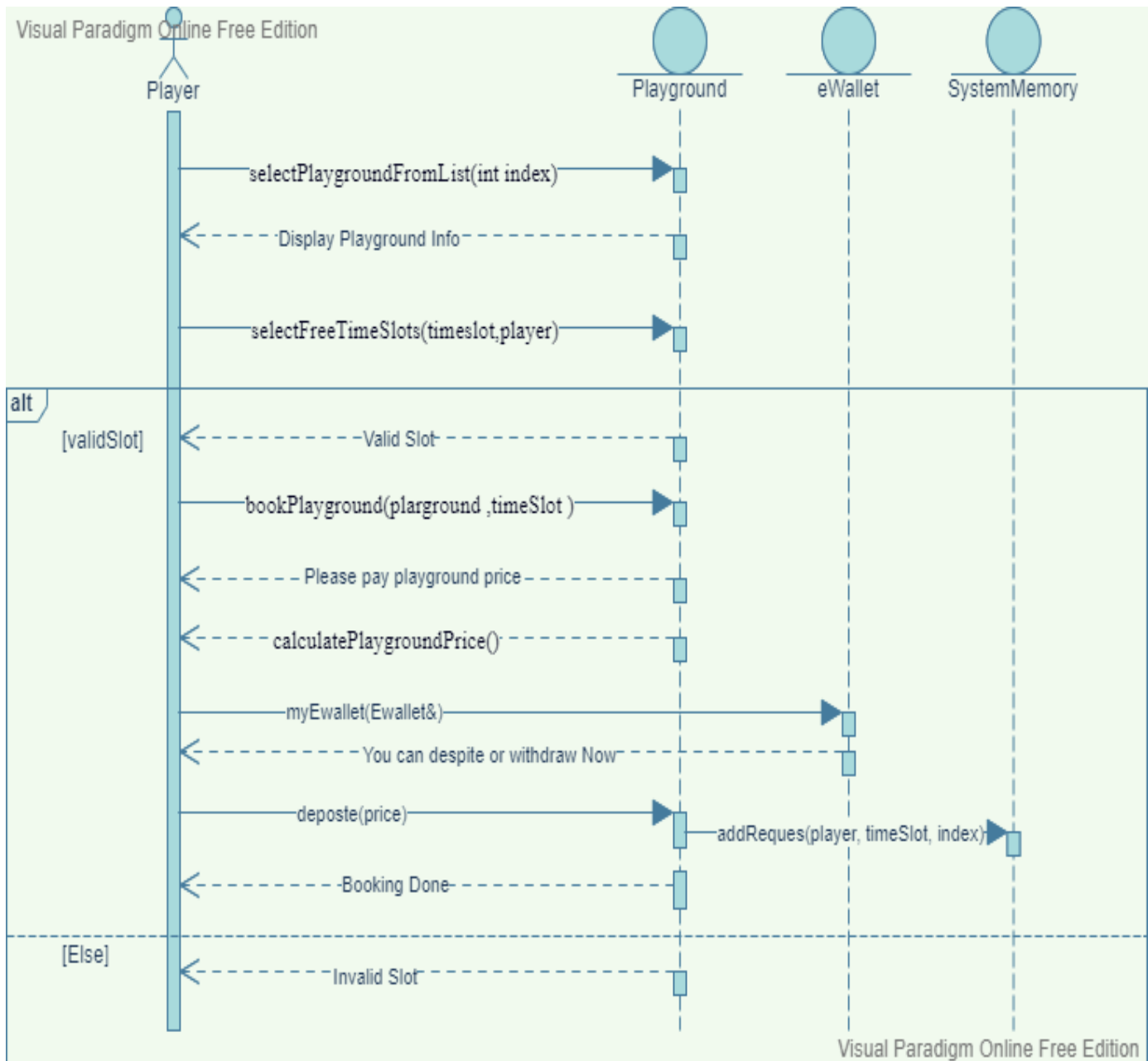




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Project: <Project Name>

Software Design Specification

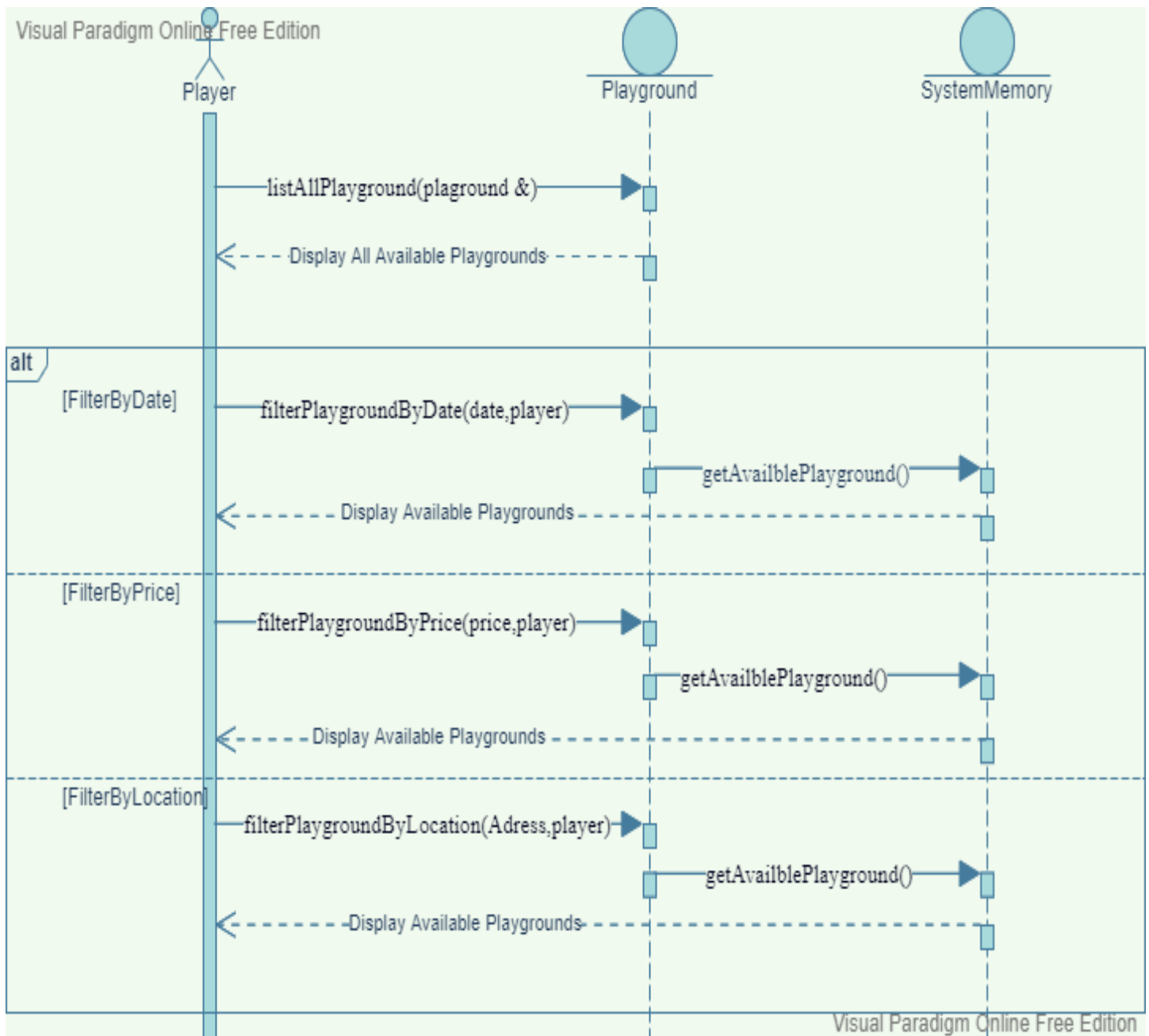




CS251: Phase 2 – <Team Name>

Project: <Project Name>

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Project: <Project Name>

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Class - Sequence Usage Table

Sequence Diagram	Classes Used	All Methods Used
1. Register	Class Registration Class Player Class PlaygroundOwner Class SystemMemory	Menu() signUp() login() addUserInfo() checkPassword() checkEmail()
2. Adding Playground& Playground Owner Panel	Class playground Class Administrator Class SystemMemory Class Ewallet	addPlayground(Playground&) acceptPlayground() listMyRequests() updatePlayground() changePlaygroundInfo() myEwallet(Ewallet)
3. Booking	Class playground Class Player Class SystemMemory Class Ewallet	selectPlaygroundFromList(index) selectFreeTimeSlot(timeslot,Player) bookPlayground(Playground,timeSlot) calculatePlaygroundprice() myEwallet(Ewallet) deposit() addRequest(Player,timeSlote, index)
4. Filtering	Class playground Class Player Class SystemMemory	listAllPlayground(plaground) filterPlaygroundByDate(date,player) filterPlaygroundByPrice(price,player) filterPlaygroundByLocation(:Adress,player) getAvailablePlayground()

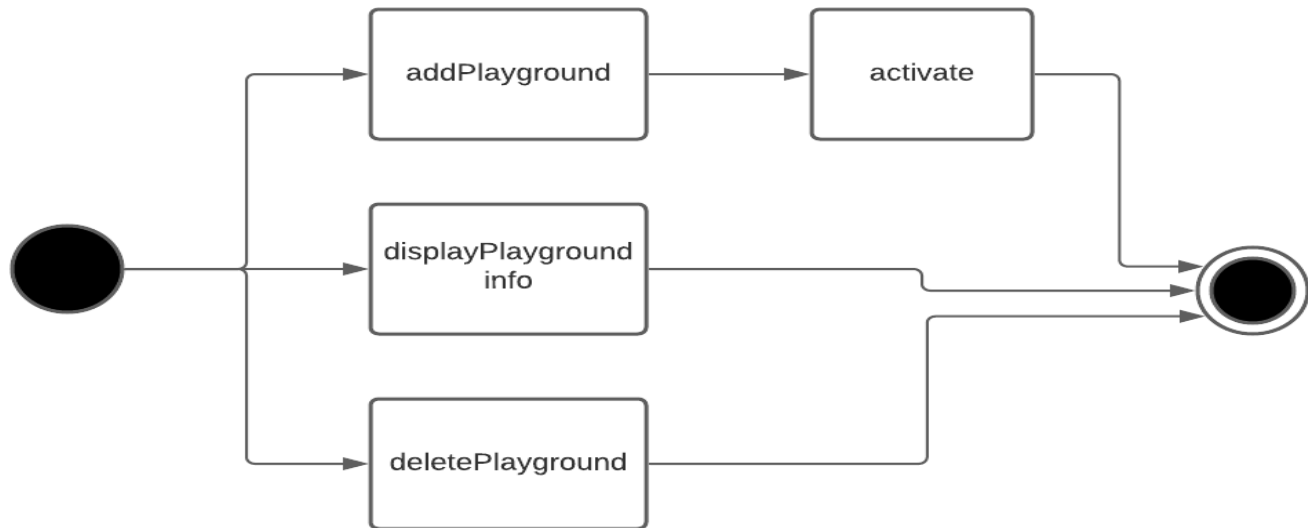


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Project: <Project Name>

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IV. State Diagram



Tools

- Creately
- Virtual Paradigm

Ownership Report

Item	Owners
Abanoub Samir Girgis Farag	Sequence Diagram Class - Sequence Usage Table
Abanoub Samir Mourice	Part from sequence Diagram Part from class Diagram State Diagram
Marina Ehab Narooz	Class Diagram Class Descriptions