Cairo University
Faculty of Computers and Artificial Intelligence

CS251

Intro. to Software Engineering

GoFo

Software Requirements Specifications

Version 1.0

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CS251: Phase 1 – Team Name
Project: <Project Name>

Software Requirements Specifications

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CS251: Phase 1 – Team Name
Project: <Project Name>

Software Requirements Specifications

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CS251: Phase 1 – Team Name
Project: <Project Name>

Software Requirements Specifications

Document Purpose and Audience

This document is an SRS document (Software Requirements Specifications Document). The document is a clear and precise way to list a client's requirements in a non-technical simple language. It tells the client how his/her program is going to perform and all the available features in it. This document also works as a contract between the client and the developer team. The document can also work as a reference for anyone who thinks of a similar software concept.

Obviously the main Audience of this document is the client who wants to get the software as he/she wishes. However, the document is determined for the general audience since it's written in a simple language. Some person with a general knowledge can read it and understand the content. Managerial audience (like CEOs) can also benefit from this document, since it serves as a software planning.

Introduction

Software Purpose

The software's main issue is to solve the problem that may encounter a lot of people who just want to book a playground to play a football match or two. The searching process for a playground can be time and cost consuming. The players may even don't know where the playgrounds in their area is located. Our system solves this tedious process by connecting the playgrounds' owners with the players through the internet. That way it would be a lot easier to know the available playgrounds in your area with the least of effort.

Software Scope

The system manages the booking process between a player and a playground owner. The system also stores and manages information about both of them and about the playground. The transaction of money between an E-wallet to another is also within the system's scope. However, charging an E-wallet with money is out of the scope.

Definitions, acronyms, and abbreviations

Jargon	*Definition*
SRS	Software Requirements Specifications
Software	A computer system consists of some integrated programs
CEO	Chief Executive Officer
E-wallet	Electronic wallet that stores money digitally

Software Requirements Specifications

Requirements

Functional Requirements

1- The system allows the user to create an account providing some information (name, ID, password, email, phone, and default location). Then the user can log in to the system using his email and password.
2- A playground owner can register his playground on the system by providing its name, location, available hours and some pictures. These information can be edited by the owner at any time.
3- A playground registration must grant approval from the administrator before it exists on the system
4- The user can list all playgrounds and observe their information (name, location, hours and pictures). The user can also filter the playgrounds the system lists by available hours, location or by date.
5- A player is allowed to book a specific playground at a specific time (after observing its details). After checking the availability of the playground at the time the player chose, the system will calculate the total cost, payment transaction to the owner will be done and the playground state will be updated so that it's not available at the time the player chose.
6- The system allows a player to rate a specific playground (from 1 to 5 stars)
7- Within a cancelation period, the player is allowed to cancel his/her playground booking.
8- The system gives the administrator some higher permissions:
    a. An administrator can suspend a playground
    b. An administrator can reactivate a playground
    c. An administrator can permanently delete a playground
9- The system can check the balance of an E-wallet and can transfer money between 2 E-wallets.

Software Requirements Specifications

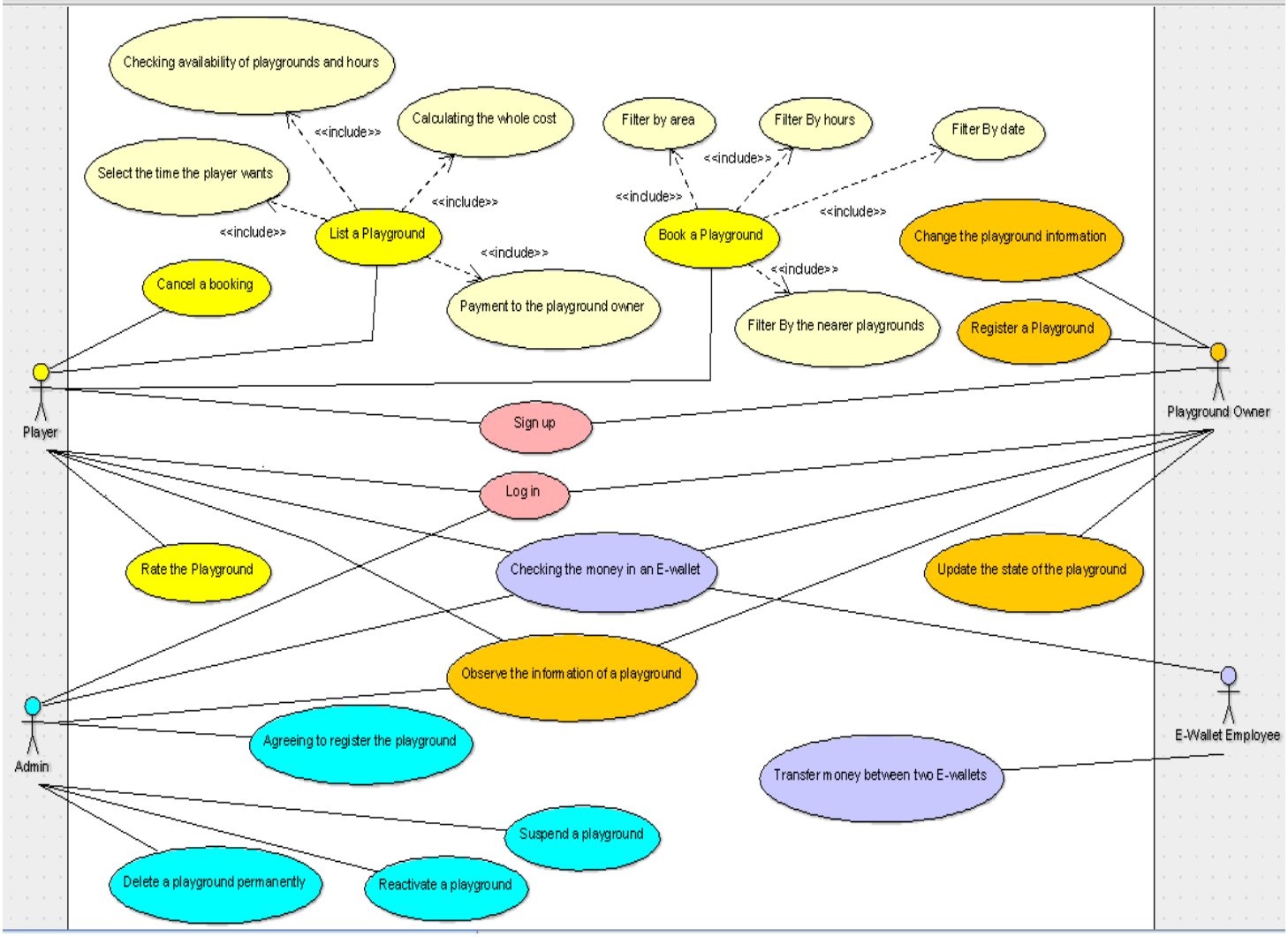
Non Functional Requirements

	Details
Performance	• The system has to be fast-performing, and updates its data continuously. • The search for the nearest playgrounds should be done in less than five seconds. • The system should response with message confirming after the booking operation to user within 2 seconds. • Withdraw operation will be done within 20 second.
Safety and security	• The system must protect user's data. • The system must handle safe login and logout through session. • Network is using secured protocols.
Scalability	• System allows up to 30,000 withdrawals per minute. • System should be able to booking up to 1000 players at the same time.
Reliability	• This system should be reliable and provide catching of exceptions.
Useability	• The system must contain an easy-to-use interface.

Software Requirements Specifications

System Models

Use Case Model



- **Admin: who control the system and its components.**
- **Player: who use the system to book a playground.**
- **Playground owner: who register his playground in the system.**

E-Wallet employee: who manage the system of the E-wallet.

Software Requirements Specifications

Enriched User Stories

User Story #1

User Story ID	US #1
User Story Name	List the playgrounds
Actors	Admin, player
Description	**As** a player I **like** to be able to see all the available playgrounds on the system **So** I can choose the appropriate playground and book it
Pre-condition	Being logged-in on the system as a player or admin
Post condition	
Acceptance Criteria	**Given** I'm a logged-in player on the system **When** select a filtration by inserting (hours, date and area) and click the "list playgrounds" button. **Then** the system lists all the playgrounds according to my criteria

- **Scenarios**

Normal Scenario

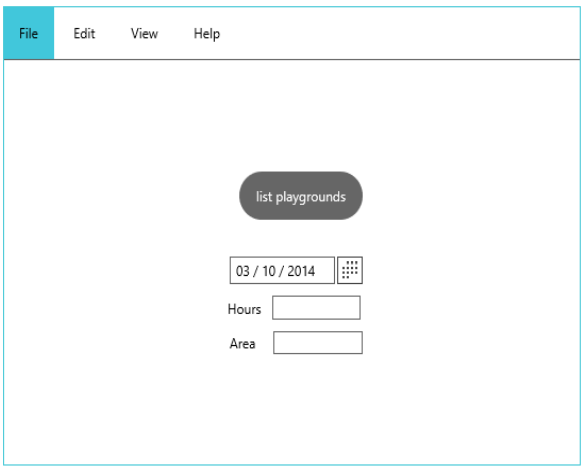
Actor Action	System Response
1- Insert the hours that the playground should be available at 2- insert date 3- insert area 3- Click "list playgrounds"	
	3- Searches for the playgrounds that match the filtration. 4- Lists them to the user.

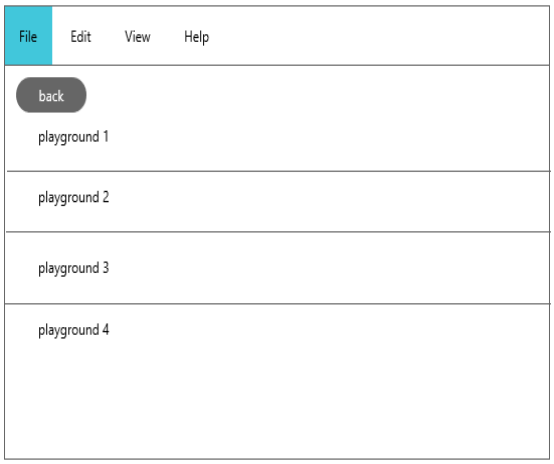
Software Requirements Specifications

Exceptional Scenario

Actor Action	System Response
1- The user clicks “list playgrounds” without specifying a filtration.	
	3- Lists all playgrounds available

- ## Screen Design





- ## Data Dictionary:

Element Label	Type/Length	Data Validation / Business Rule
date	Date selector	
hours	int	The system makes sure it does not exceed 24
area	string	The system makes sure it is an existing area
List playground	button	

Software Requirements Specifications

User Story #2

User Story ID	US #2
User Story Name	Observe playground information
Actors	Admin, player, playground owner
Description	**As** a player I **like** to be able to see specific playground's details **So** I can decide if a playground is suitable for me or not --- **As** an admin I **like** to be able to see specific playground's details **So** I can decide if I want to delete it or not --- **As** an owner I **like** to be able to see specific playground's details **So** I can decide if I want to delete or modify it or not
Pre-condition	One or more playgrounds are listed on the screen
Post condition	
Acceptance Criteria	**Given** I'm logged-in on the system **When** select a playground **Then** the system display all its information

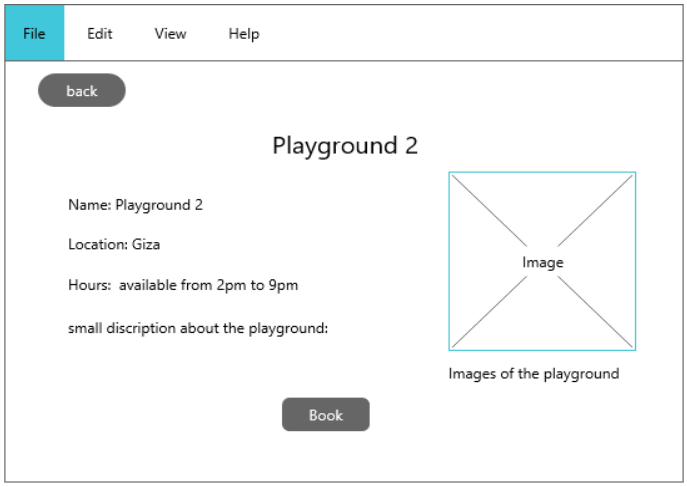
- **Scenarios**

Normal Scenario

Actor Action	System Response
1- Click on a playground	
	2- display all information about the clicked playground

Software Requirements Specifications

- **Screen Design**



- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
book	button	
back	button	

User Story #3

User Story ID	US #3
User Story Name	Book a playground
Actors	player
Description	**As** a player I **like** to be able to book a playground at a specific time and for a specific duration **So** I have a playground without wasting time and money
Pre-condition	The user is observing a playground information, the time and date specified by the user is available for the playground
Post condition	The user is directed to the payment page

Software Requirements Specifications

Acceptance Criteria	**Given** I'm a logged-in player on the system and observing a playground **When** I click the book button and specify the time **Then** the system books this playground for me at the specified time

- **Scenarios**

Normal Scenario

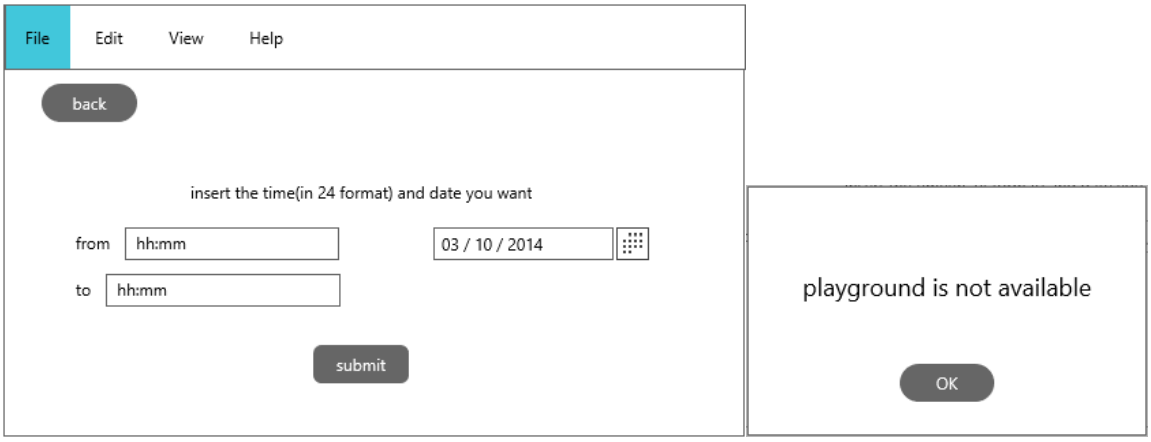
Actor Action	System Response
1- Click the "book" button	
	2- shows a form to insert the time and date
3- insert time and date in their boxes 4- click submit	
	5- check availability of the playground 6- calculate the whole cost 7- display a message to the user to confirm the booking and inform the user with the cost

Exceptional Scenario

Actor Action	System Response
1- Click the "book" button	
3- insert time and date in their boxes 4- click submit	2- shows a form to insert the time and date 5- check availability of the playground 6- invalid playground for the specifications

Software Requirements Specifications

- **Screen Design**



- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
from	string	The system makes sure it is in the format of hh:mm, and makes sure that m and h are numbers
to	string	The system makes sure it is in the format of hh:mm, and makes sure that m and h are numbers
date	Date specifier	
submit ok	button button	

User Story #4

User Story ID	US #4
User Story Name	Transferring money
Actors	player
Description	**As** a player

Software Requirements Specifications

	I **like** to be able to transfer money to another person **So** I can pay the booking fee to the owner
Pre-condition	The user has an e-wallet connected to his account and has enough balance
Post condition	Balance of the sender is reduced by the amount and the balance of the receiver is decreased
Acceptance Criteria	**Given** I have an e-wallet and enough balance **When** I click the "transfer money" button **Then** the system transfers the booking cost to the owner

- ## Scenarios

Normal Scenario

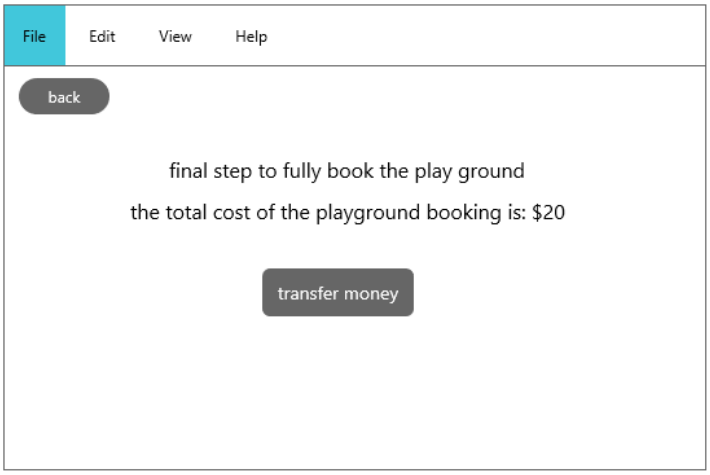
Actor Action	System Response
1- Click the "transfer money" button	
	2- checks if the balance is enough to pay the playground fee 3- sends the total money to the owner 4- displays a confirmation message to the user that the booking was successfully done and money transferred
5- Clicks "ok"	
	6- user is directed to the main page

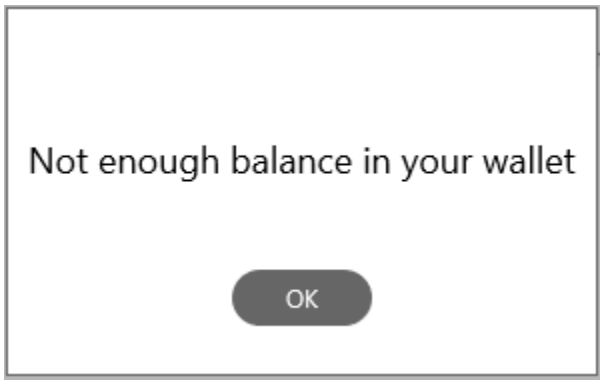
Exceptional Scenario

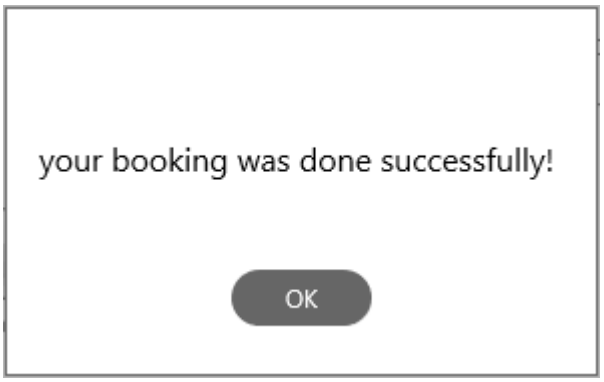
Actor Action	System Response
1- Click the "transfer money" button	
	2- checks if the balance is enough to pay the playground fee 3- display the message "not enough balance"

Software Requirements Specifications

- **Screen Design**







- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
Transfer money	button	

Software Requirements Specifications

User Story #5

User Story ID	US #5
User Story Name	Cancel a booking
Actors	player
Description	**As** a player I **like** to be able to cancel a booking **So** I can change my plans without having to go to the playground for the cancelation
Pre-condition	Have a playground booked
Post condition	The book is canceled and deleted from the bookings list
Acceptance Criteria	**Given** I am a player and have a playground booked **When** I click the "cancel" button and confirm the cancelation **Then** the system cancels the booking

- **Scenarios**

Normal Scenario

Actor Action	System Response
1- Click the "bookings list" button	
	2- the system lists all bookings of the user
3- Clicks the cancel button besides the desired booking	
6- Clicks "yes"	4- check if the cancelation period is still active 5- Displays a form with message "are you sure you want to cancel this booking" and two buttons "yes" and "no" 7- deletes the booking and remove it from the bookings list for that player

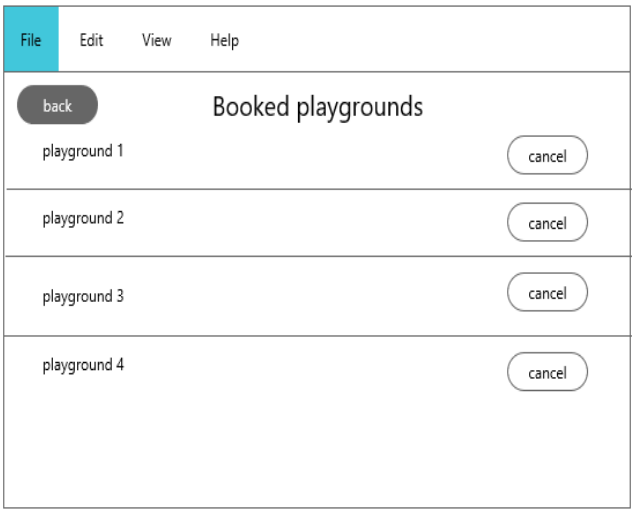
Exceptional Scenario

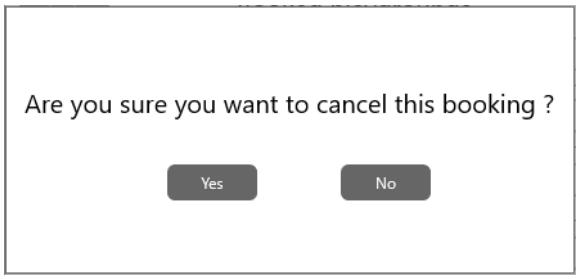
Actor Action	System Response
1- Click the "bookings list" button	

Software Requirements Specifications

3- Clicks the cancel button besides the desired booking	2- the system lists all bookings of the user 4- checks if the cancelation period is still active 5- display “cancelation period has passed”

- **Screen Design**





- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
cancel	button	
Yes	button	
No	button	

Software Requirements Specifications

User Story #6

User Story ID	US #6
User Story Name	Agree to register playground
Actors	Admin
Description	**As** an Admin I **want** to check the information of the playground that will register in the system **So** I can accept the request of the owner to register the playground in the system
Pre-condition	The owner must enter the information of the playground and send a request to register the playground in the system
Post condition	
Acceptance Criteria	**Given** I'm a logged-in as Admin on the system **When** the owner of the playground sent request to register the playground in the system. **Then** I can accept the registration of the playground in the system

- ### Scenarios

Normal Scenario

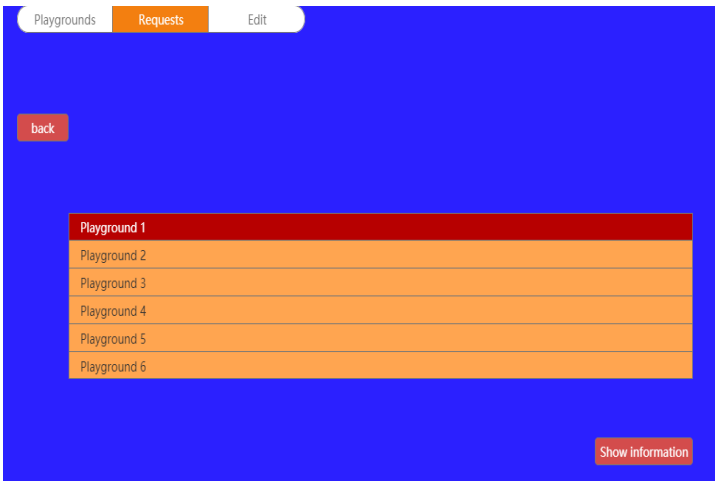
Actor Action	System Response
1- open the requests page 2- check playground information 3- press accept button	
	4- the playground is available in the system

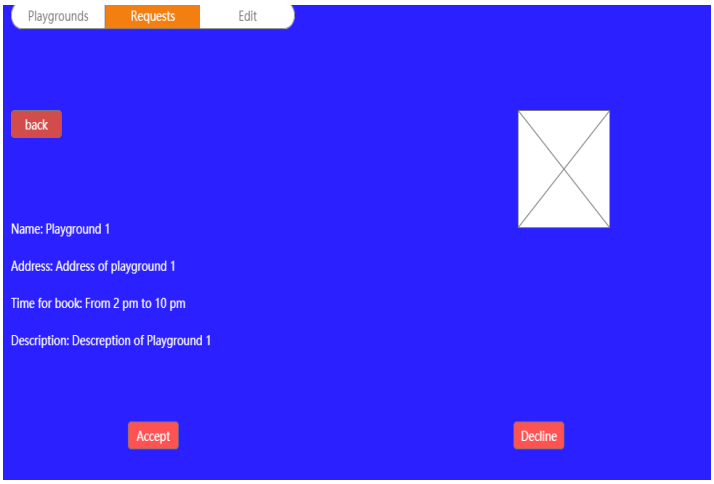
Exceptional Scenario

Actor Action	System Response
1- The information is too little or the admin doesn't like the playground. **2-** Decline the playground	
	3-refuse and delete the request

Software Requirements Specifications

- **Screen Design**





- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
Show information	Button	
Accept	Button	
Decline	Button	

User Story #7

User Story ID	US #7
User Story Name	Suspend playground
Actors	Admin
Description	**As** an Admin I **want** to stop the activity of any playground **So** I can suspend the playground
Pre-condition	The players must send many complaints and check the playground

Software Requirements Specifications

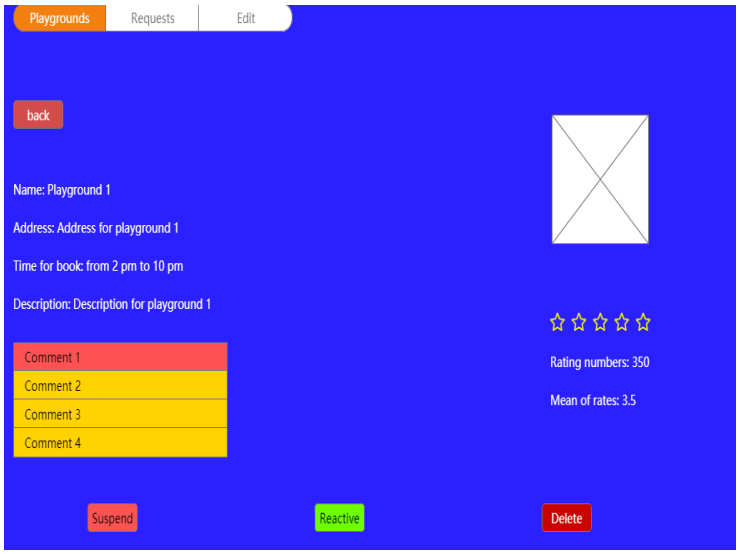
Post condition	
Acceptance Criteria	**Given** I'm a logged-in as Admin on the system **When** players send many complaints and some employees check the playground **Then** I can suspend the playground

- ## Scenarios

Normal Scenario

Actor Action	System Response
1- open the playground page 2- check playground rate and complaints 3- press suspend button	
	4- the playground is deactivated in the system

- ## Screen Design



Software Requirements Specifications

- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
Show information	Button	
suspend	Button	

User Story #8

User Story ID	US #8
User Story Name	Reactivate playground
Actors	Admin
Description	**As** an Admin I **want** to check the information of the suspended playground **So** I can reactive the suspended playground
Pre-condition	The suspend period must be ended
Post condition	
Acceptance Criteria	**Given** I'm a logged-in as Admin on the system **When** the suspended period is ended or the owner fix the complaints **Then** I can reactivate the playground

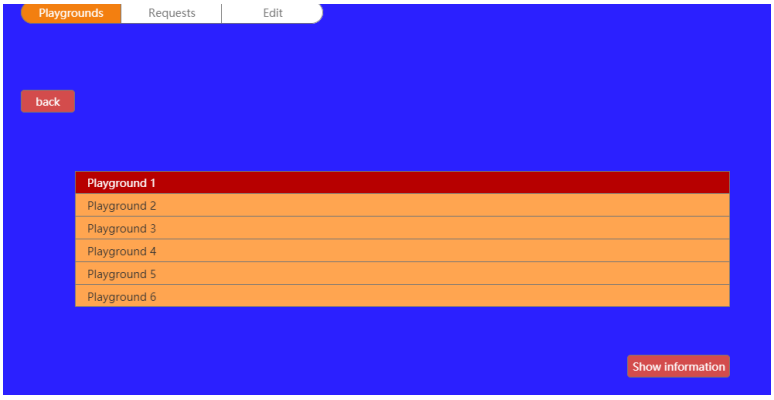
- **Scenarios**

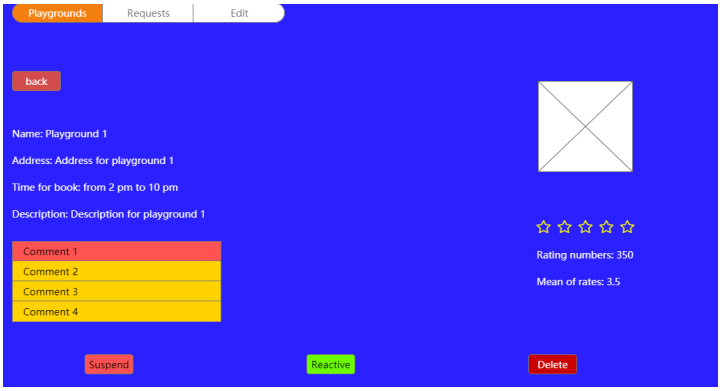
Normal Scenario

Actor Action	System Response
1- check playground information 2- press reactive button	
	3- the playground is available in the system

Software Requirements Specifications

- **Screen Design**





- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
Show information	Button	
reactive	Button	

User Story #9

User Story ID	US #9
User Story Name	Delete playground permanently
Actors	Admin
Description	**As** an Admin I **want** to remove the playground from the system **So** I can delete the playground permanently
Pre-condition	Register in the system as admin
Post condition	
Acceptance Criteria	**Given** I'm a logged-in as Admin on the system **When** I want to remove the playground from the system. **Then** I can delete the playground permanently from the system

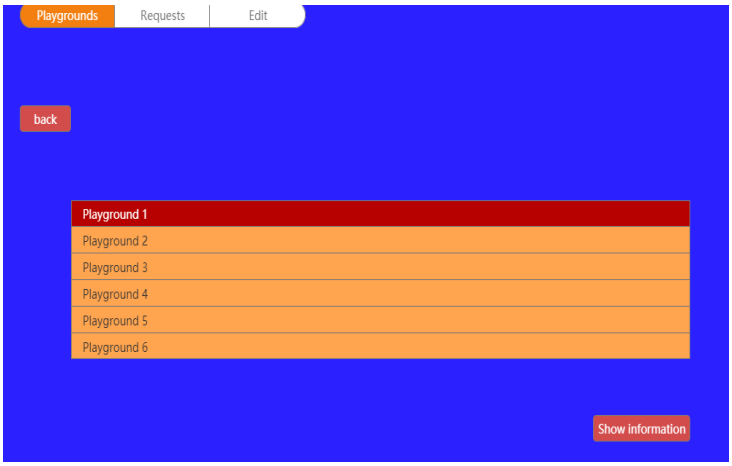
Software Requirements Specifications

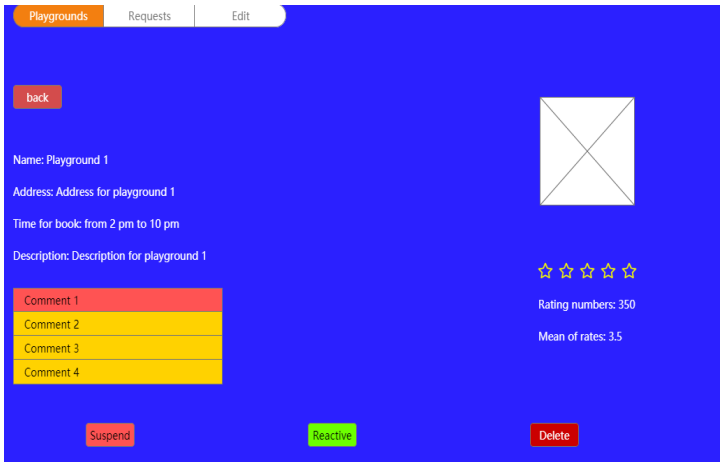
- ## Scenarios

Normal Scenario

Actor Action	System Response
1- check playground information 2- press delete permanently button	
	3- the playground is removed from the system

- ## Screen Design





- ## Data Dictionary:

Element Label	Type/Length	Data Validation / Business Rule
Show information	Button	
Delete permanently	Button	

Software Requirements Specifications

- ## User Story #10

User Story ID	US #10
User Story Name	Log in
Actors	Admin, player, playground owner
Description	**As** an Admin I **like** to be able to login in the System **So** I can Observe all actions that will be done in the system. --- **As** a player I **like** to be able to login in the system **So** I can see the nearest playgrounds and booking one. --- **As** a playground owner I **like** to be able to login in the system **So** I can edit my playground information and see my list booking.
Per condition	Create an account in the system (player, playground owner).
Post condition	
Acceptance Criteria	**Given** I'm a logged-out system user and I'm on the Sign-In page **When** I enter "Username" and "Password" in their fields and I press "submit" button **Then** the system checks my account and log me in.

- ## Scenarios

Normal Scenario

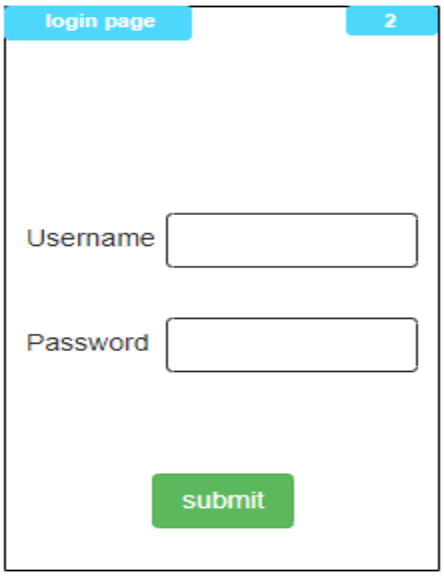
Actor Action	System Response
1- User Enter username and Password. 2- Click submit.	
	3- System checks the user account. 4- System accepts the login.
5- User can use the system.	

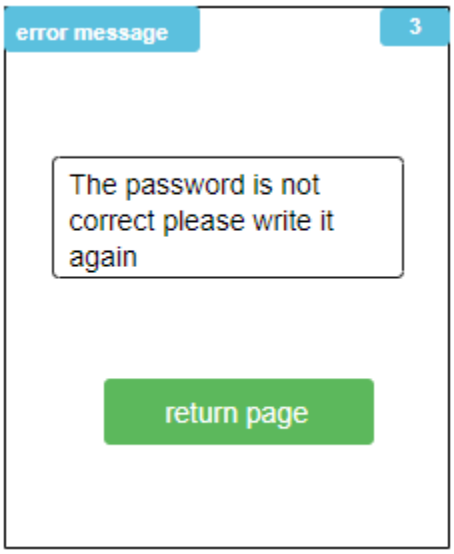
Software Requirements Specifications

Exceptional Scenario

Actor Action	System Response
1- User Enter username and Password. 2- Click **Submit**	
	3- password is in correct 4- System rejects login process and displays an error message.

- ## Screen Design





- ## Data Dictionary:

Element Label	Type/Length	Data Validation / Business Rule	
Username	Text/50	Mandatory: yes	Updatable: yes
Password	Text or number/50	Mandatory: yes	Updatable: yes

Software Requirements Specifications

- ## User Story #11

User Story ID	US #11
User Story Name	Sign up
Actors	Player, Playground owner
Description	**As** a player **I like** to be able to register in the system **So** I can see the nearest playgrounds and booking one of them. _____ **As** a playground owner **I like** to be able to register in the system **So** I can display my playground in the system.
Per condition	
Post condition	
Acceptance Criteria	**Given** I'm on "sign up" page, and I want to register in the system. **When** I enter "name", "Password", "Email", "Phone", "Location" in their fields and I click the Sign-up button **Then** the system signs me up

- ## Scenarios

Normal Scenario

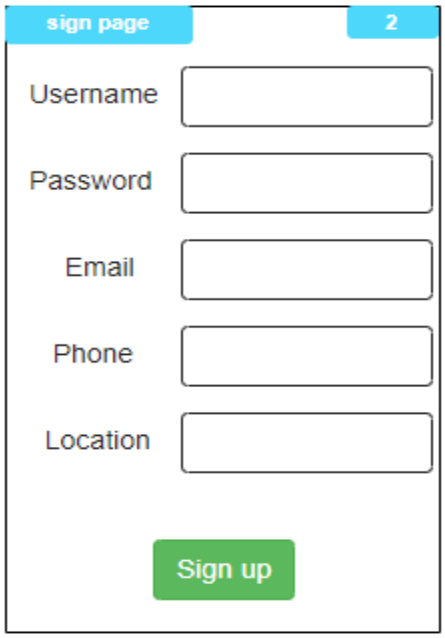
Actor Action	System Response
1- User Enter name, Password, email, phone and location. 2- Click sign up.	
	3-system checks the entry data if correct 4- System stores user data 5- System displays massage to make user login.
6- User go to login page to enter the system	

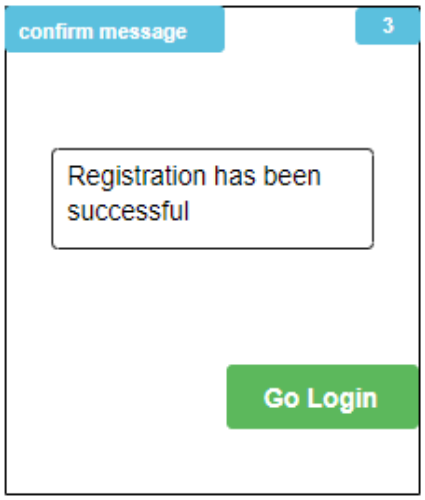
Software Requirements Specifications

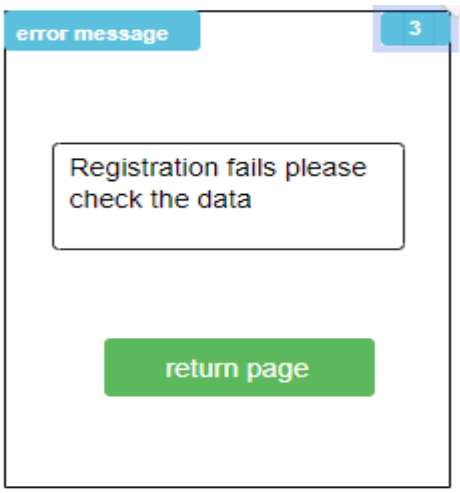
Exceptional Scenario

Actor Action	System Response
1-User Enter name, Password, email, phone and location. 2-Click sign up.	
	3- system checks the entry data and it not correct 4- Systems rejects registration and displays an error message
5-User registers again.	

- **Screen Design**







Software Requirements Specifications

- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
username	Text/50	Mandatory: yes Updatable: yes
password	Number or text/50	Mandatory: yes Updatable: yes
email	Text and number	Mandatory: yes Updatable: yes System must check that the value in email form.
Phone	Number/11	Mandatory: yes Updatable: yes Sure, there are different numbers in it.
Location	Text and number/100	Mandatory: yes Updatable: yes check if this location valid.

- **User Story #12**

User Story ID	US #12
User Story Name	Rate a playground
Actors	Player
Description	**As** a player I **like** to be able to rate the playground **So** I can know later what is the best playground.
Per condition	Player booking this playground before rate it.
Post condition	
Acceptance Criteria	**Given** I'm on a page rating the playground, and I want to rate it **When** I enter the rate of playground and I click the submit button **Then** the system thanks me for my rating.

- **Scenarios**

Normal Scenario

Actor Action	System Response
1- User enter the rate of playground. 2- Click **Submit**	

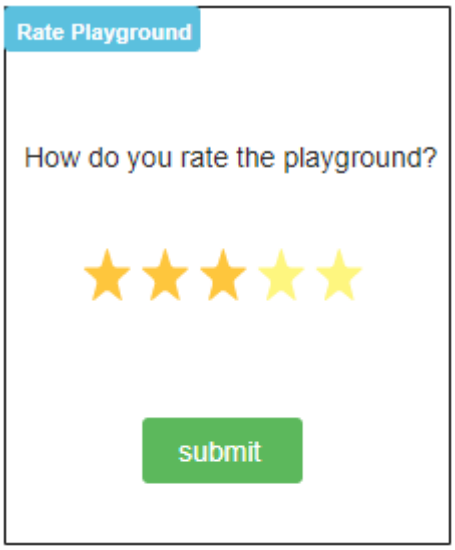
Software Requirements Specifications

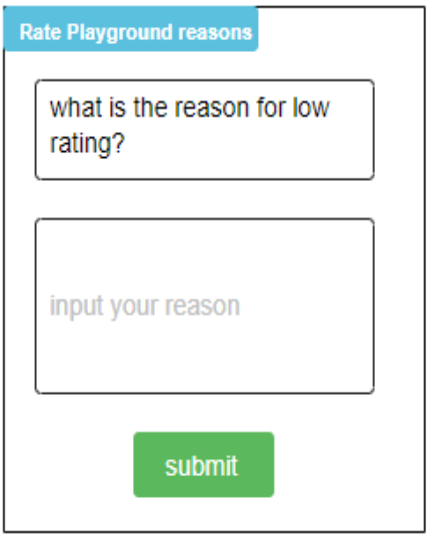
	3- System stores the rate. 4- System displays massage to thanks user about his rating.

Exceptional Scenario

Actor Action	System Response
1- User Enter the rate of playground. 2- Click **Submit**	
	3-System stores the rate. 4- System displays massage if rating is low to know the reason

- ## Screen Design





- ## Data Dictionary:

Element Label	Type/Length	Data Validation / Business Rule
Rate playground	Number/5	Mandatory: no Updatable: yes

Software Requirements Specifications

- ## User Story #13

User Story ID	US #13
User Story Name	Register playground
Actors	Playground owner
Description	**As** a playground owner I **like** to be able to register my playground **So** I can book my playground for players.
Per condition	Owner must create account for him
Post condition	
Acceptance Criteria	**Given** I'm a logged-out system user and I'm on the Sign-In page **When** I enter "Playground name", "Location ", "Size", "Available hours", "Price per hour", "Cancelation period" and I click the submit button **Then** the system registers and stores the playground.

- ## Scenarios

Normal Scenario

Actor Action	System Response
1- User Enter Playground name, Location, Size, Available hours, Price per hour and Cancelation period. 2- Click **Submit**	
	3- System Stores playground data. 4- System displays massage confirmed the registration.
5- User go to login page to use the system	

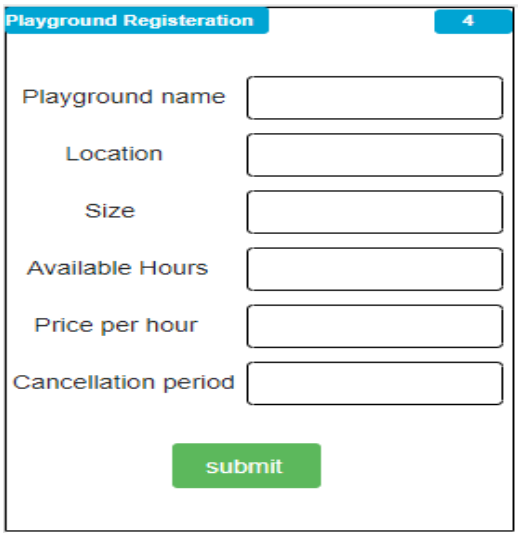
Exceptional Scenario

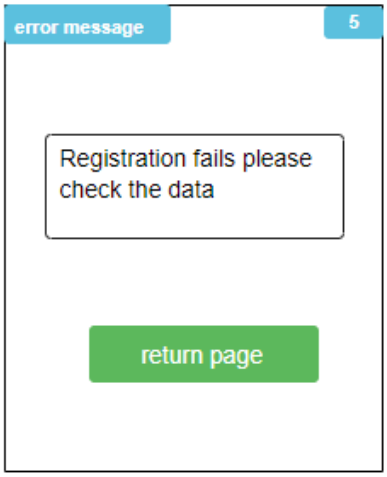
Actor Action	System Response
1- User Enter Playground name, Location, Size, Available hours, Price per hour and Cancelation period.	

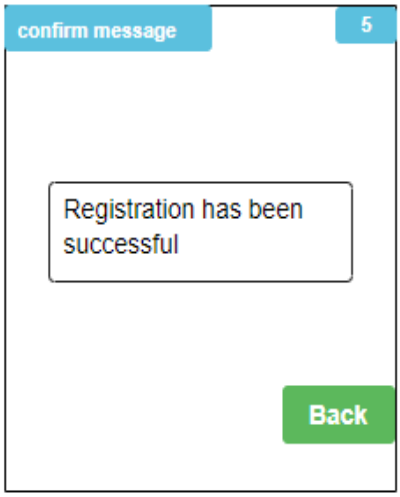
Software Requirements Specifications

2- Click **Submit**	
	3- System Stores playground data. 4- System found error in date 5- Systems rejects the registration and displays an.

- **Screen Design**







- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
Playground name	Text/20	Mandatory: yes Updatable: yes
Location	Text/50	Mandatory: yes Updatable: yes check if this location valid.
Size	Number and text/20	Mandatory: yes Updatable: yes
Available hours	Numbers or text/20	Mandatory: yes Updatable: yes
Price per hour	Numbers or text/20	Mandatory: yes Updatable: yes
Cancelation period	Numbers or text/20	Mandatory: yes Updatable: yes

Software Requirements Specifications

- ## User Story #14

User Story ID	US #14
User Story Name	Edit playground info
Actors	Playground owner
Description	**As** a Playground owner I **like** to be able to Edit my playground info **So** I can improve my playground.
Per condition	
Post condition	Click save to save all changes.
Acceptance Criteria	**Given** I'm stand on an editing page of the playground and I want to make my editing on my playground. **When** I edit the info that I want to edit and I click save button **Then** the system display massage to confirm editing and saves the new info.

- ## Scenarios

Normal Scenario

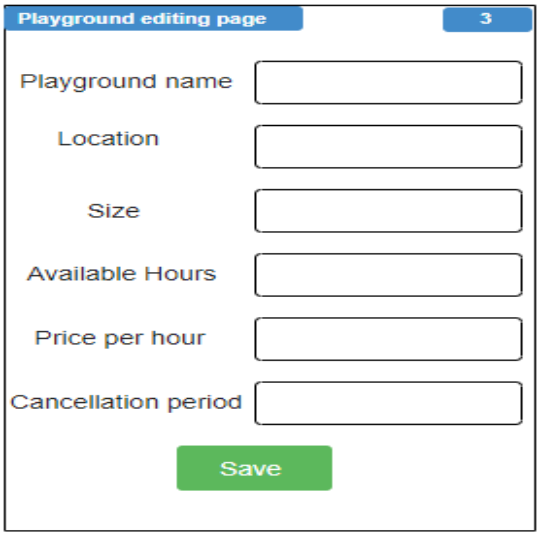
Actor Action	System Response
1- User edit playground info. 2- Click Save	
4- User accept changes.	3- System displays massage to confirm it. 5-System saves playground data.

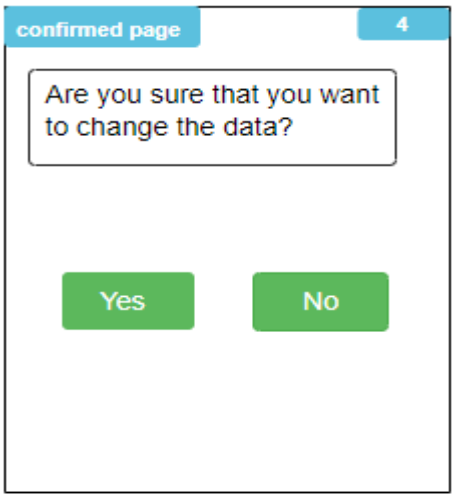
Exceptional Scenario

Actor Action	System Response
1- User edit playground info. 2- Click Save	
4- User reject changes.	3- System displays massage to confirm it. 5- System rejects to store the data.

Software Requirements Specifications

- **Screen Design**



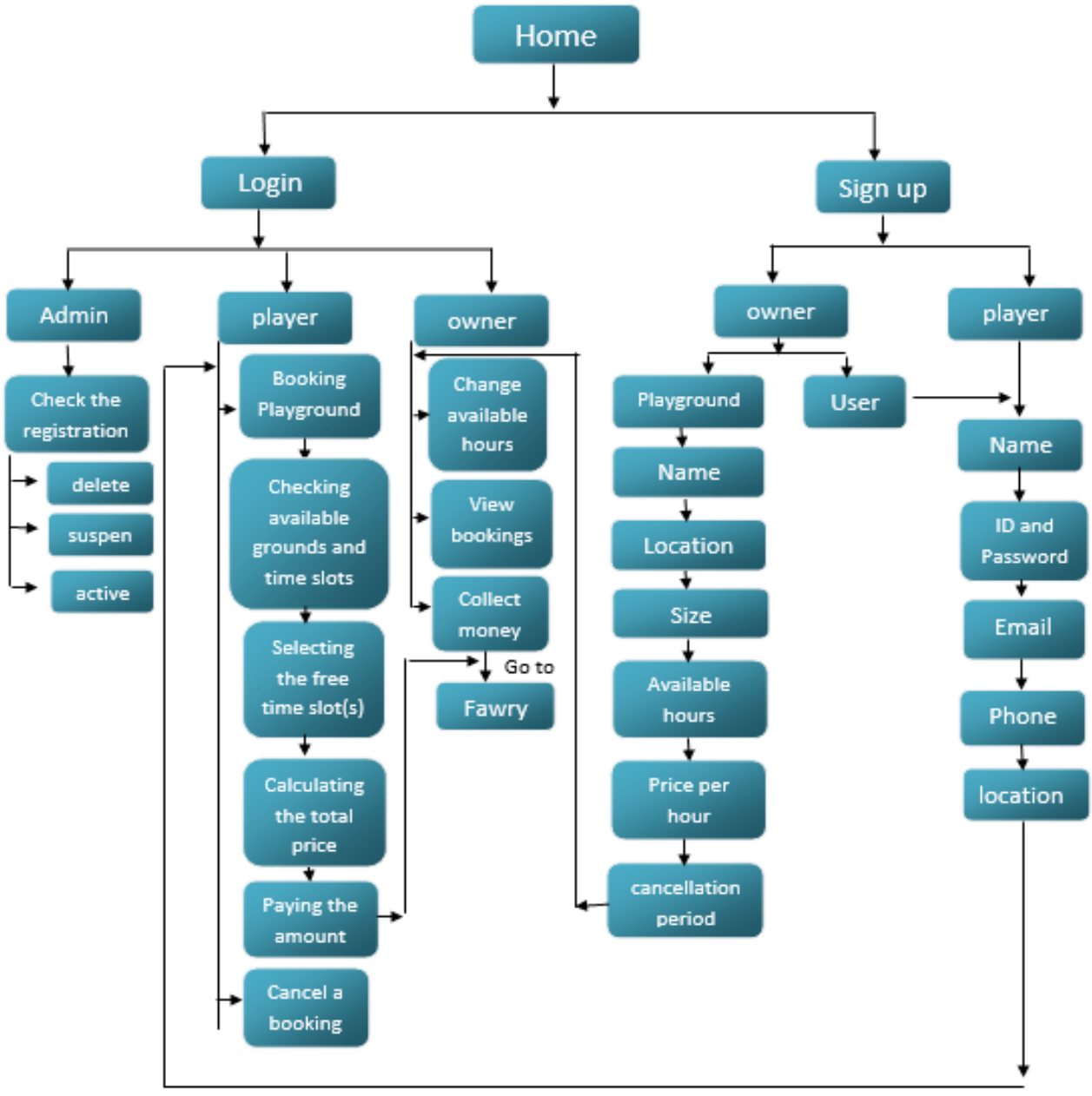


- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
Playground name	Text/20	Mandatory: yes Updatable: yes
Location	Text/50	Mandatory: yes Updatable: yes check if this location valid.
Size	Number and text/20	Mandatory: yes Updatable: yes
Available hours	Numbers or text/20	Mandatory: yes Updatable: yes
Price per hour	Numbers or text/20	Mandatory: yes Updatable: yes
Cancelation period	Numbers or text/20	Mandatory: yes Updatable: yes

Software Requirements Specifications

System Navigation Map



CS251: Phase 1 – Team Name
Project: <Project Name>

Software Requirements Specifications

Tools

- **We use in this document {ArgoUML, Microsoft Word, Mockplus, moqup}**

Ownership Report

Student	Items he created
Adham Magdy Ahmed Rushdy	**Document purpose and audience, introduction, functional requirements, and user story from 1 to 5.**
Hend Mohamed Mahmoud Elmahdi	**Non-functional requirements, System navigation map, and user story from 10 to 14.**
Abdelrahman Mohamed Sobhy	**part of Use case model, Tools, Ownership report, and user story from 6 to 9.**