



**Cairo University**

**Faculty of Computers and Artificial Intelligence**

# **CS251**

## **Intro. to Software Engineering**

### **GoFo System**

#### **Software Requirements Specifications**

# Version 1.0

## Team

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## Document Purpose and Audience

- This document is to be used to guide the developer of software to automate the process of booking football playgrounds.
- People who should read this document are:
  - Software developer.
  - Clients who cares about this business.

## Introduction

### Software Purpose

- This software is to be used in booking football playgrounds.

## Software Scope

- Register clients (players and playground owners) and make profiles to them.
- Register playgrounds.
- Delete playgrounds.
- Suspend playgrounds.
- Activate playgrounds.
- Check the money exist in the eWallet.

## Definitions, acronyms, and abbreviations

Expression	Definition
<b>Five-point stadium</b>	Is a playground that 2 teams consisting of 12 (5 players against 5 players and 2 goal keepers) play on it
<b>Six-point stadium</b>	Is a playground that 2 teams consisting of 14 (6 players against 6 players and 2 goal keepers) play on it
<b>Seven-point stadium</b>	Is a playground that 2 teams consisting of 16 (7 players against 7 players and 2 goal keepers) play on it

## Requirements

### Functional Requirements

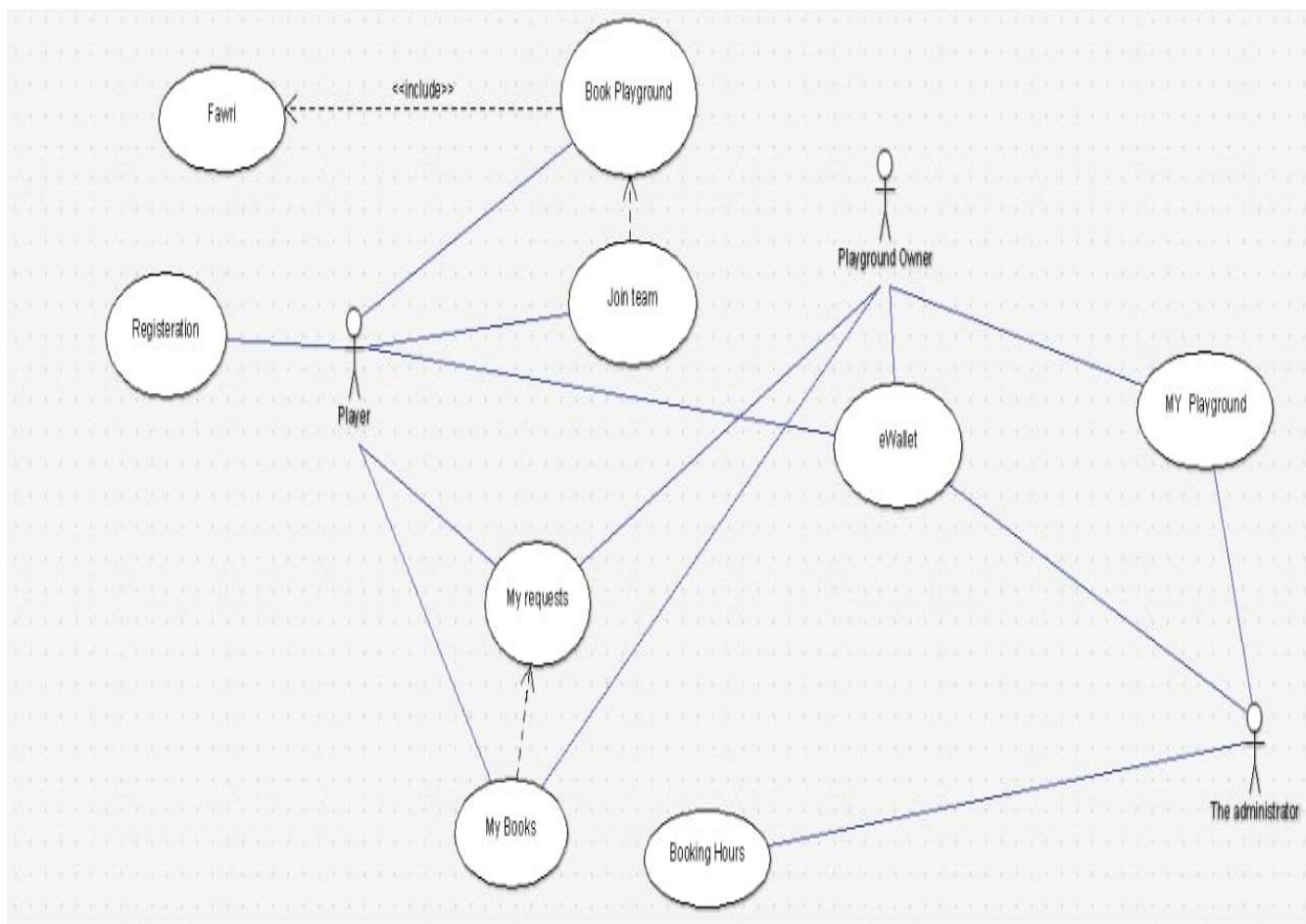
- Each player and playground owner must register himself by entering his (name, ID, email, password, phone number, location) and create a profile.
- Playground owner:
  - Must register his playground by entering playground name, location, size, available hours, price per hour, cancellation period.
  - Can view bookings, change available hours, check money on his eWallet.
- Players can:
  - Search for playgrounds by (their locations, available time, areas) and filter them by dates (hours and date).
  - Check available grounds and time slots.
  - Select the free time slot.
  - Showing the total price.
  - Paying the amount using his eWallet.
  - Send invitations to his team members via their emails.
  - Cancel booking (if within the cancellation period).
- Administrator can:
  - Check information of any playground to activate it.
  - Delete playground.
  - Suspend playground.
  - Check money on his eWallet.
  - Receive complaints from players or playground owners.

- System update the state of the booked slots.

## Non Functional Requirements

	Details
<b>Performance</b>	Is the response time to a request a service includes(Registration operation will be done within 5 msec , Adminstrator performs his all operations within 30 msec ,Player operations will be done in 2 sec and as soon as he chooses the playground the booking process is done immediately then the total price appears on the screen and Paying the amount using his eWallet will be done in 40msec)
<b>Security</b>	Is the protection of system to increase reliance on system ( our system must ensure all transferable data for example users password ,users card numbers and the payment within eWallet should be done in secured connection)and if the user canceled the booking within the cancellation period ,his money will be returned to his Wallet again in safety.
<b>Scalability</b>	is the ability of a system to allow access number of users in the same time ,the system is able to support up to3000 players.
<b>Process Requirements</b>	<ul style="list-style-type: none"> <li>. Project plan and development methods and the system as a whole is finished and delivered will be done in about one month to 6 weeks.</li> <li>. Customers need to cancel the booking(if within the cancellation period).</li> <li>. The system allows recovery and backup.</li> </ul>
<b>Platforms</b>	The system should support Android, IOS, windows and application space is 20MB
<b>Maintainability</b>	<ul style="list-style-type: none"> <li>.Maintenance is allowed and enhancement</li> <li>.Allowances for reusability</li> </ul>
<b>Reliability</b>	<ul style="list-style-type: none"> <li>. The probability of a failure in a given period to perform its required functions.</li> <li>. The reliability of load testing is to check the performance of system under load ,so our system will perform better if the number of users is up to 3000.</li> <li>. The purpose of reliability is to assure that the system is reliable enough.</li> </ul>

## Use Case Model



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Actor	Defination
Administrator	The Administrator is the person responsible for the program, and one of his tasks is to regulate the relationship between the owner of the playground and the player who books the play ground and has a rights that allow him to make

	any change this program.
Playground Owner	He is the person which own the playground an he recive a request from the register to book his play ground he also take the money from the eWalet of the user and he makes a deal with regester about hours of booking and play ground type .
Player	He is the person who want to book the play ground he registers at the applicaton then he choose the play ground and pays the money from his eWalet and he makes a deal with playground owner about the cost of booking and type of playground he also manage both of number of the player and booking hours.

## Enriched User Stories

- Using below table template, **for each** requirement write an enriched user story specifying the details of each use case and showing the interaction to implement this use case.
  - If one requirement is so big, you could divide it to more than one user story.
  - If some requirements are not major, you could plugin them in other user stories.
- Flow of events should be very detailed

## Player user stories

- User Story #1

User Story ID	US #1
User Story Name	Booking
Actors	Player
Description	<p><b>As</b> a player</p> <p>I <b>like</b> to be able to join a team , send a booking request with money</p> <p><b>So</b> I can receive the playground</p>
Per condition	Request and money must be sent before
Post condition	Playground owner will receive the player request and money
Acceptance Criteria	Player can book the playground if he signed in the application and verify his data and pay the price of booking by any method from available methods

- Scenarios

### Normal Scenario

Actor Action	System Response
1- User Enter email and Password. 2- Click <b>Submit</b>	System send verification code
1-User enter the code 2- Click <b>verify</b>	System Verify user data System displays main menu
User choose booking	System shows available playgrounds
User choose playground 1	System displays teams to the user to join with any team
User choose team 1	System ask user to enter his phone number
User enter the phone number	System ask user to pay booking price
User pays	System show success message

### Exceptional Scenario

Actor Action	System Response
1- User Enter mail and Password. 2- Click <b>Submit</b>	System send verification code
1-User enter the code 2- Click <b>Submit</b>	mail is invalid Systems rejects mail and displays an error message

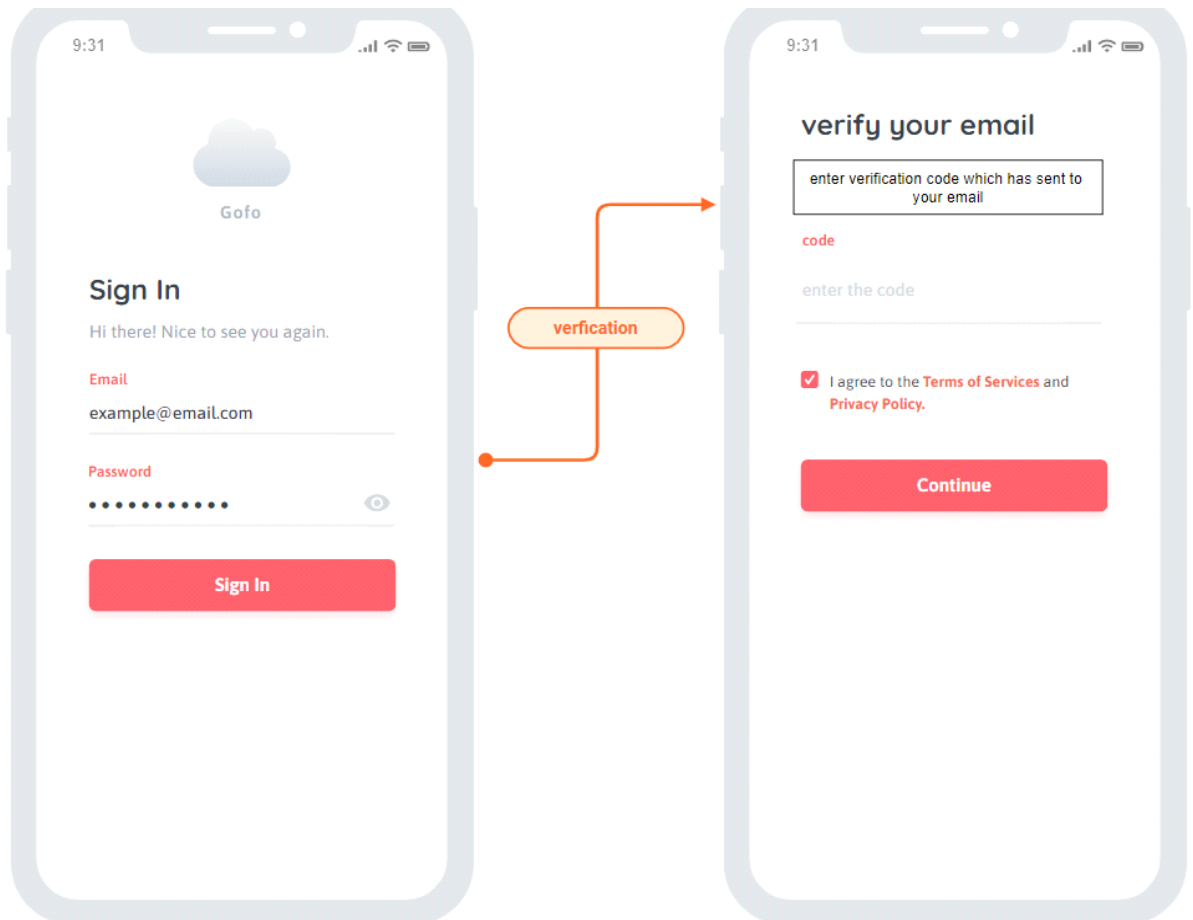
- **Screen Design**

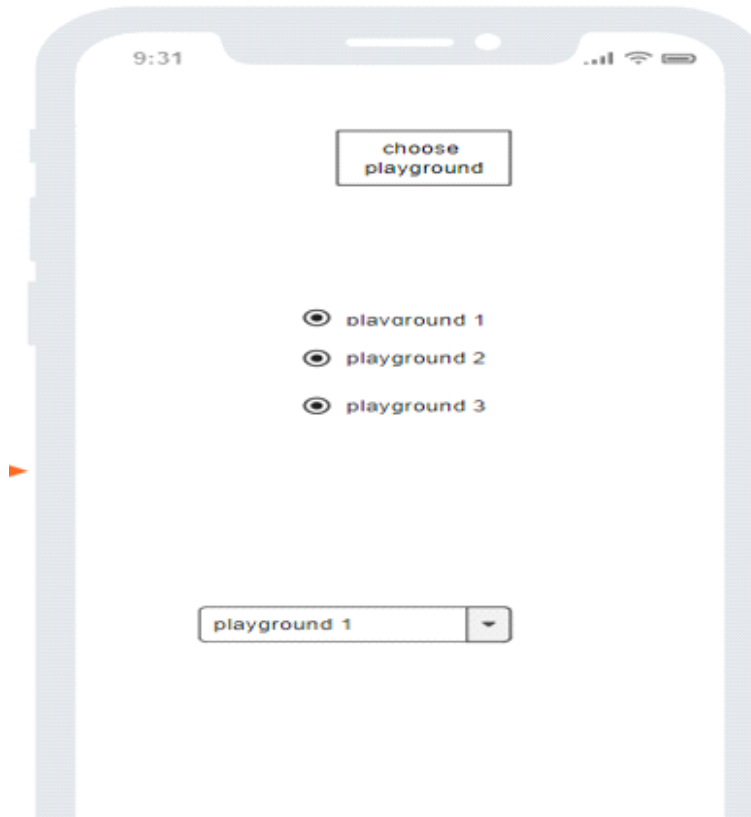
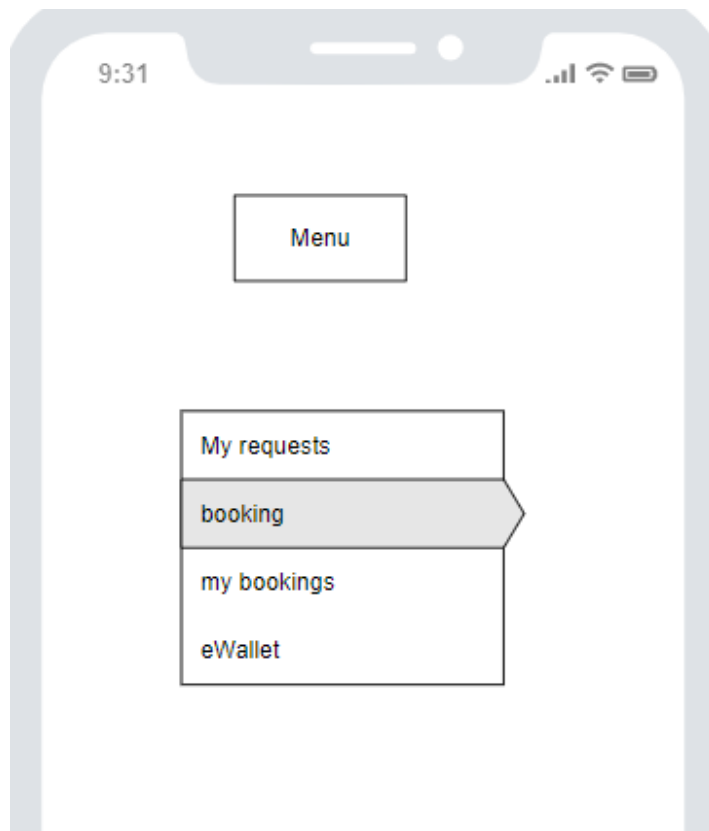
**Give a draft design of the screen(s) on which this user story will be implemented.**

**Do it as a as wireframe or a mockup. Use a tool to do that. Give each screen a number and name.**

### Screen for normal Scenario







9:31

choose your team

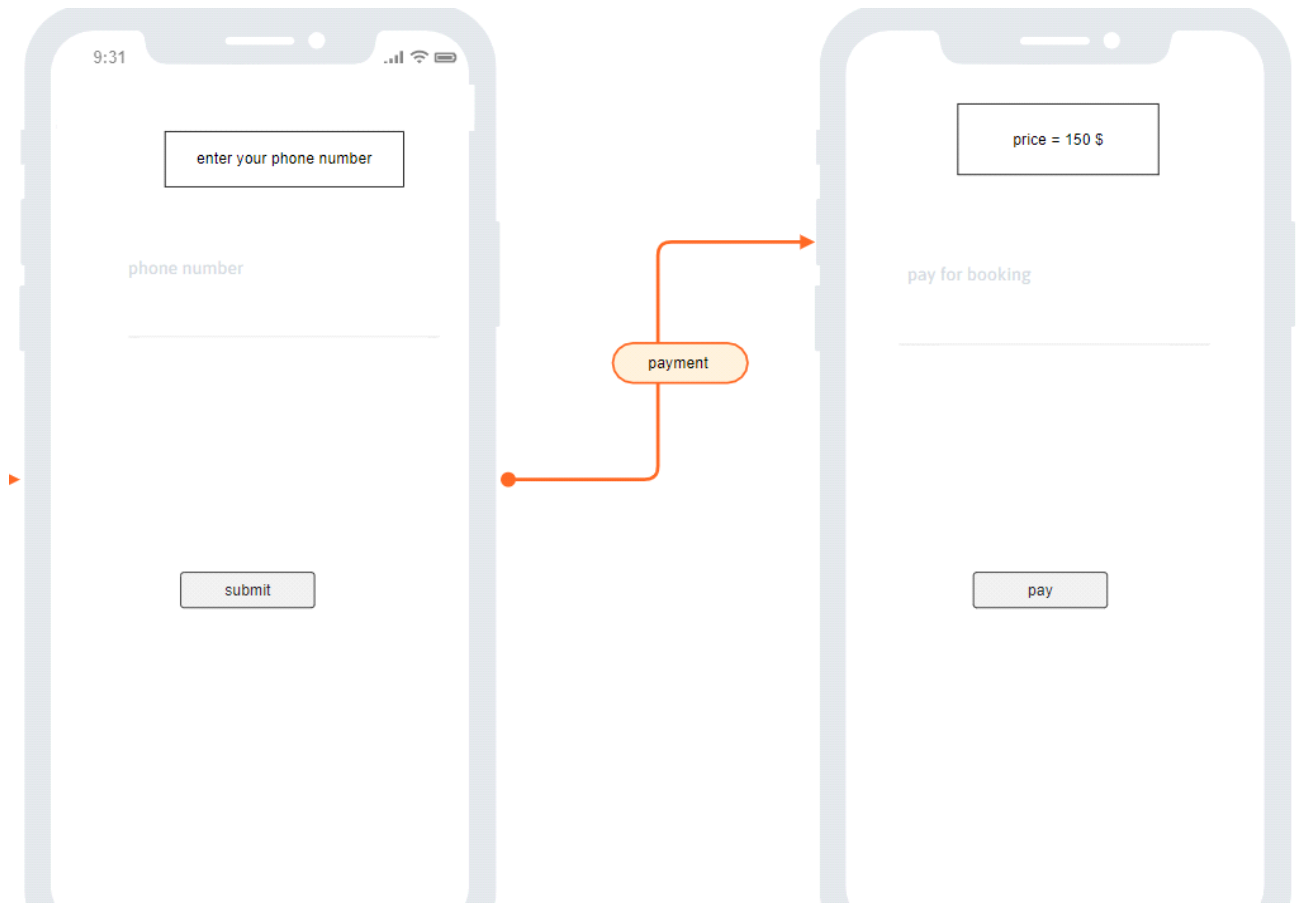
☒ team 1

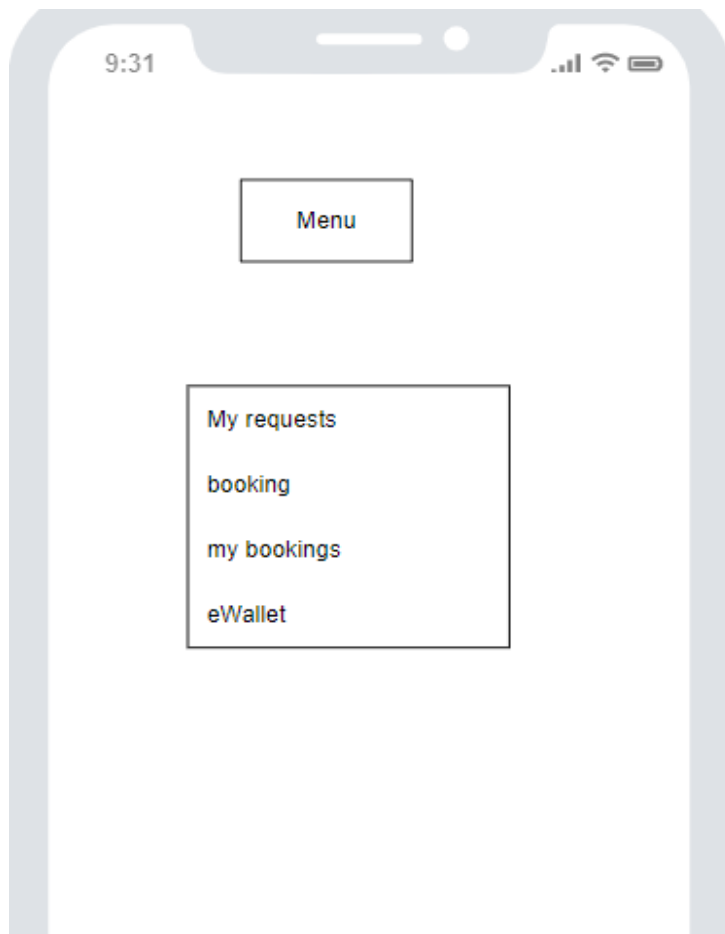
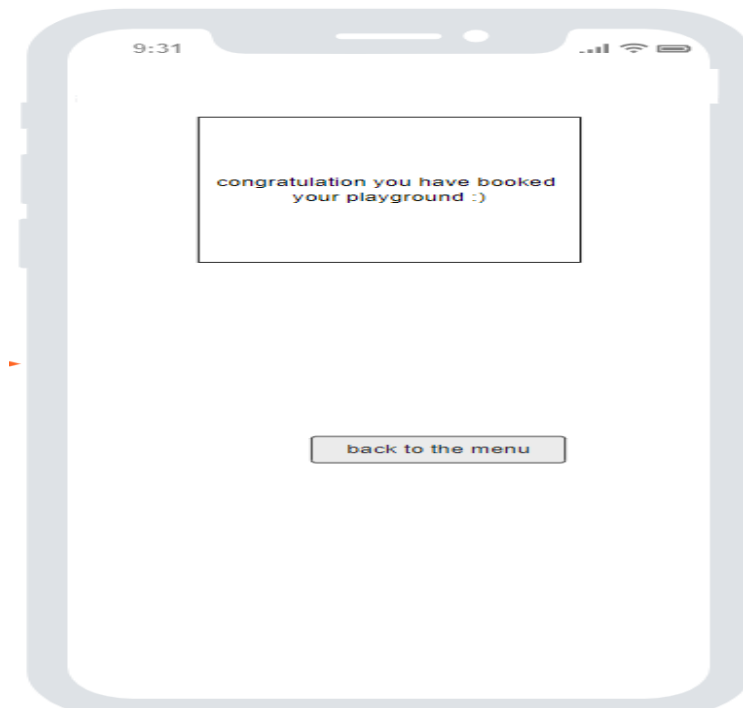
☐ team 2

☐ team 3

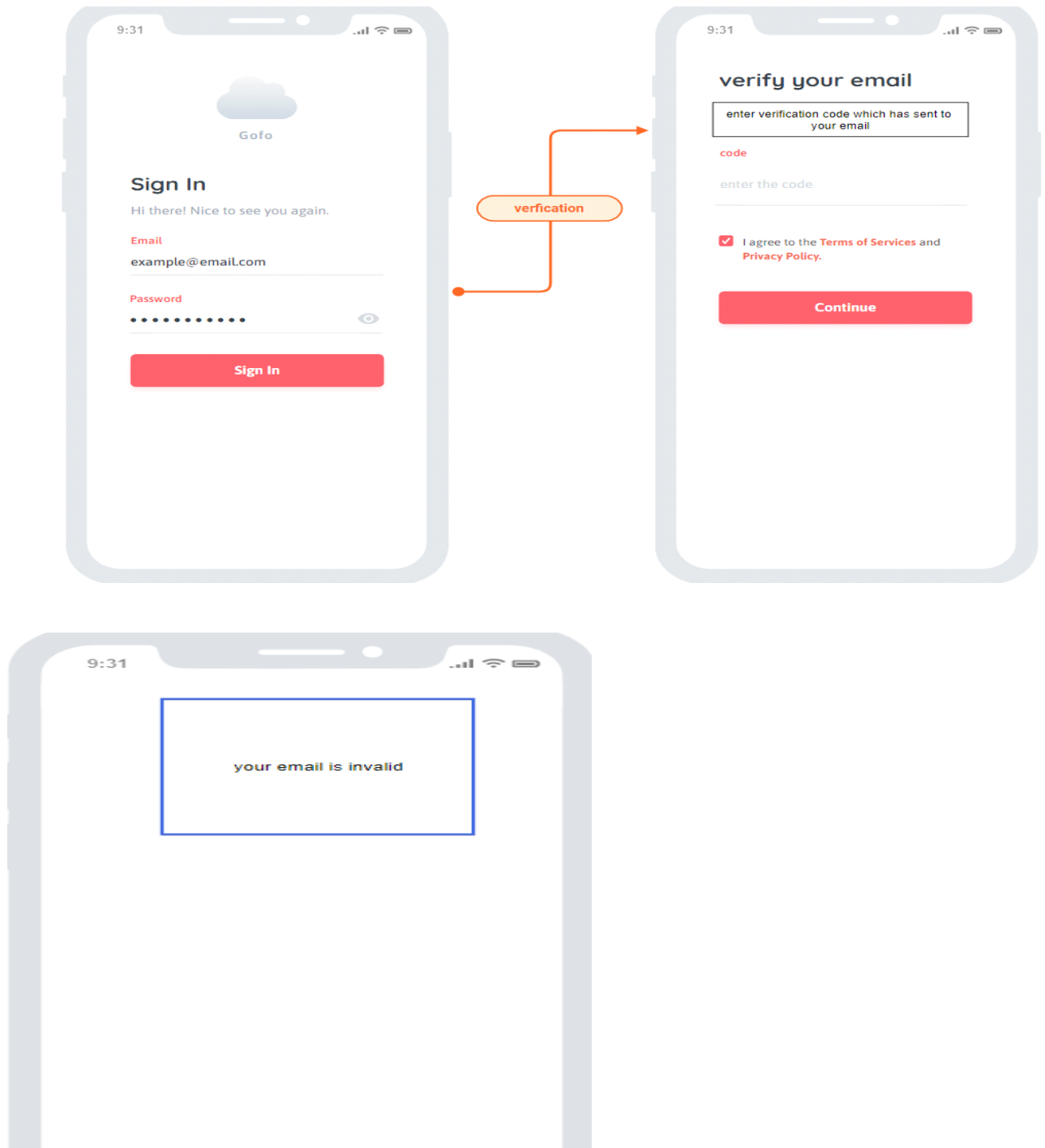
team 1

submit





## Screen for Exceptional Scenario



- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
email	text/50	Mandatory/ must be written with true format
password	Number/11	mandatory
Payment method	Text/15	mandatory
Phone number	Number/11	mandatory
Booking price	Number/3	Mandatory

- **User Story #2**

<b>User Story ID</b>	US #2
<b>User Story Name</b>	Cancel booking
<b>Actors</b>	player
<b>Description</b>	<p><b>As</b> a player</p> <p><b>I like</b> to be able to cancel my booking</p> <p><b>So</b> I can get my money back</p>
<b>Per condition</b>	Booking must be canceled before
<b>Post condition</b>	Player can get his money back
<b>Acceptance Criteria</b>	Player can cancel his booking if he signed in the application and verify his data and take his money by any method from available methods

- **Scenarios**

**Normal Scenario**

Actor Action	System Response
1- User Enter email and Password. 2- Click <b>Submit</b>	System send verification code
User choose booking	System Verify user data System displays main menu
User chooses requests	System displays requests

<ul style="list-style-type: none"> <li>User cancel the request</li> <li>Click <b>Cancel</b></li> </ul>	System orders user to enter payment method
User choose Vodafone cash	System orders user to enter his phone number
User enter phone number	System send money to user ' s wallet

### Exceptional Scenario

Actor Action	System Response
1- User Enter mail and Password. 2- Click <b>Submit</b>	System send verification code
1-User enter the code 2- Click <b>Submit</b>	mail is invalid Systems rejects mail and displays an error message

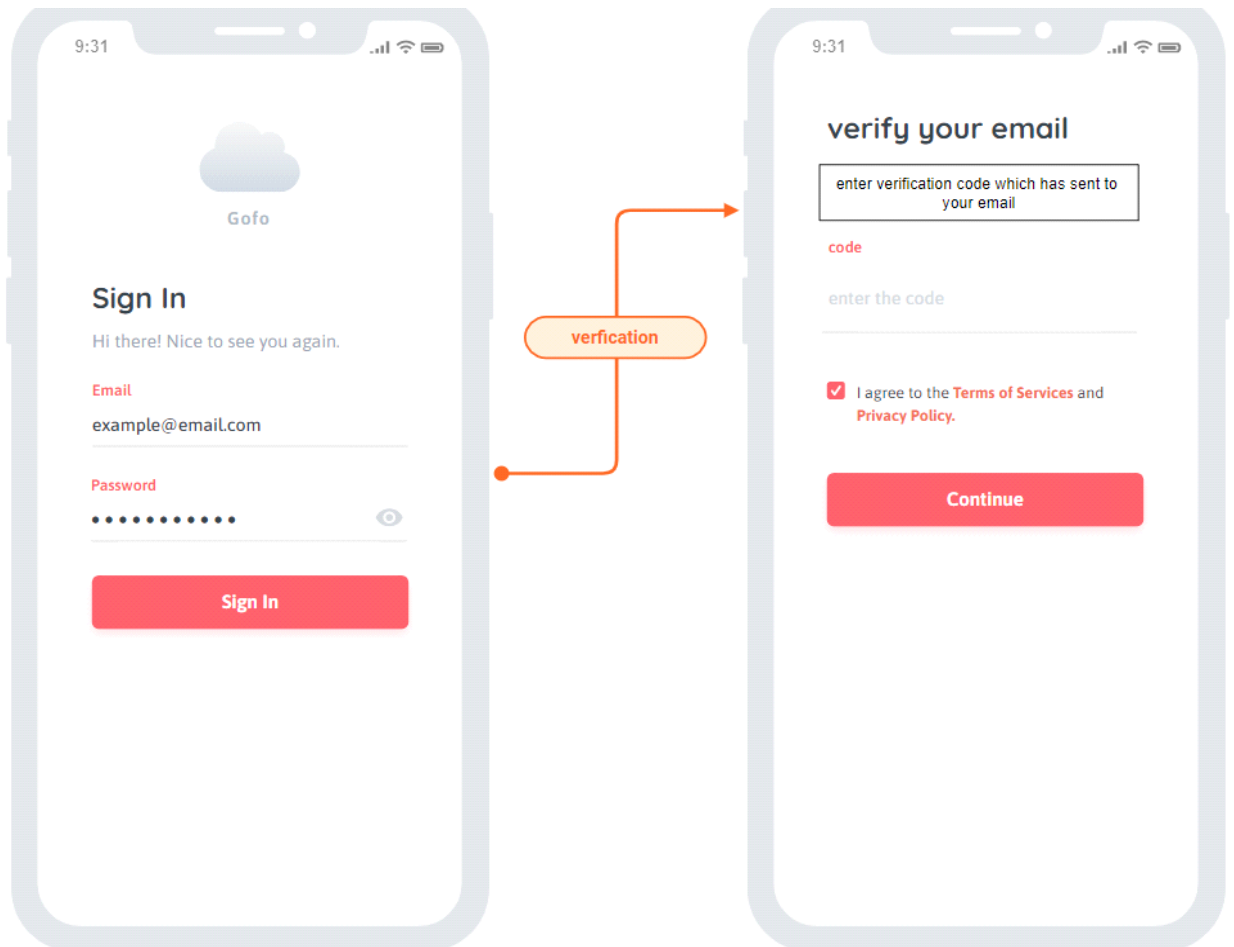
- Screen Design**

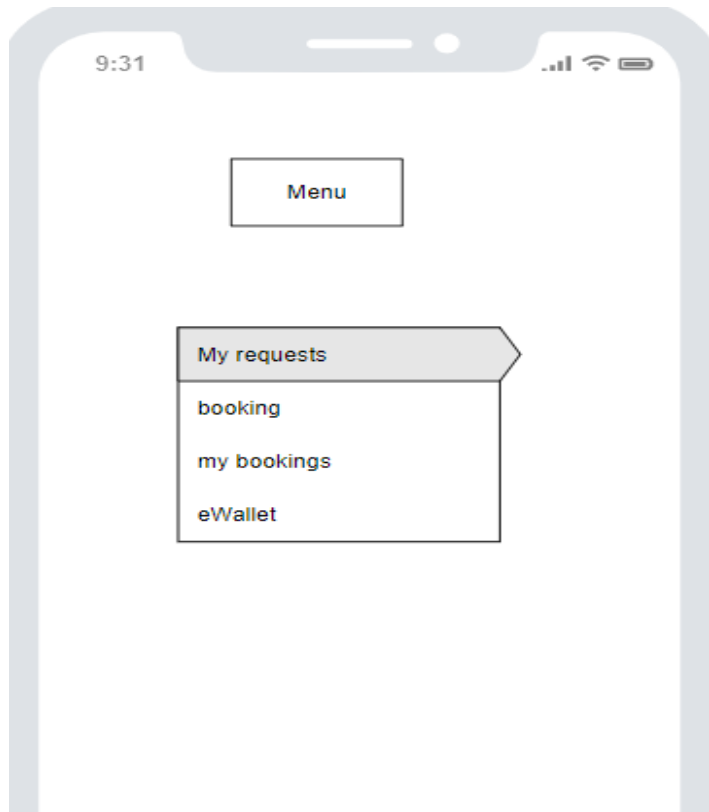
**Give a draft design of the screen(s) on which this user story will be implemented.**

**Do it as a as wireframe or a mockup. Use a tool to do that. Give each screen a number and**

### Screen for normal Scenario







9:31

enter your phone number

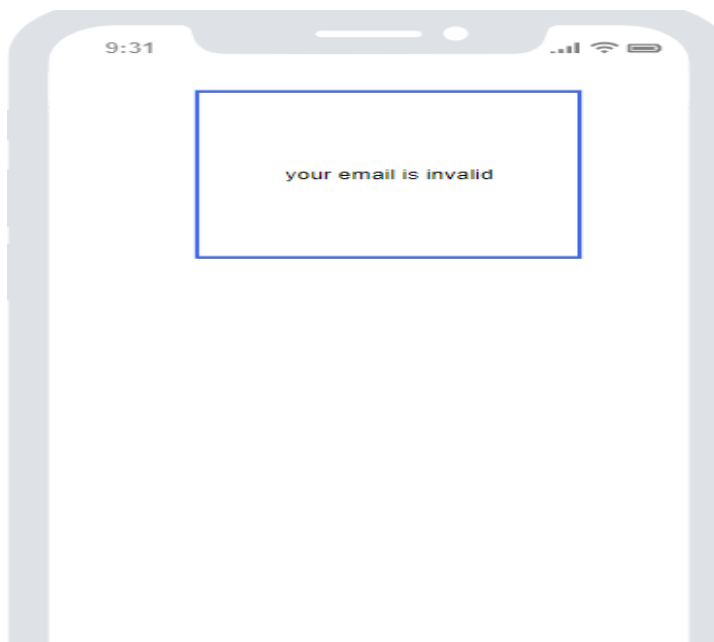
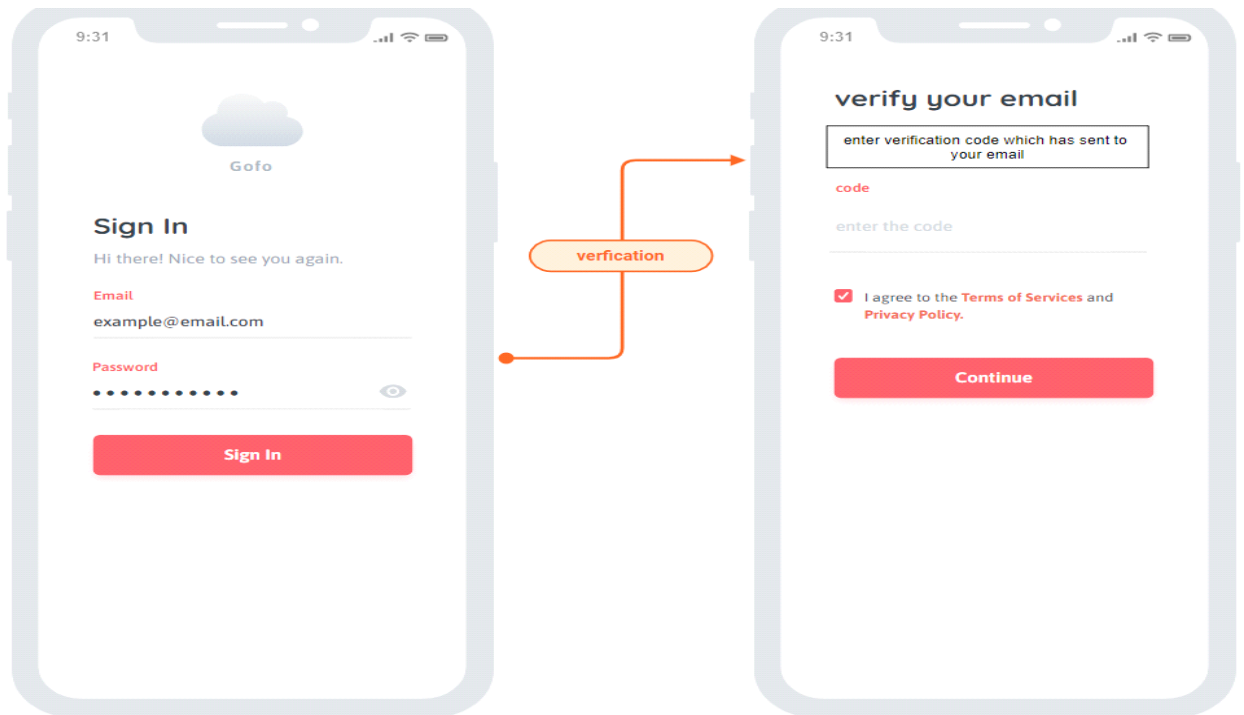
phone number

submit

9:31

Money successfulliy sent to your wallet

## Screen for Exceptional Scenario



- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
email	text/50	Mandatory/ must be written with true format
password	Number/11	mandatory
Payment method	Text/15	mandatory
Phone number	Number/11	mandatory

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### User Story #3

<b>User Story ID</b>	US #3
<b>User Story Name</b>	eWallet
<b>Actors</b>	player
<b>Description</b>	<b>As</b> a player <b>I like</b> to be able to check my eWallet <b>So</b> I can manage my account
<b>Per condition</b>	Password must be entered
<b>Post condition</b>	User can check his money
<b>Acceptance Criteria</b>	Player can see his eWallet details if he signed in the application and verify his data and sign in eWallet by correct data

- **Scenarios**

#### Normal Scenario

Actor Action	System Response
1- User Enter email and Password.	System send verification code

2- Click <b>Submit</b>	
User enter the code	System Verify user data
2- Click <b>verify</b>	System displays main menu
User chooses eWallet	System order user to enter phone number and password
User enter data Click <b>Submit</b>	System displays eWallet details

### Exceptional Scenario

Actor Action	System Response
1- User Enter mail and Password. 2- Click <b>Submit</b>	System send verification code
1-User enter the code 2- Click <b>Submit</b>	mail is invalid Systems rejects mail and displays an error message

### Another Exceptional Scenario

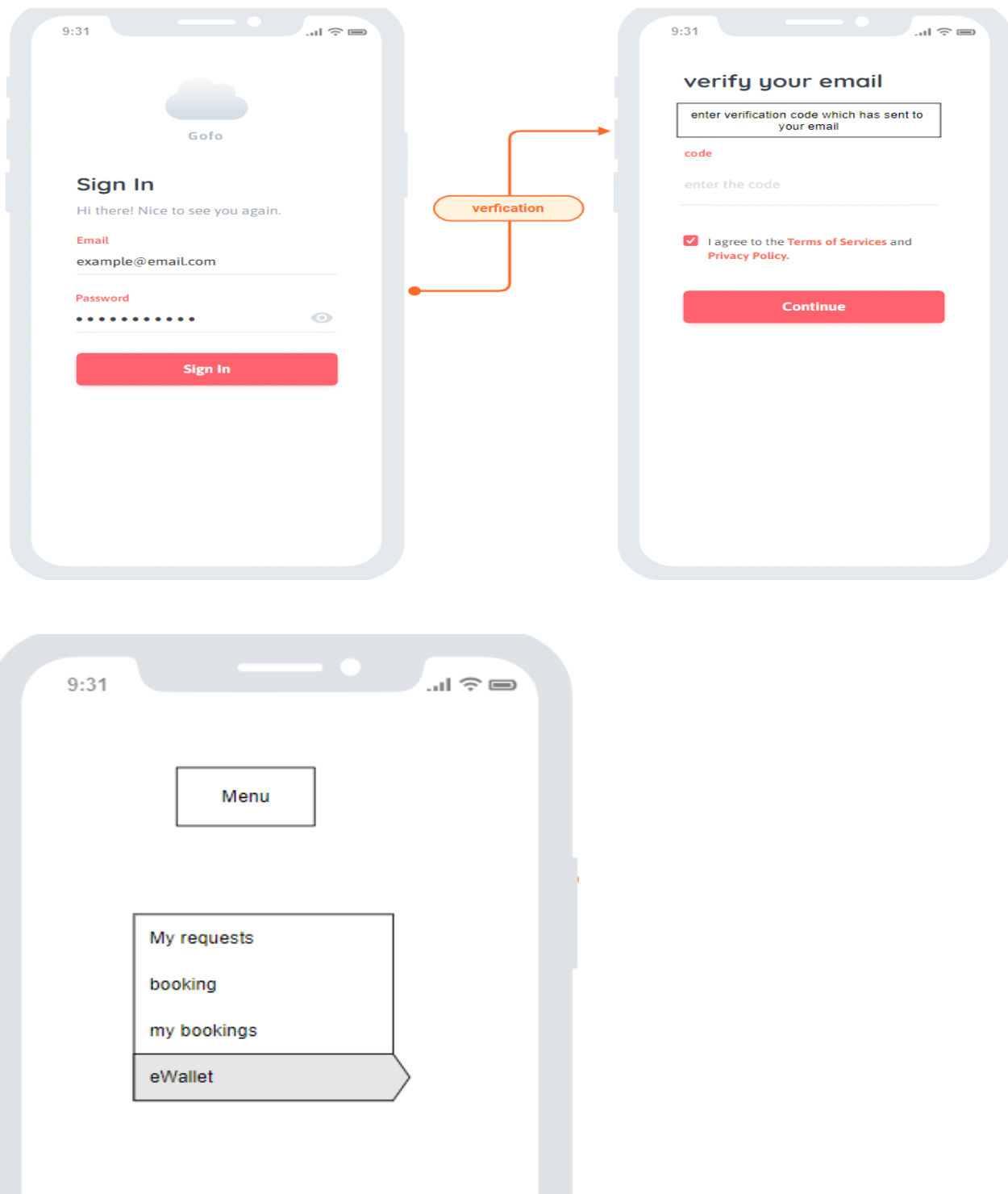
Actor Action	System Response
1- User Enter phone number and Password. 2- Click <b>Submit</b>	mail is invalid Systems rejects mail and displays an error message

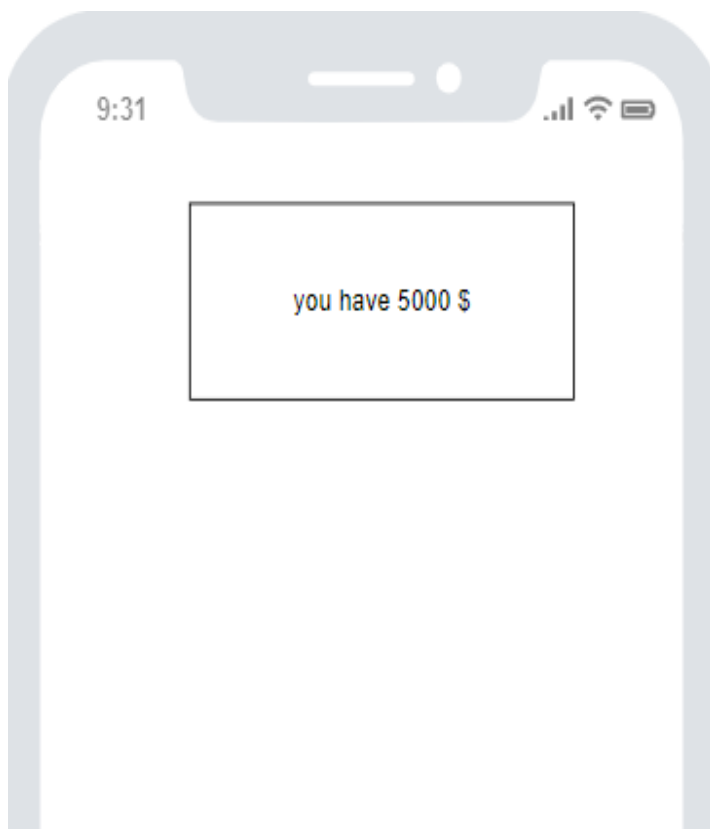
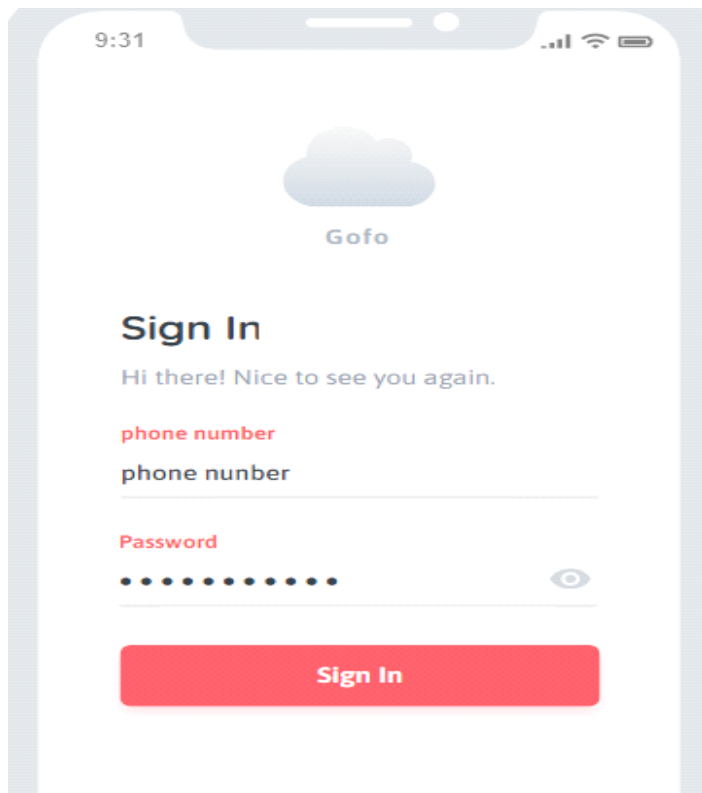
- Screen Design**

**Give a draft design of the screen(s) on which this user story will be implemented.**

**Do it as a as wireframe or a mockup. Use a tool to do that. Give each screen a number and name.**

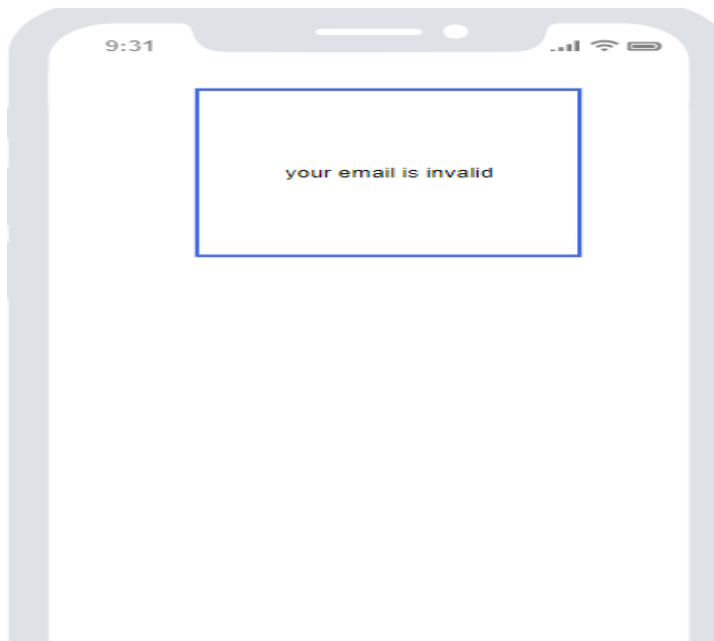
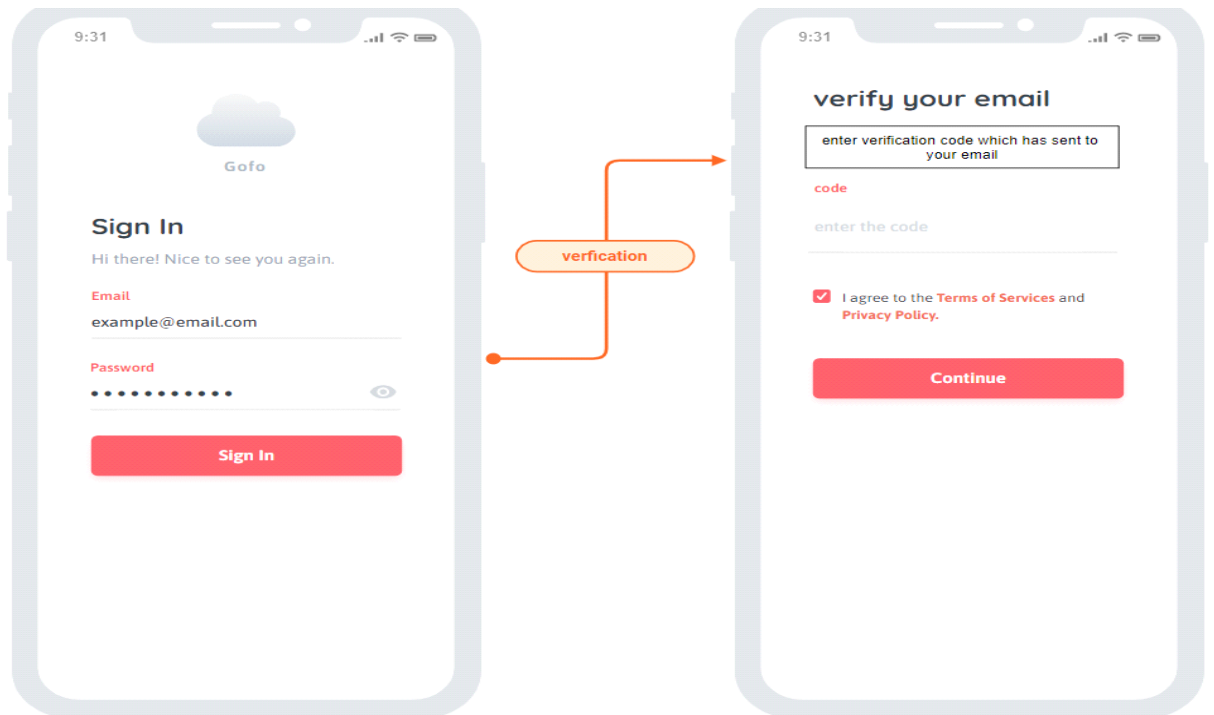
## Screen for normal Scenario








## Screen for Exceptional Scenario



or

9:31

  
Gofo

## Sign In


Hi there! Nice to see you again.

phone number

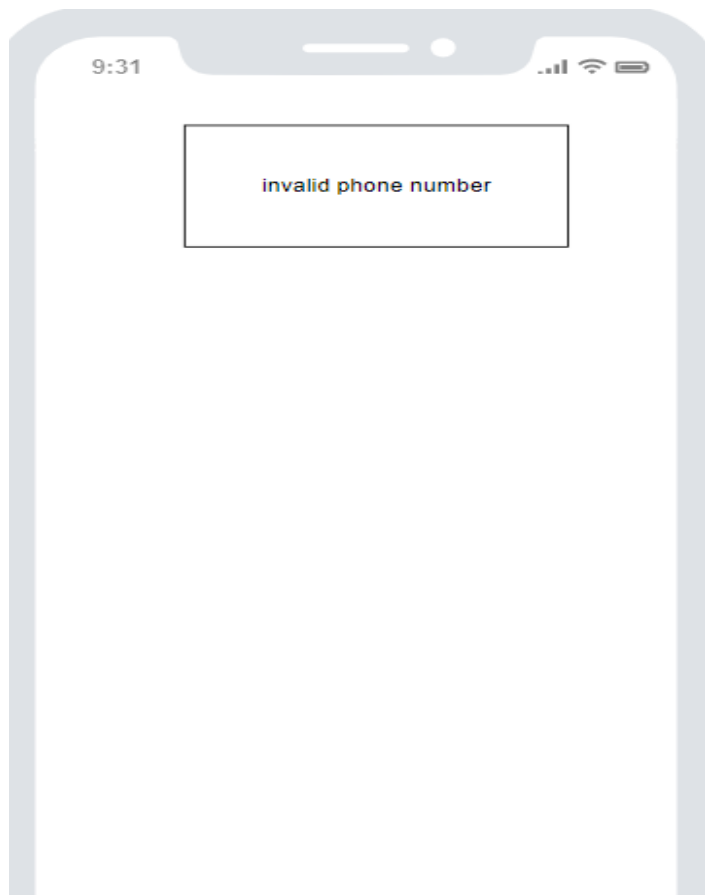
phone number

Password

.....



Sign In



- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
email	text/50	Mandatory/ must be written with true format
password	Number/11	mandatory
Phone number	Number/11	mandatory
password	Number/11	mandatory

---

## User Story #4

User Story ID	US #4
User Story Name	My bookings
Actors	player
Description	<b>As</b> a player <b>I like</b> to be able to check my bookings

	<b>So</b> I can manage my account
<b>Per condition</b>	Password must be entered
<b>Post condition</b>	User can check his money
<b>Acceptance Criteria</b>	Player can see his bookings if he signed in the application and verify his data

### Normal Scenario

Actor Action	System Response
1- User Enter email and Password. 2- Click <b>Submit</b>	System send verification code
User enter the code 2- Click <b>verify</b>	System Verify user data System displays main menu
User chooses my bookings	System displays eWallet details

### Exceptional Scenario

Actor Action	System Response
1- User Enter mail and Password. 2- Click <b>Submit</b>	System send verification code
1-User enter the code 2- Click <b>Submit</b>	mail is invalid Systems rejects mail and displays an error message

### Screen for normal Scenario

9:31

Gofo

## Sign In

Hi there! Nice to see you again.

Email  
example@email.com

Password  
.....

Sign In

verification

9:31

## verify your email

enter verification code which has sent to your email

code

enter the code

☒ I agree to the [Terms of Services](#) and [Privacy Policy](#).

Continue

9:31

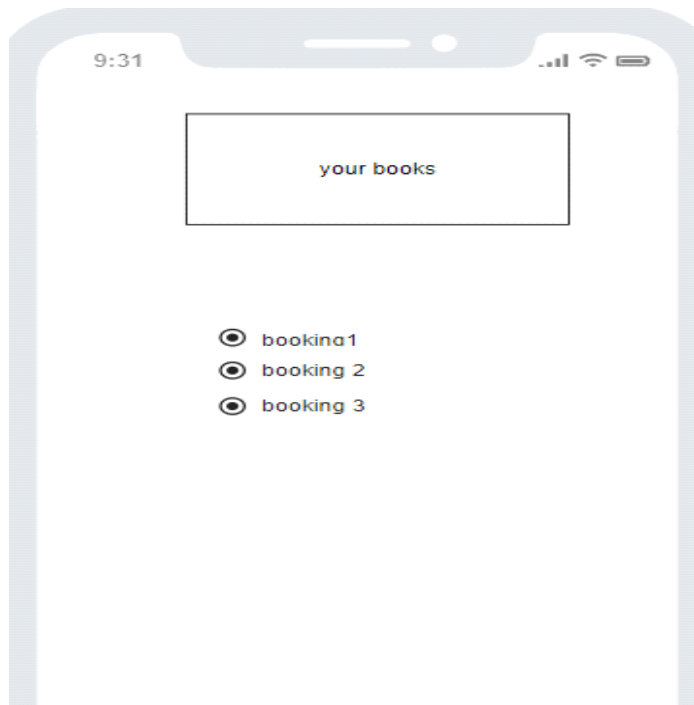
Menu

My requests

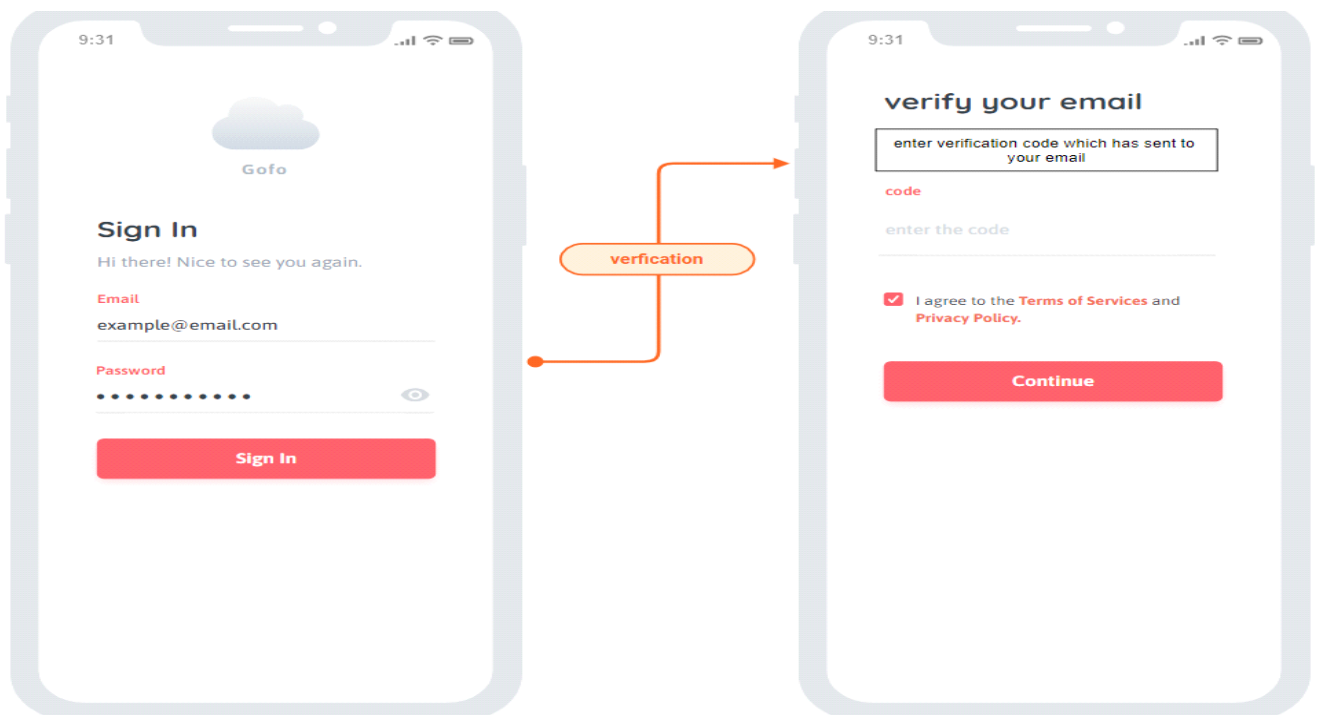
booking

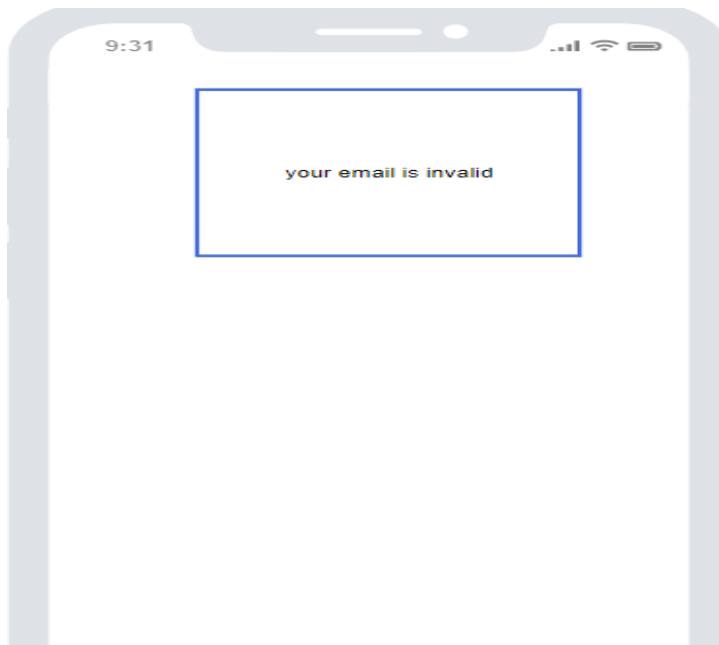
my bookings

eWallet



## Screen for Exceptional Scenario





- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
email	text/50	Mandatory/ must be written with true format
password	Number/11	mandatory

- **User Story #5**

<b>User Story ID</b>	US #5
<b>User Story Name</b>	Register
<b>Actors</b>	Player, Playground Owner
<b>Description</b>	<p><b>As</b> a player or Playground Owner</p> <p><b>I like</b> to be able to register a new account</p> <p><b>So</b> that I can be able to book or register a playground.</p>
<b>Per condition</b>	Username, email, phone_number, address and password must be sent before.
<b>Post condition</b>	New account will be created.
<b>Acceptance Criteria</b>	<p><b>Given</b> I register new account.</p> <p><b>When</b> I fill in the “Username”, “Email”, “Phone No.”, “Address”, “Password” fields and I click the Sign-In button.</p> <p><b>Then</b> the system will create a new account.</p>

- **Scenarios**

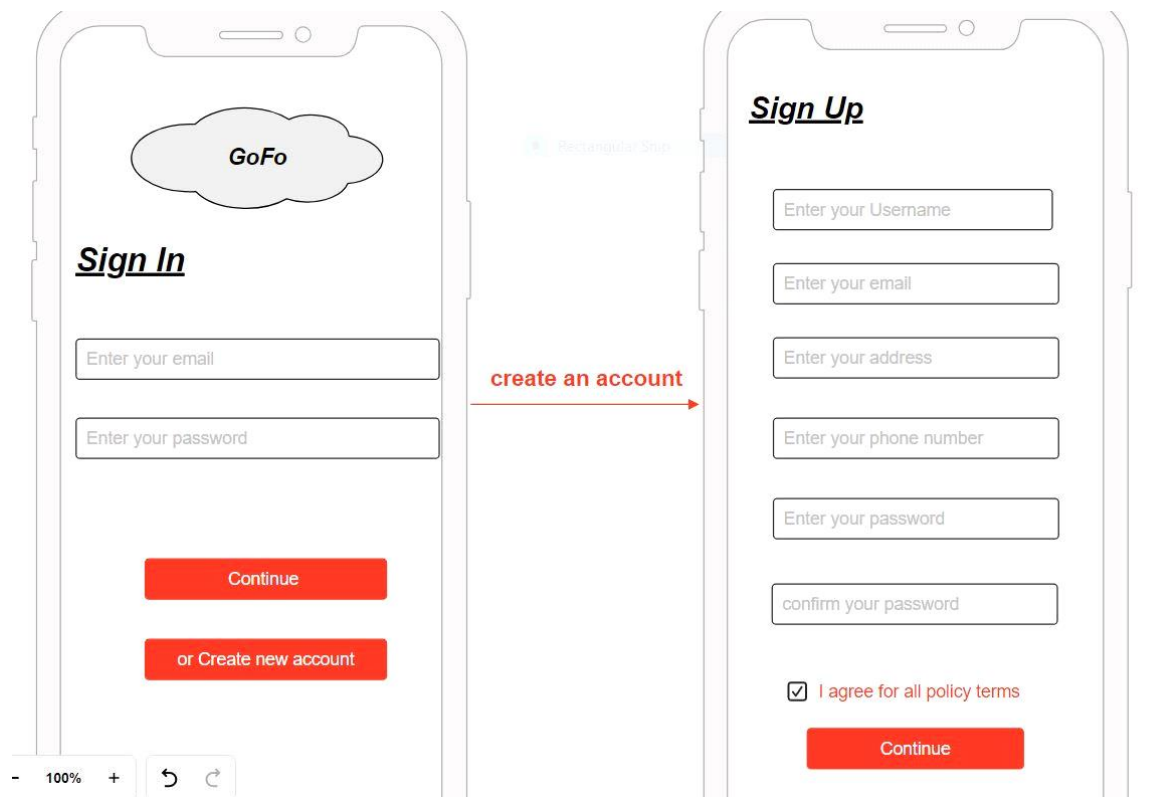
## Normal Scenario

Actor Action	System Response
1.Click on Create new account button	2.System will display a form to fill
3. You will enter your personal information.	5. System will send verification code.
4. Click submit.	
6. You will enter the verification code you received.	7. Your account will be created.

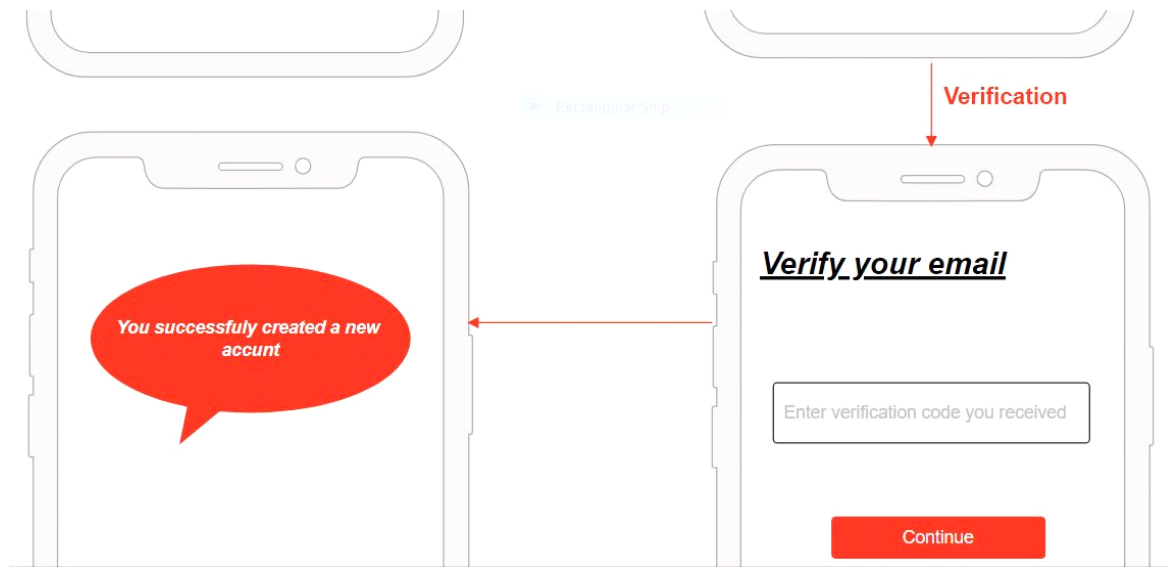
- **Exceptional Scenario**

Actor Action	System Response
1.Click on Create new account button	2.System will display a form to fill
3. You will enter your personal information.	5. One of your personal information is wrong,
4. Click submit.	system will reject to create a new account and display an error message.

- **Screen Design**







- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
Username	Text/ 30	mandatory
Phone No	Number/11	mandatory
Email	Text/ 50	mandatory
Address	Text/ 100	mandatory
Password	Number/ 11	Mandatory

## User stories for playground owner

### User Story #6

<b>User Story ID</b>	US #6
<b>User Story Name</b>	Register Playground
<b>Actors</b>	Playground Owner
<b>Description</b>	<p>As a Playground Owner</p> <p>I like to be able to register playground in some steps</p> <p>So , First : Sign in by entering email, password. then,he offers his playgrounds with name,area,location,available hours,price per hour and cancellation period.</p>
<b>Per condition</b>	Sign in with his account and register new playground

<b>Post condition</b>	Playgrounds are recorded in the system and the players can show them when they are looking for available playgrounds
<b>Acceptance Criteria</b>	<p><b>Given</b> I'm in My Playgrounds Screen</p> <p><b>When</b> I fill in the "playground name", "location", "available hours", "price per hour", "cancellation period" and "area" fields with my authentication credentials and I click the Add Playground button</p> <p><b>Then</b> the system add this playground</p>

- **Scenarios**

#### Normal Scenario

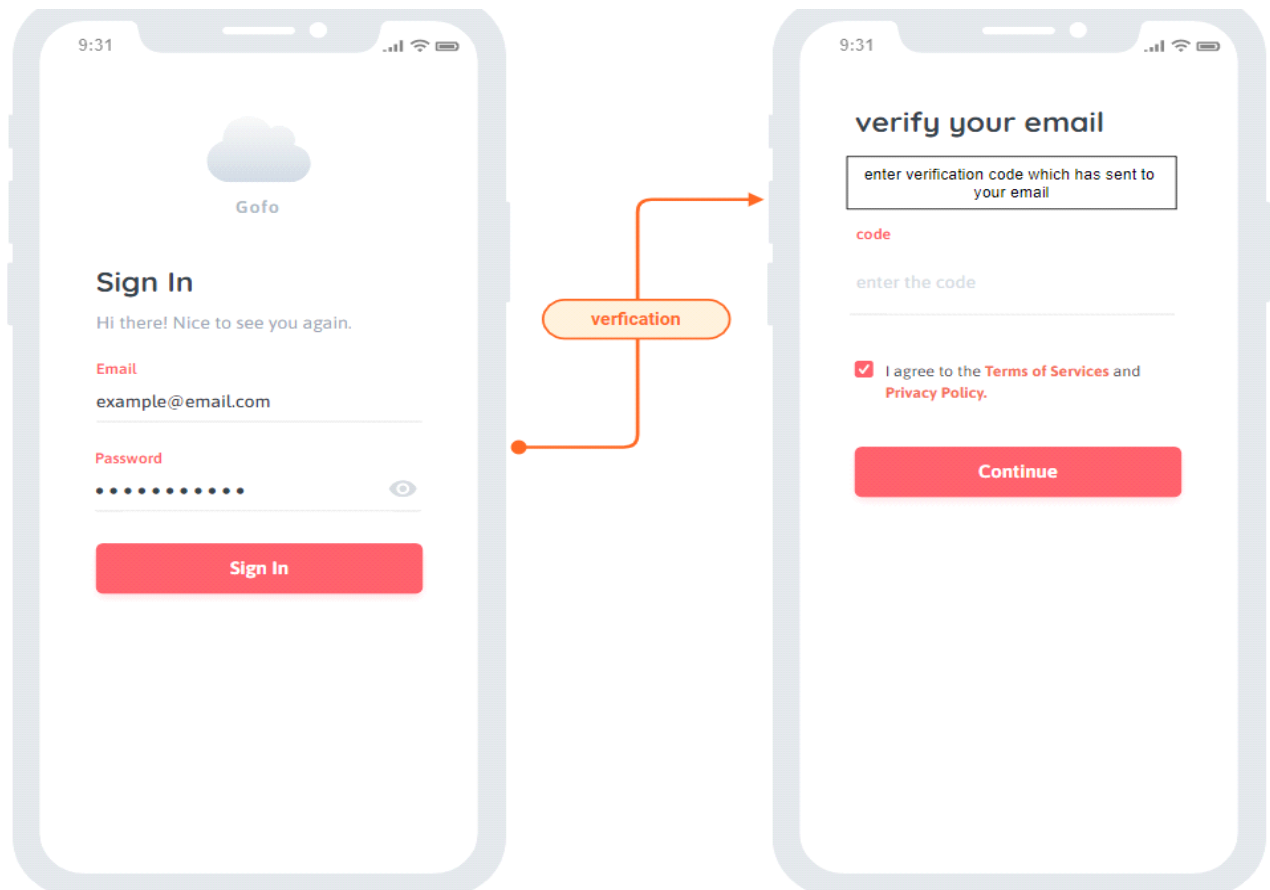
Actor Action	System Response
<ul style="list-style-type: none"> <li>• Playground Owner enter his email and password</li> <li>• Click <b>Submit</b></li> </ul>	<ul style="list-style-type: none"> <li>• System send verification code</li> </ul>
<ul style="list-style-type: none"> <li>• Playground Owner enter the code</li> <li>• Click <b>Verify</b></li> </ul>	<ul style="list-style-type: none"> <li>• System verify his data</li> <li>• System displays Main Menu in which (My Playground , My Requests , and Check Money on eWallet)</li> </ul>
<ul style="list-style-type: none"> <li>• Playground Owner choose My Playground from which choose Add Playground</li> </ul>	<ul style="list-style-type: none"> <li>• System displays Add Playground Screen in which (Playground Name, Playground Area, Location , Available hours , Price per hour , Cancellation Period )</li> </ul>
<ul style="list-style-type: none"> <li>• Playground Owner Fills the fields of Add Playground Screen</li> <li>• Click <b>Add</b></li> </ul>	<ul style="list-style-type: none"> <li>• System displays a message for you saying ( Playground has been successfully added )</li> </ul>
<ul style="list-style-type: none"> <li>• Click <b>OK</b></li> </ul>	<ul style="list-style-type: none"> <li>• System displays 2 messages (Back To Menu or Close)</li> </ul>
<ul style="list-style-type: none"> <li>• Playground Owner click on <b>Close</b> (if he wants to close System )</li> <li>• If he wants to back to menu Click on <b>Back To Menu</b></li> </ul>	<ul style="list-style-type: none"> <li>• System displays Main Menu in which (My Playground , My Requests , and Check Money on eWallet)</li> </ul>

#### Exceptional Scenario

Actor Action	System Response
1- Playground Owner enter mail and Password. 2- Click <b>Submit</b>	3- System send verification code

4- Playground Owner enter the code	One of personal information is incorrect
5- Click <b>Submit</b>	Systems rejects to sign in and displays an error message

- **Screen Design**



9:31

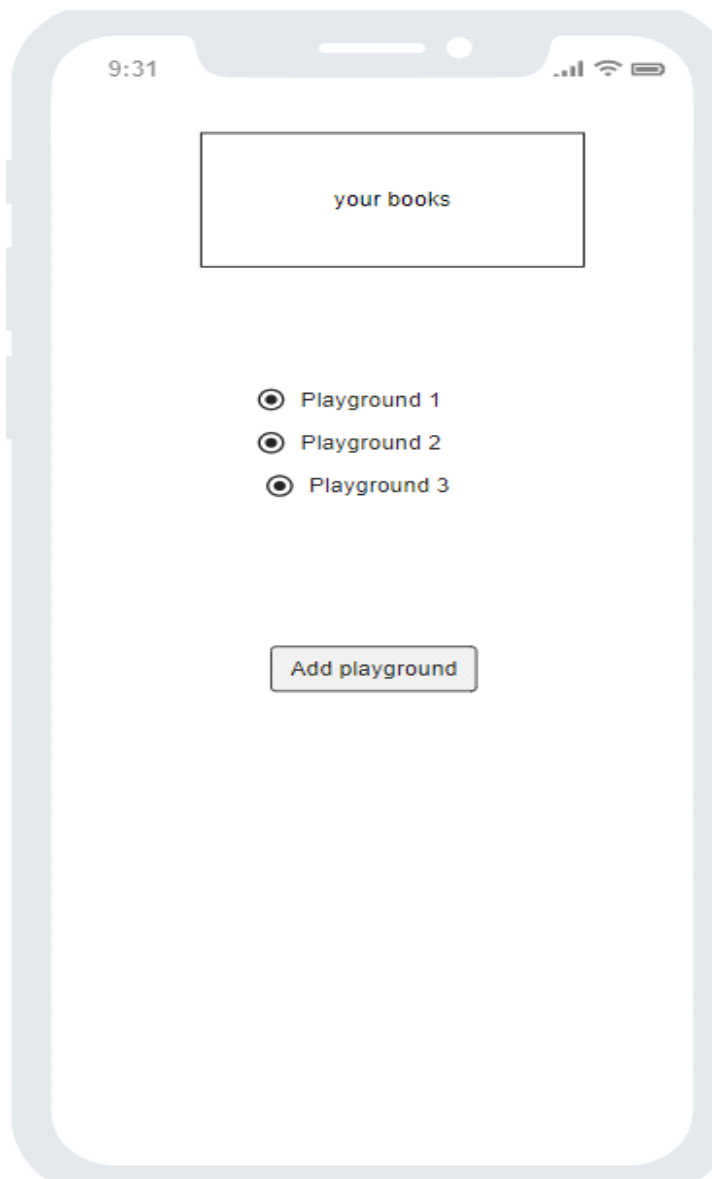


Main menu

My Playground >

My Requests

Check money on eWallar



9:31



fill this data

playground name:

enter the name

playground Area:

enter the Area

playground location:

enter the Location

available hours:

enter available hours

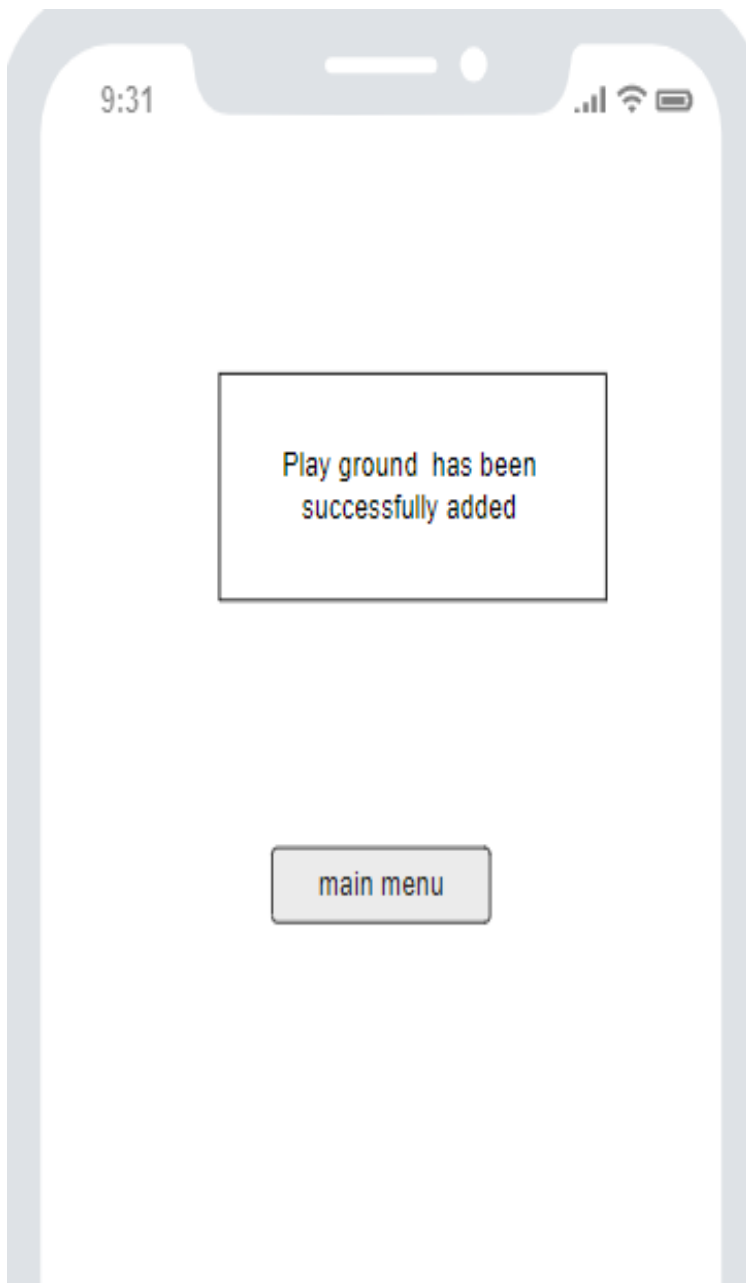
price per hour:

enter price per hours

cancellation period:

enter cancelation period

Add



- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
Email	text/50	Mandatory/Y/ must be written with true format
Password	Number/11	Mandatory/Y
Playground Name	Text/30	Mandatory/Y

Playground Area	Number/10	Mandatory/Y
Playground Location	Text/30	Mandatory/Y
Available hours	Number/24	Mandatory/Y
Price per hour	Number/3	Mandatory/Y
Cancellation Period	Number/2	Mandatory/Y

## User story #7

<b>User Story ID</b>	US #7
<b>User Story Name</b>	My Requests (Recieve Requests of Playgrounds)
<b>Actors</b>	Playground Owner
<b>Description</b>	As a Playground Owner I like to be able to receive requests of playgrounds in some steps So ,First: Sign in then Can view bookings, change available hours
<b>Per condition</b>	Sign in with his account and view bookings of playgrounds
<b>Post condition</b>	Pend or Accept the Request of Playgrounds that are requested by players
<b>Acceptance Criteria</b>	<b>Given</b> I'm in My Requests Screen <b>When</b> I click on the "Accept" or "Pend" Choices with my authentication credentials and I click on <b>Send Response to the Player</b> button <b>Then</b> the system send this response to the player

### • Scenarios

#### Normal Scenario

Actor Action	System Response
<ul style="list-style-type: none"> <li>Playground Owner enter his email and password</li> <li>Click <b>Submit</b></li> </ul>	<ul style="list-style-type: none"> <li>System send verification code</li> </ul>
<ul style="list-style-type: none"> <li>Playground Owner enter the code</li> <li>Click <b>Verify</b></li> </ul>	<ul style="list-style-type: none"> <li>System verify his data</li> <li>System displays Main Menu in which (My Playground , My Requests , and Check Money on eWallet)</li> </ul>
<ul style="list-style-type: none"> <li>Playground Owner click on <b>My Requests</b></li> </ul> <p>10-Playground Owner click on <b>Check Requests Screen</b> then chooses <b>Requested</b></p>	<ul style="list-style-type: none"> <li>System displays Confirmation Requests Screen in which(Requested Playgrounds, Reserved Playgrounds and Available Playgrounds)and next</li> </ul>



<b>Playgrounds</b> then click on <b>Accept</b> (if this playground is available ), Click on <b>Pend</b> (if all playgrounds are reserved then <b>send message</b> to the player with available playgrounds)	to each playground is this list(Pend , Accept )
<ul style="list-style-type: none"> <li>Click <b>Send Response to the Player</b></li> <li>Click <b>OK</b></li> </ul>	<ul style="list-style-type: none"> <li>System displays a message saying (The Response is Sent)</li> <li>System displays 2 messages (Back To Menu or Close)</li> </ul>
<ul style="list-style-type: none"> <li>Playground Owner click on <b>Close</b> (if he wants to close System )</li> <li>If he wants to back to menu Click on <b>Back To Menu</b></li> </ul>	<ul style="list-style-type: none"> <li>System displays Main Menu in which (My Playground , My Requests , and Check Money on eWallet)</li> </ul>

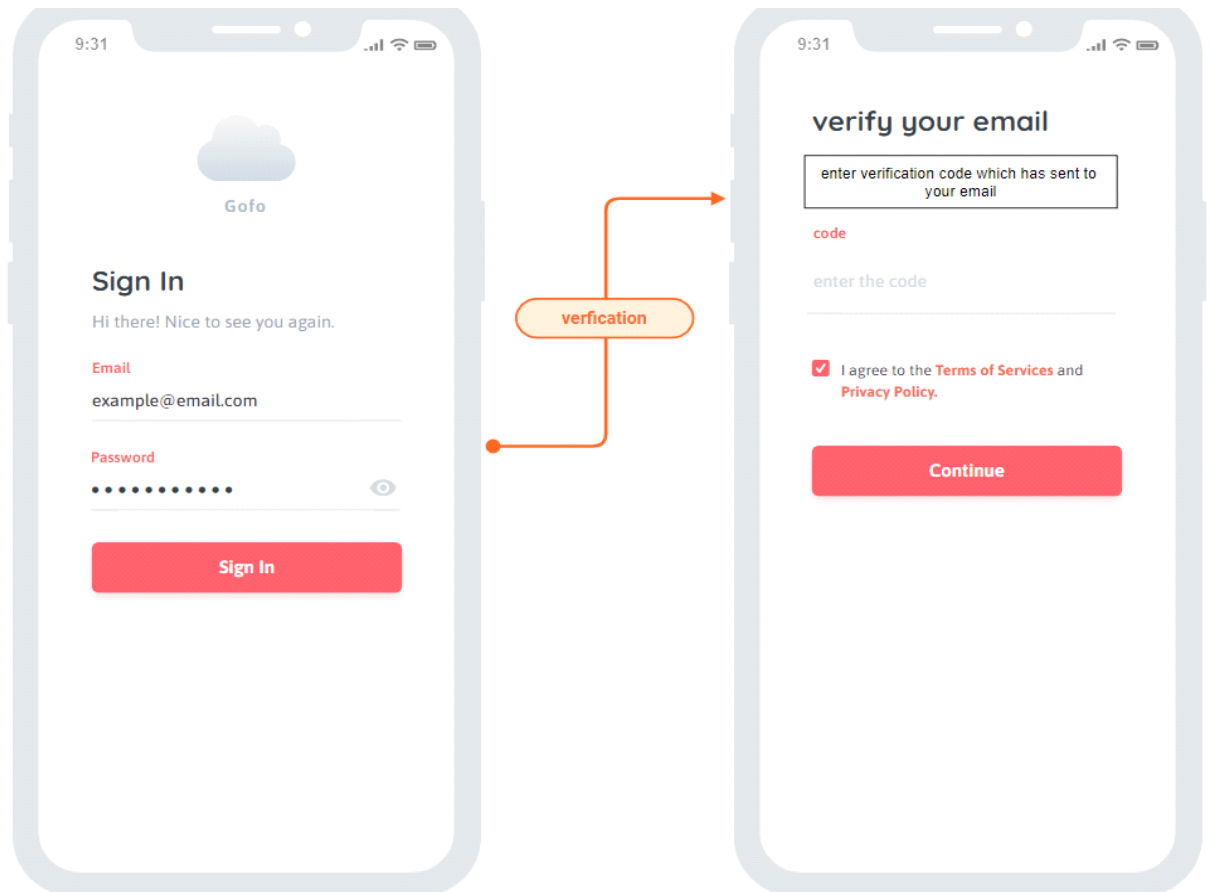
### Exceptional Scenario

Actor Action	System Response
1-When Playground Owner send the response to the player . 2- Click <b>Send</b>	3-May be a Problem in Network Connection 4-System doesnot send (The Response is Sent)

### • Data Dictionary:

Element Label	Type/Length	Data Validation / Business Rule
Username	Text/ 30	Mandatory/Y
send the response to the player	Text/5	Mandatory/Y
Email	Text/ 50	Mandatory/Y
Password	Number/ 11	Mandatory/Y

### • Screen Design



9:31



Main menu

My Playground

My Requests>

Check money on eWallet

9:31



### available playgrounds

- ☒ playground 1
- ☐ playground 3
- ☐ playground 5

### reserved playgrounds

- ☐ playground 2
- ☐ playground 4

### Requested playgrounds

<input checked="" type="radio"/> playground 1	Accept	pend
<input type="radio"/> playground 2	Accept	pend
<input type="radio"/> playground 3	Accept	pend
<input type="radio"/> playground 4	Accept	pend
<input type="radio"/> playground 5	Accept	pend

send response to the player



## User story #8

User Story ID	US #8
User Story Name	eWallet
Actors	Playground Owner
Description	<b>As a</b> Playground Owner <b>I like</b> to be able to check my eWallet <b>So</b> I can manage my account
Per condition	<b>Password must be entered</b>
Post condition	Playground Owner <b>can check his money</b>
Acceptance Criteria	<b>Given</b> I'm in eWallet Screen <b>When</b> I fill in the "Phone Number" or "Password" fields with my authentication credentials and I click on <b>Sign in</b> button <b>Then</b> the system show to me the money in eWallet

- **Scenarios**

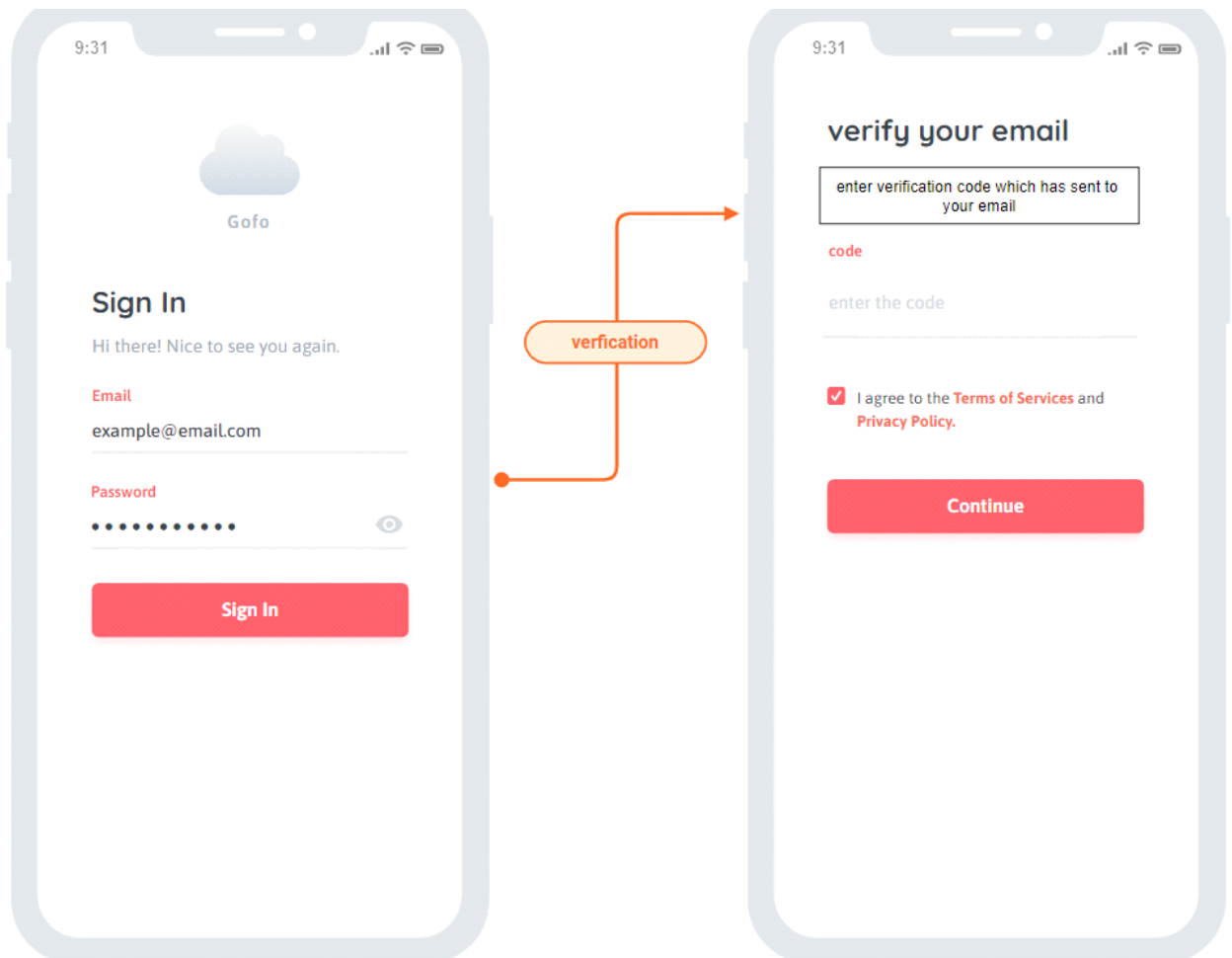
- Normal Scenario**

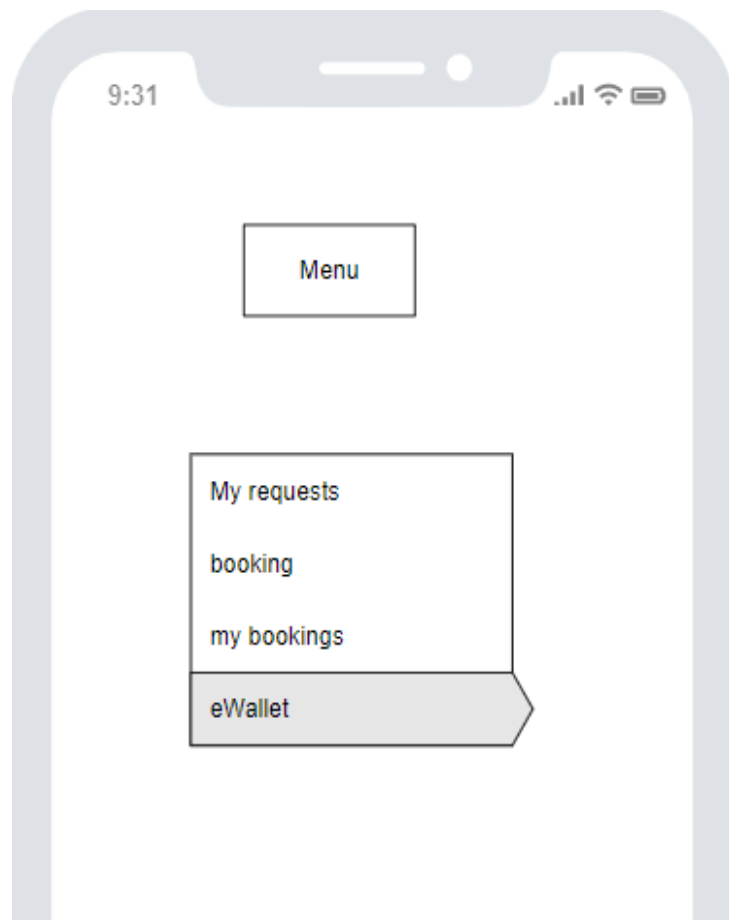
Actor Action	System Response
1- Playground Owner Enter email and Password. 2- Click <b>Submit</b>	3-System send verification code
4-Playground Owner enter the code 5- Click <b>verify</b>	6-System Verify user data 7- System displays main menu
8-Playground Owner chooses eWallet	9-System request to enter phone number and password
10-Playground Owner enter data 11-Click <b>Submit</b>	12-System displays eWallet details

- Exceptional Scenario**

Actor Action	System Response
1- Playground Owner Enter phone number and Password of his eWallet. 2- Click <b>Submit</b>	3-System send verification code
4- Playground Owner enter the code 5- Click <b>Submit</b>	6- One of information is incorrect Systems rejects to display eWallet details and displays an error message

- **Screen Design**







9:31



Gofo

## Sign In

Hi there! Nice to see you again.

phone number

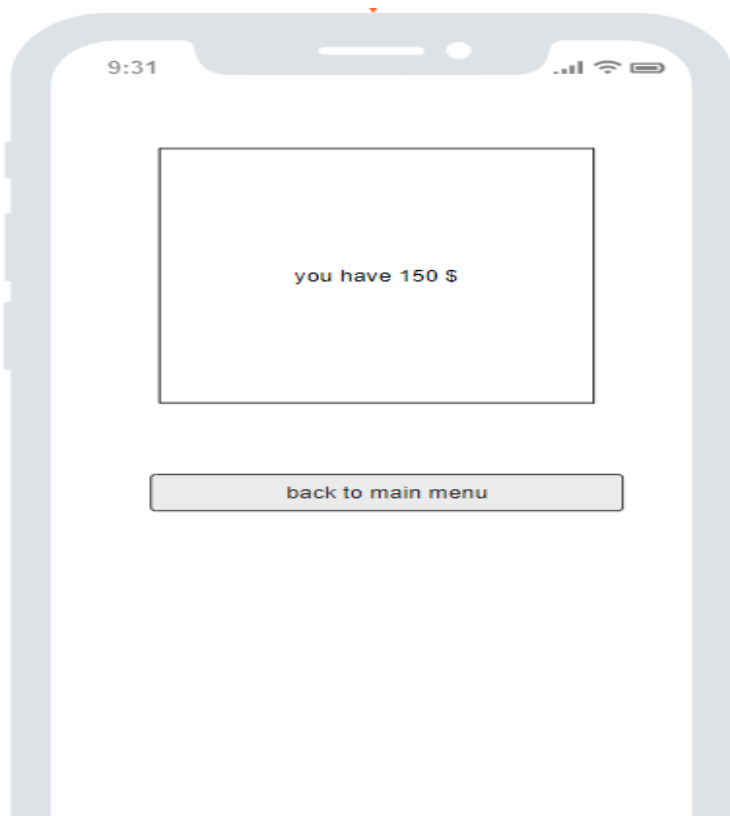
phone number

Password

••••••••••



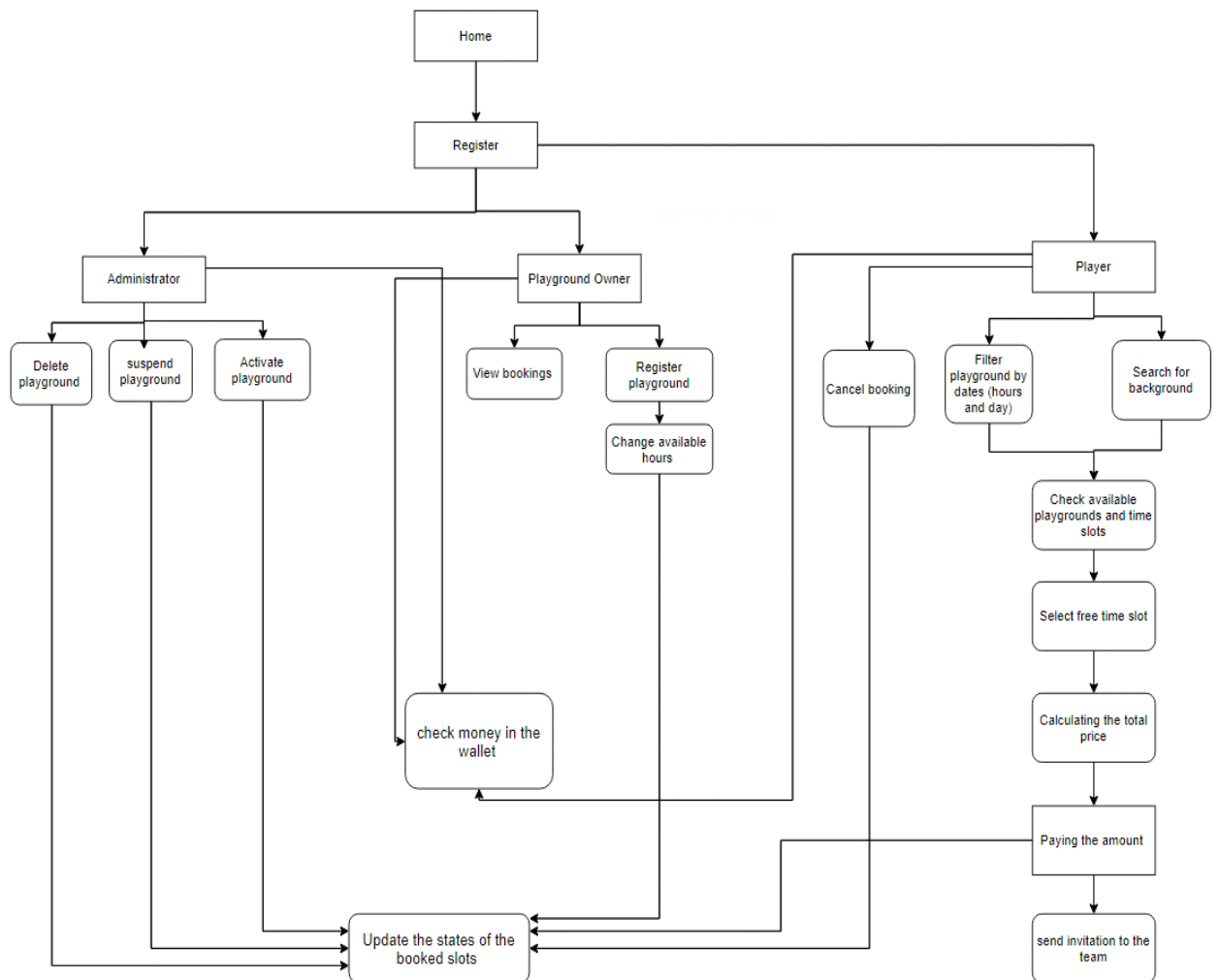
Sign In



- **Data Dictionary:**

Element Label	Type/Length	Data Validation / Business Rule
Phone Number	Number/ 11	Mandatory/Y
Password	Number and Text/ 15	Mandatory/Y

## System Navigation Map



## Tools

- ArgoUML
- Lucid

## Ownership Report

Student	Items he created
<b>Fatma Ezzat Hassan</b>	Document purpose and audience, Introduction, navigation map, user story #5
<b>Amira Fathy Gomaa</b>	-Requirements ( Functional Requirements ,Non Functional Requirements ) - All Enriched User Stories of Playground Owner (Register, Add Playground ,My Requests, eWallet )which include (User Story, Normal Scenario, Exceptional Scenario, Screen Design , Data Dictionary), playground owner user stories ( user story#6,user story#7,user story #8 )
<b>Mohammed Hazem Amar</b>	Use case model and its Description player user stories (user story#1,user story#2,user story #3 , user story #4)